Table of Contents

Directory for Correspondence and Enquiries ........................................ 2
McMaster University .............................................................................. 3
Sessional Dates .............................................................................. 4, 5
Degrees and Programmes ................................................................. 6
Degrees by Programme ...................................................................... 7
Glossary .......................................................................................... 6
Admission Requirements ..................................................................... 9
Application Procedures ..................................................................... 15
Academic Regulations ....................................................................... 17
Senate Policy Statements .................................................................. 23
Financial Information ......................................................................... 24
Arts and Science Programme .............................................................. 27
School of Business ............................................................................ 34
Faculty of Engineering ...................................................................... 38
Faculty of Health Sciences ................................................................. 48
Faculty of Humanities ........................................................................ 65
Faculty of Science ............................................................................. 79
Faculty of Social Sciences .................................................................. 106
Theme Schools .................................................................................. 128
Interdisciplinary Minors and Thematic Areas of Study ....................... 129
Part-time Degree Studies ................................................................... 132
Certificate and Diploma Programmes ................................................. 133
Course Listings .................................................................................. 135
Academic Facilities, Student Services and Organizations .................... 259
Student Financial Aid ......................................................................... 267
Student Financial Aid Index ............................................................... 282
Community Contribution Awards ......................................................... 285
Undergraduate Academic Awards ......................................................... 287
Undergraduate Academic Awards Index ............................................... 309
Governing Bodies ............................................................................. 313
General Index ................................................................................... 315
Campus Map ..................................................................................... 322
Calendar Order Form ......................................................................... 323

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 and Programmes, Degrees by Programme, 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 Programme, the School of Business, the Engineering, Health Sciences, Humanities, Science and Social Science Faculties. The programme section concludes with a description of Theme Schools, Interdisciplinary Minors and Thematic Areas, Part-Time Degree Studies and Certificate and Diploma Programmes. Each programme section describes the undergraduate degree programme 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 programme. 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 e-mail or web addresses (where available) are described throughout the Calendar.

<table>
<thead>
<tr>
<th>Office</th>
<th>Associate/Responsibility</th>
<th>Address</th>
<th>Ext.</th>
<th>Fax</th>
</tr>
</thead>
<tbody>
<tr>
<td>Admissions Office (Undergraduate Studies)</td>
<td>Sam DiGiandomenico</td>
<td>Gilmour Hall, Room 108, L8S 4L8</td>
<td>24766</td>
<td>(905) 527-1105</td>
</tr>
<tr>
<td>Student Liaison</td>
<td>Laurie Deans</td>
<td>Gilmour Hall, Room 102, L8S 4L8</td>
<td>24766</td>
<td>(905) 527-1105</td>
</tr>
<tr>
<td>Student Financial Aid and Scholarships</td>
<td>Elizabeth Seymour</td>
<td>Hamilton Hall, Room 404, L8S 4K1</td>
<td>24319</td>
<td>(905) 527-1105</td>
</tr>
<tr>
<td>Transcripts and Records</td>
<td>Ruth Toth</td>
<td>Gilmour Hall, Room 114, L8S 4L8</td>
<td>24553</td>
<td>(905) 527-1105</td>
</tr>
<tr>
<td>Examinations, Schedules and Reservations</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Office of the Associate Vice-President (Student Affairs)</td>
<td>Mary Keyes</td>
<td>Gilmour Hall, Room 207, L8S 4L8</td>
<td>27456</td>
<td></td>
</tr>
<tr>
<td>School of Graduate Studies</td>
<td>John L. Weaver (until June 30, 1999)</td>
<td>Togo Salmon Hall, Room 111, L8S 4K2</td>
<td>23679</td>
<td></td>
</tr>
<tr>
<td>Centre for Continuing Education</td>
<td>Dale C. Schenk</td>
<td>Commons Building, Room 116, L8S 4K1</td>
<td>24321</td>
<td></td>
</tr>
<tr>
<td>Alumni Association</td>
<td>Scott Koblyk</td>
<td>Gilmour Hall, Room 110, L8S 4L8</td>
<td>23900</td>
<td></td>
</tr>
<tr>
<td>Housing and Conference Services</td>
<td>Cathie Miller</td>
<td>Commons Building, Room 101, L8S 4K1</td>
<td>24223</td>
<td></td>
</tr>
<tr>
<td>Off-campus Housing</td>
<td>Leanne Piper</td>
<td>Wentworth House, Room 118, L8S 4K1</td>
<td>24066</td>
<td></td>
</tr>
<tr>
<td>Hospitality Services</td>
<td>Albert Ng</td>
<td>Commons Building, Room B101B, L8S 4K1</td>
<td></td>
<td>(905) 527-1105</td>
</tr>
<tr>
<td>Centre for Student Development</td>
<td>Bill Wilkinson (until April 30, 1999)</td>
<td>Hamilton Hall, Room 406, L8S 4K1</td>
<td>24711</td>
<td></td>
</tr>
<tr>
<td>Services for Students with Disabilities</td>
<td>Tim Nolan</td>
<td>Hamilton Hall, Room 408, L8S 4K1</td>
<td>24711</td>
<td></td>
</tr>
<tr>
<td>Career Planning and Employment Centre</td>
<td>Susan Collard</td>
<td>Hamilton Hall, Room 104, L8S 4L8</td>
<td>24337</td>
<td></td>
</tr>
<tr>
<td>Advice for Overseas and Exchange Students</td>
<td>Cheryl-Ann Jackson</td>
<td>Hamilton Hall, Room 405, L8S 4K1</td>
<td>24748</td>
<td></td>
</tr>
<tr>
<td>Grievances</td>
<td>Joan Morris</td>
<td>Hamilton Hall, Room 104, L8S 4L8</td>
<td>24337</td>
<td></td>
</tr>
<tr>
<td>Ombuds Office</td>
<td>Shelley Lancaster</td>
<td>Hamilton Hall, Room 212, L8S 4K1</td>
<td>24151</td>
<td>(905) 529-3208; E-mail: <a href="mailto:ombuds@mcmaster.ca">ombuds@mcmaster.ca</a></td>
</tr>
</tbody>
</table>

**Other Publications for McMaster Students**

- Undergraduate Studies
  - Undergraduate Calendar
  - Undergraduate Degree Handbook
- Postgraduate Studies
  - Postgraduate Calendar
- Certificate and Professional Studies
  - Certificate and Professional Calendar
- Professional Development and Non-Credit Studies
  - Professional Development and Non-Credit Calendar

**Ombuds Office**

Ombuds: Shelley Lancaster
Hamilton Hall, Room 212, L8S 4K1, ext. 24151; Fax: (905) 529-3208; E-mail: 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 programmes through six Faculties. The extensive activity in research, supported by $75 million in grants and contracts, means there are first-class libraries and sophisticated facilities. Undergraduate teaching is conducted through the School of Business, the Faculties of Engineering, Health Sciences, Humanities, Science, and Social Sciences, and the distinctive Arts and Science programme. 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 Programme offers B. Arts Sc. and Honours B. Arts Sc. degrees. It is possible to combine the programme leading to the Honours B. Arts Sc. degree with programmes that fulfil the requirements for Honours degrees in a number of different disciplines.

The Michael G. 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 programme in Chemical Engineering, Civil Engineering, Computer Engineering, Electrical Engineering, Engineering Physics, Manufacturing Engineering, Materials Engineering, Mechanical Engineering and Software Engineering.

Students may register in the Faculty of Engineering to take the five-level Engineering and Management programme, which is offered jointly by the School of Business and Faculty of Engineering, or the five-level Engineering and Society programme.

The Faculty of Engineering also offers a degree completion programme in Manufacturing Engineering Technology leading to the Bachelor of Technology Degree. It is 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 School of Medicine, the M.D. programme, and through the School of Nursing offers the B.Sc.N. degree programme. The Bachelor of Health Sciences (B.H.Sc.) degree may be earned in Occupational Therapy, Physiotherapy or Midwifery.

The Faculty of Humanities offers programmes in Art, Art History, Classics (Ancient History and Archaeology, Classical Languages and Literature) Comparative Literature, Drama, English, French, History, Japanese Studies, Linguistics, Modern Languages (German, Hispanic Studies, Italian), Modern Languages and Linguistics, Multimedia, Music, Philosophy 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 programmes may complete and receive credit for the third level of the programme in study abroad at a university in a country approved by the Faculty.

Bachelor of Science programmes are available in the Faculty of Science at the B.Sc. and B.Sc. Honours levels. Programmes are offered in Biochemistry, Biology, Chemistry, Computer Science, Geography, Environmental Science, Geology, Geoscience, Kinesiology, Life Science, Mathematical Science, Mathematics, Materials Science, Medical and Health Physics, Molecular Biology, Neural Computation, Physical Science, Physics and Astronomy, Psychology, Science, and Statistics.

The Faculty of Social Sciences offers B.A. programmes in Anthropology, Economics, Geography, Geography and Environmental Studies, Gerontology, 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 School of Kinesiology, the B.Kin and B.Kin. degrees.

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 1887 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 13,000 full-time students attend McMaster University, 1,500 of whom are pursuing advanced degrees offered through the School of Graduate Studies. In addition, about 3,000 part-time students are registered in the Fall/Winter session, from September to April, and 3,500 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 900 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 programmes are supported by some fine, and even unique, facilities. The University Library is a member of the Association of Research Libraries and contains over 1.7 million volumes, and has subscriptions to nearly 12,000 periodical titles. The Library has an extensive special collections section which includes the Bertrand Russell Archives, 18th Century materials and major Canadian collections. Facilities for programmes in the Humanities include modern language laboratories, music rehearsal rooms, art studios, a museum of art and seminar rooms. The work of the Faculties of Science and Engineering is supported by sophisticated facilities, which includes a nuclear reactor. There are six undergraduate computing labs on campus which contain Pentium computers, as well as numerous departmental computing clusters containing a mixture of PCs and Unix workstations. Students in residence have convenient access to the McMaster network and the internet from their rooms.

The recreation, fitness and intramural programmes offer more than 50 different sports in which over 6,000 students participate. The Intercollegiate Athletic Programme provides 16 sports for men and 14 for women. The athletic facilities include a 50-metre pool, a 400-metre, all-weather track, eight hard surface all-weather tennis courts, a state-of-the-art strength training facility known as the Pulse, as well as fully equipped laboratories for exercise, physiology and biomechanics.

McMaster's campus, which is restricted to pedestrian traffic, is adjacent to the Royal Botanical Gardens at the western end of Lake Ontario. On-campus men's, women's and co-educational residences are available for about 2,780 students.

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 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 1999-2000 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>9</td>
<td></td>
<td></td>
<td>18</td>
<td></td>
<td>6</td>
<td></td>
<td>27</td>
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<tr>
<td>SESSION</td>
<td>Term 2</td>
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<td>6</td>
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<td>27</td>
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<tr>
<td></td>
<td>Term 3</td>
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<td>6</td>
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<tr>
<td>SPRING/ SUMMER</td>
<td>Term 1</td>
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<tr>
<td>SESSION</td>
<td>Term 2</td>
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<tr>
<td></td>
<td>Term 3</td>
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</tr>
</tbody>
</table>

Convocations are normally scheduled for the day or evening of the following dates. The exact times will be determined four months prior to the specific convocation date.

Friday, July 16, 1999
- Last day to file a Graduation Information Card and declare a minor for Autumn 1999 Convocation.

Friday, November 5, 1999
- Autumn 1999 Convocation (all Faculties)

Friday, February 4, 2000
- Last day to change Programmes for Spring 2000 Convocations.

Friday, February 4, 2000
- Last day to file a Graduation Information Card and declare a minor for Spring 2000 Convocations.

Friday, May 12, 2000
- Health Sciences Convocation 2000

Tuesday, May 30 to Thursday, June 1, 2000
- Spring Convocations 2000

Friday, July 21, 2000
- Last day to file a Graduation Information Card and declare a minor for Autumn 2000 Convocation.

Friday, November 10, 2000
- Autumn 2000 Convocation (all Faculties)

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 programme 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: Limited enrolment courses are identified in the calendar; these either require permission or are assigned on a first come basis. In addition, 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 programme. This includes, but is not limited to, the McMaster University Intellectual Property Policy (http://www.mcmaster.ca/intelprop/index.html).
Sessional Dates for 1999-2000

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

Fall/Winter Session 1999-2000

<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 9</td>
<td>To Be Announced</td>
<td>Thursday, September 9</td>
</tr>
<tr>
<td>Classes begin</td>
<td>Thursday, January 6</td>
<td>Thursday, January 6</td>
<td>Thursday, September 9</td>
</tr>
<tr>
<td>Last day for registration and adding classes</td>
<td>Friday, September 17</td>
<td>Friday, January 14</td>
<td>Friday, September 17</td>
</tr>
<tr>
<td>Thanksgiving Day: No classes</td>
<td>Monday, October 11</td>
<td>—</td>
<td>Monday, October 11</td>
</tr>
<tr>
<td>Mid-term recess</td>
<td>—</td>
<td>Monday, February 21 to Saturday, February 26</td>
<td>Monday, February 21 to Saturday, February 26</td>
</tr>
<tr>
<td>Last day for withdrawal without failure by default</td>
<td>Friday, November 5</td>
<td>Friday, February 18</td>
<td>Friday, February 18</td>
</tr>
<tr>
<td>Good Friday: No classes</td>
<td>—</td>
<td>Friday, April 21</td>
<td>Friday, April 21</td>
</tr>
<tr>
<td>Test and Examination ban: No tests or examination may be held</td>
<td>Monday, November 29 to Saturday, December 4</td>
<td>Monday, April 3 to Saturday, April 8</td>
<td>Monday, April 3 to Saturday, April 8</td>
</tr>
<tr>
<td>Classes end</td>
<td>Friday, December 3</td>
<td>Friday, April 7</td>
<td>Monday, December 6 to Saturday, December 18</td>
</tr>
<tr>
<td>Mid-Session Tests (Level I)</td>
<td>—</td>
<td>—</td>
<td>Monday, December 6 to Saturday, December 18</td>
</tr>
<tr>
<td>Final Examinations</td>
<td>Monday, December 6 to Saturday, December 18</td>
<td>Monday, April 10 to Thursday, April 27</td>
<td>Monday, April 10 to Thursday, April 27</td>
</tr>
<tr>
<td>Last day to confirm intent to write deferred examinations</td>
<td>Friday, February 4 to Thursday, April 27</td>
<td>Friday, June 16 to Thursday, July 20</td>
<td>Friday, June 16 to Thursday, July 20</td>
</tr>
<tr>
<td>Deferred Examinations</td>
<td>—</td>
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</table>

Spring/Summer Session 2000

<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 1</td>
<td>Monday, June 19</td>
<td>Monday, May 1</td>
</tr>
<tr>
<td>Last day for registration and changes in registration</td>
<td>Friday, May 5</td>
<td>Friday, June 23</td>
<td>Friday, May 5</td>
</tr>
<tr>
<td>Victoria Day: No classes</td>
<td>Monday, May 22</td>
<td>—</td>
<td>Monday, May 22</td>
</tr>
<tr>
<td>Last day for withdrawal from a course without failure by default</td>
<td>Wednesday, May 31</td>
<td>Wednesday, July 19</td>
<td>Friday, June 30</td>
</tr>
<tr>
<td>Canada Day: No classes</td>
<td>—</td>
<td>Monday, July 3</td>
<td>Monday, July 3</td>
</tr>
<tr>
<td>Civic Holiday: No classes</td>
<td>—</td>
<td>Monday, August 7</td>
<td>Monday, August 7</td>
</tr>
<tr>
<td>Classes end</td>
<td>Monday, June 16</td>
<td>Friday, August 4</td>
<td>Friday, August 4</td>
</tr>
<tr>
<td>Examinations</td>
<td>—</td>
<td>During class time, as arranged by instructor</td>
<td>Friday, October 13</td>
</tr>
<tr>
<td>Last day to confirm intent to write deferred examinations</td>
<td>Friday, October 13</td>
<td>Friday, October 13</td>
<td>Friday, October 13</td>
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<tr>
<td>Deferred Examinations</td>
<td>December 2000 Examination period</td>
<td>December 2000 Examination period</td>
<td>December 2000 Examination period</td>
</tr>
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</table>
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 PROGRAMME</td>
<td></td>
</tr>
<tr>
<td>B.A. Arts Sc.</td>
<td>3</td>
</tr>
<tr>
<td>B.A. Arts Sc. (Honours)*</td>
<td>4</td>
</tr>
<tr>
<td>(With the exception of the Combined Honours degrees in Biology, Chemistry and Physics which require five years of study.)</td>
<td></td>
</tr>
<tr>
<td>SCHOOL OF BUSINESS</td>
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</tr>
<tr>
<td>B.Com.</td>
<td>4</td>
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<tr>
<td>B.Com. (Honours)</td>
<td>4</td>
</tr>
<tr>
<td>FACULTY OF ENGINEERING</td>
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</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.Tech</td>
<td>1*</td>
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<tr>
<td>FACULTY OF HEALTH SCIENCES</td>
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</tr>
<tr>
<td>B.H.Sc. (Midwifery)</td>
<td>4</td>
</tr>
<tr>
<td>B.H.Sc. (Occupational Therapy/Physiotherapy)</td>
<td>2*</td>
</tr>
<tr>
<td>(Follows completion of prior undergraduate degree)</td>
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<tr>
<td>B.Sc.</td>
<td>4</td>
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<tr>
<td>B.Sc.N. (Diploma RN Stream)</td>
<td>2</td>
</tr>
<tr>
<td>B.Sc.N. (Nurse Practitioner Stream)</td>
<td>2</td>
</tr>
<tr>
<td>M.D. (Doctor of Medicine)</td>
<td>3*</td>
</tr>
<tr>
<td>(In these programmes, an academic year extends beyond the regular Fall/Winter session.)</td>
<td></td>
</tr>
<tr>
<td>FACULTY OF HUMANITIES</td>
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<tr>
<td>B.A.</td>
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<tr>
<td>B.A. (Honours)</td>
<td>4</td>
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<tr>
<td>B.Mus.</td>
<td>4</td>
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<tr>
<td>B.A./B.S.W.</td>
<td>4</td>
</tr>
<tr>
<td>FACULTY OF SCIENCE</td>
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</tr>
<tr>
<td>B.Sc.</td>
<td>3</td>
</tr>
<tr>
<td>B.Sc. (Honours)</td>
<td>4</td>
</tr>
<tr>
<td>B.Sc. (Honours)</td>
<td>5</td>
</tr>
<tr>
<td>(These are Co-op programmes.)</td>
<td></td>
</tr>
<tr>
<td>FACULTY OF SOCIAL SCIENCES</td>
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<td>(Follows completion of prior undergraduate degree)</td>
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**Second Undergraduate Degree**
Provision exists for a university graduate to take a second bachelor's degree. This programme is normally shortened (except for the B.H.Sc. - Occupational Therapy, Physiotherapy and Midwifery Education programmes). An application for admission is necessary for entry to a second degree programme, and it should be submitted by the application deadlines. (See Application Procedures and General Academic Regulations sections of this Calendar.)

**Combined Programmes**
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 (Studies).

The following is a list of courses available as Electives to Level I students, provided that the students have met any prerequisites, and subject to enrolment limitations. Normally, students may select up to six units in any particular subject (excluding Mathematics, of which up to 12 units may be taken). A brief description of each course can be found under the appropriate Department within the Course Listings section in this Calendar.

- **ANTHROP** |
- **ART HIST** |
- **ASTRON** |
- **BIOLOGY** |
- **CAYUGA** |
- **CHEM** |
- **CLASSICS** |
- **COMP LIT** |
- **COMP SCI** |
- **DRAMA** |
- **ECON** |
- **ENGLISH** |
- **FRENCH** |
- **GEO** |
- **GEO** |
- **GERMAN** |
- **GERRONTOL** |
- **GREEK** |
- **HISPANIC** |
- **HISTORY** |
- **INDIG ST** |
- **INQUIRY** |
- **INQUIRY** |
- **ITALIAN** |
- **JAPANESE** |
- **KINESIOL** |
- **LABR ST** |
- **LATIN** |
- **LINGUIST** |
- **MATH** |
- **MATLS** |
- **MMEDIA** |
- **MOHAWK** |
- **MUSIC** |
- **OJIBWE** |
- **PHILOS** |
- **PHYSICS** |
- **POLISH** |
- **POL SCI** |
- **PSYCH** |
- **RELIG ST** |
- **RUSSIAN** |
- **SOC SCI** |
- **SOC WORK** |
- **SOIOL** |
- **STATS** |
- **WOMEN ST** |

* Not acceptable for the six-unit complementary studies elective required in Engineering I.

Note: Engineering I students interested in entering the Engineering and Management programme must take COMMERCE 1503 and ECON 1503 as the six-unit complementary studies elective.

* These courses may not be taken for credit by students in Science I.
<table>
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<tr>
<th>SUBJECT</th>
<th>BACHELOR'S DEGREE</th>
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<th>COMBINED HONOURS</th>
<th>PROFESSIONAL DEGREE</th>
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* The University also offers Thematic Areas of Study and a large number of Minor programmes. 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 four interdisciplinary Minors which are not connected to a specific department of Faculty. Other Minors are found in the programme sections of most departments.
GLOSSARY

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 may be granted to an applicant who has completed work at another university or college, 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 Courses is a course which is listed under two or more subjects.

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

Degree is conferred when a student completes a programme of study (e.g. Bachelor of Arts, Bachelor 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).

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

Extra Courses are those courses designated as "Extra", which are not included as units toward completion of a student’s programme. 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 programmes 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 an individual level of a programme (e.g. Astrophysics, Level IV: 31 units). If the Calendar does not specify the programme requirements by individual levels, divide the total units for all levels by the number of levels, discarding the remainder. Full-time students must carry a full load of McMaster courses to be eligible for Undergraduate In-Course Academic Awards. A full load is not required to be eligible for gradAUD awards.

Full-load Average (FA) is the weighted average used for Undergraduate In-Course Academic Awards. It 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. Load-out 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 programmes 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 progression through a programme.

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

Mature Student is at least 21 years old prior to his or her first day of classes; has not attended secondary school for at least two years; and has not previously attended university.

Minor is an option available to students enrolled in four- or five-level programmes. A Minor consists of at least 24 units — of which no more than six units may be from Level I — that meet the requirements set out in the programme 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 to be fulfilled before registration in a course is permitted. This is usually the successful completion of another course.

Programme is a specific combination of courses that fulfils the requirements for a degree.

Programme Probation which may be assigned to students whose CA falls within the probationary band below the minimum CA required to remain in the programme in good standing, will allow a student to continue in his/her programme for at least one reviewing period.

(See the General Academic Regulations section in this Calendar.)

Readmission See Readmission in the Admission Requirements section in this Calendar.

Registration is the process whereby a student enrolls in a programme of study and/or courses and pays, or makes acceptable arrangements to pay, all fees.

Reinstatement See Reinstatement in the Admission Requirements section in this Calendar.

Required Courses are those courses which are specifically designated for inclusion in a programme.

Result of Session is the statement of the academic standing of a student at the end of a reviewing period. May continue in programme, 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 programme 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 gradaud.

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 attained 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 programme of study and selected courses.

Undergraduate Student is a student enrolled in a programme 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. Three- or six-unit courses are usually one term in length. Six-unit courses are usually two terms, or one session.

Weighted Average is calculated by multiplying the grade points achieved in each course by the number of units in each course, totalling 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 programme.
ADMISSION REQUIREMENTS

ENGLISH LANGUAGE PROFICIENCY

Each student granted admission to McMaster must be proficient in the use of English language. Students will be expected to speak and write clearly and correctly in English.

If your first language is not English, you must have:

1. achieved a score of at least 220 on the computerized test (or 550) on TOEFL, or the equivalent on other recognized tests, or
2. achieved a score between 197 and 219 (530-559) on TOEFL, or the equivalent on other recognized tests and EITHER a score of at least 4.0 on the TWE (Test of Written English) OR present other evidence of English language proficiency such as English courses, ESL programmes, letters of support from guidance counsellors, etc., or
3. attended a Canadian educational institution for at least three years, or
4. resided in an English speaking country for at least four years.

It is your responsibility to make all arrangements regarding the writing of the TOEFL test and to have the official score report forwarded to the Admissions Office.

Admission from
Ontario Secondary Schools

To be considered for admission, you must satisfy the general requirements of the university and the specific subject requirements for the programme to which you applied.

If you are an applicant from an Ontario secondary school you must meet three requirements:

1. An Ontario Secondary School Diploma with acceptable standing; and
2. An overall average (and area average, where applicable) in completed Ontario Academic Credits (OACs), which meets or exceeds the minimum set by the specific programme to which you applied; and
3. Satisfactory completion of the subject requirements for your chosen programme.

OAC Music 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 4 theory, or in Grade 9 practical and Grade 3 theory.

Early Admission from
Ontario Secondary Schools

Early conditional admission is granted annually beginning in late March to qualified applicants, depending on your academic standing at that time. Early conditional admission is based on:

1. six appropriate midterm/interm OAC grades, or
2. a combination of at least three final OAC grades and grade 11/12 advanced grades PLUS enrollment in the appropriate three OAC courses.

If you do not receive an offer of admission in March, you will automatically be reassessed for admission after additional OAC grades are received from your secondary school in May.

Admission offers made in May will be based on updated OAC grades and information you have provided on a supplementary application form which will be mailed directly to you in April. If you are granted early conditional admission, you must successfully complete six OACs, including all required subjects. The University reserves the right to withdraw its offer of admission if you do not meet the minimum final average prescribed for your chosen programme; if you do not receive an Ontario Secondary School Diploma; if you do not complete six OACs; or if you do not respond to the Ontario Universities' Application Centre within the response period indicated on your offer letter.

Final Admission from
Ontario Secondary Schools

If you fulfill the requirements for your Ontario Secondary School Diploma, including the subject requirements for your chosen programme by the end of February, you may be granted an offer of Final Admission prior to March.

If you do not receive an offer of admission by June 15, you may still be considered for admission, once final marks are received, depending on availability of space in your chosen programme.

Deferral of Admission for
Ontario Secondary School Students

Students who receive both an offer of scholarship and an offer of admission may defer their entry for one year. Otherwise, McMaster does not normally grant a deferral of an admission offer unless special circumstances exist. All requests for deferral should be made in writing to the Admissions Office at McMaster and if appropriate, to the Student Financial Aid and Scholarships Office by September 1, 1999, outlining the reasons for the request.

Programme Transfer After Admission

If you are admitted to one programme 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 programme. Contact the Admissions Office to request a programme transfer.

Minimum Final Average

All secondary school applicants admitted conditionally on interim grades will be required to achieve overall averages (and area averages, where applicable) on final grades no less than 5% (or its equivalent), lower than the minimum average established for conditional offers in that programme.

Applicants whose final averages fall below this level (or its equivalent) or whose final overall averages fall below 70%, will have their offers of admission and/or registrations rescinded.

The required minimum final average will be stated on the offer of conditional admission.

SUBJECT REQUIREMENTS FOR SPECIFIC LEVEL I PROGRAMMES

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


> ARTS AND SCIENCE I

You are required to submit a completed supplementary application. The information provided enters into the selection process. Only candidates 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 requirements:

1. One of OAC English I, OAC anglais I or OAC anglais II
2. OAC Calculus
3. Completion of additional OACs to total six credits. At least three of the additional OACs must be selected from among English, Français, other languages, Algebra and Geometry, Finite Mathematics, Biology, Chemistry, Physics, Geography, History, and Music.

> BUSINESS I

The following are the minimum requirements:

1. One of OAC English I, OAC anglais I or OAC anglais II
2. OAC Calculus, OAC Finite Mathematics or OAC Algebra and Geometry. (OAC Calculus and OAC Finite Mathematics are recommended.)
3. Completion of additional OACs to total six credits.

In recent years, an average in the high-70s has been required for an offer of admission. Completion of a Supplementary Application is recommended for those students whose average is near the cut-off.
The following are the minimum requirements:
1. One of OAC English I, OAC anglais I or OAC anglais II
2. OAC Calculus
3. OAC Algebra and Geometry
4. OAC Chemistry
5. OAC Physics
6. Completion of one additional OAC to total six credits.
A minimum overall and area final average in the high 70s to low 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.

**HUMANITIES I**

The following are the minimum requirements:
1. One of OAC English I, OAC anglais I or OAC anglais II
2. Completion of additional OACs to total six credits with a minimum overall final average of 70%

In recent years, an average in the mid-70s has been required for an offer of admission.
Completion of a Supplementary Application is recommended for those students whose average is near the cut-off.

The Faculty of Humanities strongly recommends that you select at least one of OAC Humanities subjects (Art, Drama, English, French, francis, other languages, History and Music) in addition to Requirement 1 above.

**ART 1F06:** The prerequisite for ART 1F06 requires permission of the department based on a required portfolio interview. If you intend to take ART 1F06 which is required for entrance into any Honours Art programme, you must make an appointment with the department for a portfolio interview in February/March. The portfolio should contain a variety of original work in different media including work derived from both first-hand observation and the imagination. Aptitude in art and academic ability are both 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. Late applications will be considered subject to space availability and merit after the first allocations have been confirmed in June. Acceptance into ART 1F06 does not guarantee an offer of admission. Written examination on rudiments of theory (Grade 2 level)

**SCIENCE I**

The following are the minimum requirements:
1. One of OAC English I, OAC anglais I or OAC anglais II
2. OAC Calculus
3. One of OAC Calculus, OAC Algebra and Geometry or OAC Finite Mathematics
4. One of OAC Biology or OAC Physics
5. Completion of two additional OACs to total six credits
In recent years, an average in the high 70s has been required for an offer of admission.
Completion of a Supplementary Application is recommended for those students whose average is near the cut-off.

**NURSING I**

The following are the minimum requirements:
1. One of OAC English I, OAC anglais I or OAC anglais II
2. OAC Calculus
3. One of OAC Calculus, OAC Algebra and Geometry or OAC Finite Mathematics
4. One of OAC Biology or OAC Physics
5. Completion of two additional OACs to total six credits
In recent years, an average in the low 80s has been required for an offer of admission.

**MIDWIFERY I**

As places in the Midwifery programme are very limited, the admission process is competitive. For non-OAC applicants a Midwifery supplementary application including a personal questionnaire are required and must be received at McMaster by February 1. For OAC applicants only, application forms are due by February 1 and all supplemental material is due March 15. No exceptions will be made.

The following are the minimum requirements:
1. One of OAC English I, OAC anglais I or OAC anglais II
2. One of OAC Biology or OAC Chemistry
3. An OAC in Social Science (History, Sociology, Psychology, Geography, Law)
4. Completion of additional OACs to total six credits, with a minimum overall final average of 70%
OAC Course Equivalents for Students from Other Canadian Provinces

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<tr>
<td>ENGLISH</td>
<td>English 12; Writing 12 or English 11 12</td>
<td>English 30</td>
<td>English 30</td>
<td>English 300, 405 or 40A</td>
<td>English 603s</td>
<td>English 441 or 541</td>
<td>English 121 or 122</td>
<td>English 621A (previously English 620s)</td>
<td>English 3101 and one of 3201 or 3202</td>
</tr>
<tr>
<td>CALCULUS **+</td>
<td>Calculus 12 (LD) (Locally Developed)</td>
<td>Math 31</td>
<td>Calculus 30</td>
<td>Introduction to Calculus 305, Math 355 or Calculus 45A</td>
<td>Math 103 or 203</td>
<td>Math 541 or Calculus 441</td>
<td>Calculus 120</td>
<td>Math 611A (previously Math 621 - Locally Developed)</td>
<td>Math 4225 (AP) or 5105</td>
</tr>
<tr>
<td>ALGEBRA AND GEOMETRY</td>
<td>Math 12</td>
<td>Math 30</td>
<td>Geom-Trig 30, Algebra 30 or Math 30</td>
<td>Math 300 or 40S</td>
<td>Math 105</td>
<td>Math 441</td>
<td>Math 121 or 122</td>
<td>Math 621A</td>
<td>Math 3200 or 3201</td>
</tr>
<tr>
<td>FINITE MATH</td>
<td>Survey Math 12</td>
<td>Not available*</td>
<td>Finite Math 30</td>
<td>Math 303 or 304 or 40A</td>
<td>Advanced Math 305 (Topics in Math), Stats and Probability 305 or 40S</td>
<td>Not available*</td>
<td>Not available*</td>
<td>Math 121 or 122</td>
<td>Not available*</td>
</tr>
<tr>
<td>CHEMISTRY</td>
<td>Chemistry 12</td>
<td>Chemistry 30</td>
<td>Chemistry 30</td>
<td>Chemistry 300, 405 or 40A</td>
<td>Chemistry 101, 201, or 202</td>
<td>Chemistry 12 or 12B (previously Chemistry 341 or 541)</td>
<td>Chemistry 121 or 122</td>
<td>Chemistry 621</td>
<td>Chemistry 3202</td>
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<tr>
<td>PHYSICS</td>
<td>Physics 12</td>
<td>Physics 30</td>
<td>Physics 30</td>
<td>Physics 300, 405 or 40A</td>
<td>Physics 101 and 201 or 301</td>
<td>Physics 12 or 12B (previously Physics 441 or 541)</td>
<td>Physics 121 or 122</td>
<td>Physics 621</td>
<td>Physics 3204</td>
</tr>
<tr>
<td>BIOLOGY</td>
<td>Biology 12</td>
<td>Biology 30</td>
<td>Biology 30</td>
<td>Biology 300, 405 or 40A</td>
<td>Biology 301, 401</td>
<td>Biology 441 or 541</td>
<td>Biology 121 or 122</td>
<td>Biology 621</td>
<td>Biology 3201</td>
</tr>
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</table>

* Topics related to Finite Math are found in several Math courses.
+ Applicants to Engineering 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 or International Baccalaureate Calculus is also acceptable.
++ Six Grade 12 credits numbered 60-65 may be substituted.

ADMISSION WITH OTHER QUALIFICATIONS

A. Admission from Other Canadian Provinces
McMaster welcomes applications from other provinces and territories. Applicants are required to meet the following minimum requirements:
- Quebec - CEGEP (minimum one year)
- All other Canadian provinces - Grade 12 Diploma

B. Admission from Other Countries
McMaster welcomes applications from international students. See the admission requirements for applicants from selected countries below. Applicants should contact the Admissions Office for information on how to obtain an application form. Applicants must arrange for official matriculation certificates to be sent well in advance of the session. The equivalent of first-class standing may be required for some limited enrolment programmes.
Clear notarized photocopies of certificates 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.

Applicants from the General Certificate of Education system require:
1. five GCE subjects at least two of which must be at the Advanced Level;
2. Advanced Level subjects appropriate for your chosen programme, (refer to Subject Requirements for Specific Level 1 Programmes in this section). For Science and Engineering programmes mathematics and one of Physics or Chemistry must be offered at the Advanced Level;
3. Grades of at least C (B for Science and Engineering programmes) must be presented in each of the Advanced Level subjects.

Applicants from Hong Kong must meet the Hong Kong Advanced Level Examinations and the Hong Kong Certificate of Education or the GCSE requirements as listed above.

Applicants who have a complete International Baccalaureate Diploma will be considered for admission to Level I, provided the completed diploma includes the subject area requirements of the programme desired. An overall score of 28 and not less than 4 in any given subject must be achieved in order to be eligible for admission. Advanced Level subjects, with an overall average of at least 80%, may be granted at the discretion of the Faculty.

Applicants who have completed Advanced Placement Courses will be considered for admission to a Level 1 programme.

Applicants from the United States of America must satisfactorily complete a secondary school diploma with an overall average of 80% in the Grade 12 programme of an accredited American high school. Alternatively, applicants may qualify for admission by completing one year of college-level work with standing acceptable to the University.

S.A.T. scores are reviewed on a selective basis only and are generally not required.

C. General Policy on the Transfer of Course Credits

To facilitate programme completion by undergraduate students seeking to transfer course credits 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 programme requirements, any course offered for credit by an accredited university shall be accepted for credit by McMaster when there is an essential equivalence in course content. However, no course for which a grade of less than C- (50%) has been achieved will be considered.

Electronic Credit Transfer information for Ontario Universities is available on the web at http://step.uoa.on.ca

D. Advanced Credit

As noted in sections (E), (F), (G), (L), (M) and (N) below, advanced credit may be granted if you have completed work at another university or college, and you have met the minimum requirements prescribed. Advanced credit may shorten your degree programme at McMaster.

E. Credit in Courses by Special Assessment (Challenge Examinations)

If you have acquired knowledge in another kind 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 projects, or laboratory work. 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 fees for taking a course by special assessment are the same as regular course fees unless otherwise specified. 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 (ie. no degree credit) will be at the discretion of the department.

F. Transfers from Other Universities

When you transfer to McMaster University, you will normally receive credit for courses in which you have obtained at least a C (third-class honours) 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.

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

G. 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. The requirements are set out in the General Academic Regulations section of this Calendar. If you wish to enter a Second Bachelor’s Degree in a subject area from the Faculty of Science, please note the additional regulations for such a programme in the Faculty of Science section. Second Bachelor’s Degree Programmes. If you are a McMaster graduate or potential graduate, you may be able to use the McMaster University Returning Student application. (See Application Procedures section of this Calendar.)

H. Continuing Students

If you are a graduate of a McMaster degree programme and wish to become a continuing student, you do not need to apply through Admissions, but need to submit a Registration form.

As a continuing student with a non-McMaster degree, you need only apply formally through Admissions in the first instance. In subsequent sessions, only submission of a Registration form is necessary.

You will be expected to have at least a C (third-class standing) average, with no failures, in your final year’s work (or the equivalent, in the case of a degree taken in part-time studies), and academic records which are satisfactory to the Department and the Office of the Associate Dean (Studies) of the appropriate Faculty.

Acceptance as a Continuing Student carries no implications with respect to acceptance in the School of Graduate Studies. If you plan to proceed to a graduate degree you should apply directly to the specific department of your programme of interest.
I. Post-Degree Students

If you are a university graduate or a person with professional qualifications who wishes to take one or more graduate courses or to pursue 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 approved by the School of Graduate Studies for each session in which you wish to take courses. You will register and pay fees as an undergraduate.

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.

J. Readmission

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

If you were registered 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 programme or another programme for which you qualify. If you were formerly registered in the Faculty of Science you should see the heading Former Students of science in the Faculty of Science section of the Calendar.

K. Reinstatement

If you are ineligible to continue at the university (i.e., the result of your last grade report was May Not Continue at University) and you wish to apply for Reinstatement, please contact the Admissions Office. 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 re-instatement at this time.
3. Reasons for selection of course/programme indicated.
4. Activities since last registered at the University, including all academic work.

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

L. Admission from Ontario Colleges of Applied Arts and Technology

If you apply from an Ontario College of Applied Arts and Technology and have completed at least one year of work in a diploma programme and you have a GPA of 3.2 or better, you are invited to apply for admission to Social Sciences I or Humanities I. You may be admitted with a lower GPA if you have completed two or more years of a diploma programme.

To be eligible to apply to Business I, you must have completed a two or three year diploma with a GPA of 3.0 or better. All candidates must have successfully completed a Grade 12 Advanced Mathematics course.

To be eligible to apply to Engineering I, you must have completed a technologist programme with a GPA of 2.5 or better. If you are applying to Engineering and have achieved a first-class honours standing in the last two years of a three-year technology programme in an Ontario College of Applied Arts and Technology, you will be considered for admission to the second level of a relevant Engineering programme.

To be eligible to apply to Science I, you must have completed a technologist programme with a GPA of 3.2 or better. Technician programmes are not recognized for credit toward admission in either Engineering I or Science I.

To be eligible to apply to Kinesiology I:

1. A two year diploma programme must be completed with a GPA of 3.6 or better (OAC grades will be reviewed); OR
2. A three year diploma programme must be completed with a GPA of 3.5 or better.

To be eligible to apply to Science I, you must have completed a technologist programme with a GPA of 3.2 or better. Technician programmes are not recognized for credit toward admission in either Engineering I or Science I.

To be eligible to apply to Kinesiology I:

1. A two year diploma programme must be completed with a GPA of 3.6 or better (OAC grades will be reviewed); OR
2. A three year diploma programme must be completed with a GPA of 3.5 or better.

O. Mature Students (Part-time 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 are at least 21 years old, or, if you are younger, you have an Ontario Secondary School Diploma (OSSD)
2. You have not attended an undergraduate college program for at least two years.
3. You have not been enrolled in a college diploma programme within the last five years or have completed less than one year of college work.
4. You have never attended university.

The Faculty of Engineering does not admit under the category of mature students. The Faculty of Science requires satisfactory standing in the four area OAC Mathematics and Science requirements, as described in the Admission from Ontario Secondary Schools in this section. The Faculty of Business requires Grade 12 Advanced Mathematics or its equivalent.

If admitted, you may register as a mature student to take Level I courses, one course at a time. If after the first six units, you have achieved a grade of B- or better, you may petition your Faculty to be allowed to take two courses at a time.

After taking at least 12 units, your performance will be reviewed as follows:

i) If you have a Cumulative Average (CA) of at least 3.5 with no failures, you will be allowed to register for full-time study.

ii) If you have a CA of at least 3.0 with no more than six units of failure, you will be allowed to register in another six units of study and will be reviewed again after completion of these six units (see Second Review below).

iii) If you have failed more than six units, you may not continue at the University.

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

To be eligible to apply to Nursing, you must have an Ontario diploma in Nursing or the equivalent with an overall GPA of 2.7 or better. Selection will be based on academic qualification and a rating obtained on a questionnaire completed by the applicant. An interview may also be required.

Generally speaking, advanced credit could be up to 30 units if you have a well-qualified graduate of a three-year programme, and at least six units if you have completed two years and performed well, provided the college work is appropriate to your chosen university programme.

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

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

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

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

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

M. Admission from Grand River Polytechnic

McMaster University, along with four other universities, has entered into a partnership with Grand River Polytechnic Institute 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.

N. Graduates of McMaster Certificate Programmes

If you have completed certificate programmes, you may be granted advanced credit up to maxima specified by Undergraduate Council. Faculties will take into account the subject matter of both the certificate and degree programmes. 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 Programmes section of this Calendar.
ADMISSION REQUIREMENTS

Second Review:

a) If you have a CA of at least 3.5, you will be allowed to register for full-time study.

b) If you have a CA of less than 3.5, you may not continue at the University.

P. Nursing Occasional Category

If you are applying to McMaster University to take degree course work in order to become academically eligible to apply to the B.Sc.N. programme, you may apply to enrol in a maximum of 12 units of academic work per calendar year. You may take courses in any Faculty, subject to prerequisites and enrolment limits.

Once you have achieved academic eligibility for the B.Sc.N. programme, you must apply to that programme and participate in the regular admission process.

Q. Enrichment Programme for Secondary School Students

If you are an outstanding secondary school student and wish to complete university level work while in your OAC year; you may apply for the Enrichment Programme. For more information contact the Admissions Office.

R. 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 some are subject to enrolment limits.

Students must initially apply through the OUAC and send their Letter of Permission directly to McMaster. Subsequent requests to take courses on a Letter of Permission do not require an application. An updated Letter of Permission from their home institution is required for each new session.

S. Listener

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 enrolling in further courses for credit. Please note not all courses are available to Listeners.

For more information, please contact the Centre for Continuing Education, Commons Building, Room 116, McMaster University, Hamilton Ontario, L8S 4K1 (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.

T. Seniors

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 OUAC.
APPLICATION PROCEDURES

1. Determine the appropriate application form to use when applying for admission. (See charts 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.

Use the OUAC 101 Application if:
- You are now taking one or more Ontario Academic Courses (OACs) in day school and wish to enter a Level I degree programme as a full-time student.
- Please obtain the OUAC 101 form from your secondary school guidance office and follow the instructions therein. You will receive an acknowledgement mailing from McMaster’s Admissions Office once your application has been received.

Use the OUAC 105D Application if:
- You are not currently taking one or more Ontario Academic Courses (OACs) in day school, have not previously attended McMaster and wish to enter Level I or above of an undergraduate degree programme as a full-time student.
- You are currently registered at another university or college and wish to transfer to McMaster for full-time studies.
- You have previously attended McMaster, but you have since registered at another university or have completed a college diploma and now wish to enter an undergraduate degree programme as a full-time student.
- You have completed a degree at a university other than McMaster and wish to attend McMaster full-time to take courses as a Continuing student.*
- You have completed a degree at a university other than McMaster and wish to pursue a second undergraduate degree on a full-time basis.
- You are currently registered at a university other than McMaster and wish to attend McMaster full-time to take courses on a Letter of Permission for Credit at Another University.

Please obtain the OUAC 105D form from the Admissions Office of any Ontario university or from the Ontario Universities’ Application Centre, 850 Woodlawn Road West, P.O. Box 1328, Guelph, Ontario, Canada, N1H 7P4, and follow the instructions therein.

Note: 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 have to obtain the transcript of secondary school marks from the Ministry or Department of Education in that province.

* If you are a graduate of a McMaster degree programme and wish to become a Continuing student, you do not need to apply through Admissions, but need to submit a registration form.

Use the McMaster University Returning Student Application for the following categories:
- Readmission: You are a former McMaster student* who voluntarily withdrew from an undergraduate programme more than 5 years ago. Former Nursing students must apply for readmission regardless of the amount of time that has elapsed.
- Reinstatement: You are a former McMaster student* who was previously ineligible to continue studies at McMaster University.
- 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

Please obtain the Returning Student Application form from the Office of the Registrar, Gilmour Hall, Room 108, McMaster University, Hamilton, Ontario, L8S 4L8. You will be provided with more information on application procedures at that time. See application deadlines as listed in this section of the Calendar. The Nursing deadline is February 15 for September entry.

Use the McMaster University Part-time Degree Application if:
- You are currently registered at another university or college and wish to transfer to McMaster for part-time studies.
- You have not been previously registered at McMaster and wish to pursue an undergraduate degree on a part-time basis.
- You have completed a degree at a university other than McMaster and wish to attend McMaster on a part-time basis to take courses as a Continuing student.*
- You are currently registered at a university other than McMaster and wish to attend McMaster on a part-time basis to take courses on Letter of Permission for Credit at Another University.

Please obtain the Part-time Degree Application from the Office of the Registrar, Gilmour Hall, Room 108, McMaster University, Hamilton, Ontario, L8S 4L8. You will be provided with more information on application procedures at that time.

Use the McMaster University Post-Degree Studies Application if:
- You wish to register as a post-degree student.

Please obtain the Post-Degree Application from the Graduate Studies Office, Togo Salmon Hall, Room 111, McMaster University, Hamilton, Ontario, L8S 4M2 and use it to apply to the appropriate academic department(s).

Note: Your admission and registration must be approved by the School of Graduate Studies for each session in which you wish to take courses. If you are a graduate from a university other than McMaster, you must provide McMaster with official transcripts of marks from all post-secondary institutions you have attended.
DEADLINES

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.

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 language, French, will be accepted.

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

FALL/WINTER SESSION (SEPTEMBER 1999 ENTRY)

Undergraduate programmes which are not specified below: July 15

> Limited Enrolment Programmes
  > Above Level I ........................................ February 1
  > International Applications .......................... May 1
  > International Documentation ........................ June 1
  > Domestic Applications ............................. July 15
  > Domestic Documentation ............................. July 15
  > CEGEP Applications ................................... March 1
  > Optional Supplementary Application Deadline for Level I Programmes .......... April 30
  > Arts & Science Applications ........................ January 15
  > Supplementary Applications for all others January 15
  > Biochemistry (Co-op) ................................. February 1
  > Biology and Pharmacology (Co-op) .................. February 1
  > Gerontology Applications ............................ March 1
  > Supplementary Applications ......................... May 15
  > Kinesiology ........................................ May 15
  > Labour Studies ...................................... March 31
  > Medicine ............................................ October 15
  > Midwifery Applications ............................. February 1
  > Official Transcripts ................................ February 1
  > Supplementary Applications for non-OAC applicants † .................. February 1
  > Supplementary Applications for OAC applicants** ................ March 15
  > Nursing OAC ........................................ May 1
  > Nurse Practitioner .................................. February 1
  > NP Supplementary Applications † .................. February 1
  > Transfers from other university Nursing Programmes ...................... June 30
  > All Other ............................................ February 15
  > Supplementary Applications* ......................... February 15
  > Occupational Therapy/Physiotherapy ........................ December 1
  > Official Transcripts ................................ January 9
  > Supplementary Applications** ........................ January 26
  > Social Work
  > McMaster Applicants .................................. March 1
  > All Others ........................................... December 1
  > Supplementary Applications*** ...................... March 1
  > Women's Studies .................................... April 15

> Only non-OAC students need to complete the mandatory supplementary applications. Please contact the Ontario Universities' Application Centre for a supplementary application.

† Please contact the Ontario Universities' Application Centre for a supplementary application.

‡ The Admissions Office will forward supplementary packages once applications are received from the OUAC.

*** Please contact the School of Social Work for supplementary applications.

FALL/WINTER SESSION (JANUARY ENTRY)

> All Eligible Programmes ................................ November 15
> Documentation Deadline .............................. December 1

SPRING/SUMMER SESSION (MAY or JUNE ENTRY)

> May Entry (Term 1 or 3) .............................. April 1
> Documentation Deadline .............................. April 1
> June Entry (Term 2) ................................... May 15
> Documentation Deadline .............................. May 15

Deadlines for Reinstatement or Readmission

The application deadline for September entry for all programmes, except Nursing is June 30. The Nursing deadline is February 15. Application deadlines for January or May or June entry are as indicated above.

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.

Academic Counselling for Those Offered Admission

If you are offered full-time admission to Level I, you will be asked to confirm that you have accepted the offer of admission and will attend the University.

Your admission package will include a Registration Kit with information about the University, academic counselling and registration procedures.

Your Faculty may also arrange a visit to the University so you may meet with a Faculty advisor to set up your programme. 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 at September registration.

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

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) 525-6600
E-mail: macadmit@mcmaster.ca
GENERAL 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 programme regulations and the general regulations in this chapter, the programme regulations take precedence.

Faculty 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 situations warrant special consideration should consult the appropriate Office of the Associate Dean (Studies).

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.

All other students will be governed by transitional arrangements, under which the CA will be calculated using:

1. **area courses** (as defined in the 1992/93 Undergraduate Calendar) taken before September 1993; and
2. all courses taken from September 1993 onward.

# 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 80 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;

or

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

The purpose of registration is to record officially your selection of programmes and courses. This is done before each session, and information on how to register will be sent to eligible students. Counselling is available to assist you in course selections.

### Approval of Programmes

You are responsible to ensure that your registration documents are complete and accurate. Your programme and course selections — and deletions — must be approved by the Office of the Associate Dean (Studies) of your Faculty. If you try to register in a programme or courses from which you are restricted, your registration will not be approved.

### Selection of Courses

Before you select the courses you wish to take, please read the requirements for your programme in the appropriate Faculty sections of this Calendar. If you fail to meet the programme requirements, you will not be eligible to graduate.

Select the courses required for your programme; then select your electives. Ensure that you have completed the courses which are listed as **prerequisites** and have completed or chosen courses that are listed as **corequisites**. If you have not passed the prerequisite courses, you will not be able to take the course selected.

#### Limit on Level I Courses

In most Faculties, credit may be obtained in no more than 42 units of Level I courses in a three-level programme, and in no more than 48 units in a four-level programme.

#### Eligibility for Awards

(See **Section 5** 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 (Studies) 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.)

#### Repetition of Courses

To repeat a course for which credit has been obtained, you need approval of the Office of the Associate Dean (Studies). There is no limit on the number of repetitions of a failed course. 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.

#### Auditing Courses

If 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 (Studies), 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 wish to attend another university to take courses which will carry 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 (Studies) and pay the appropriate fee. 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 on a Letter of Permission must continue to carry a full load 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.

#### Changes to Registration

The last day for changing registration and adding courses for each term is approximately one week after classes begin for the term. (Please see the tables in the **Sessional Dates** section for the relevant dates for this academic year.) You may add new courses, or drop courses which you originally selected. After the above-mentioned period, you may drop a class until the last day to withdraw without failure by default. Any course dropped will be shown on your transcript with the notation CAN (Cancelled). After this date, you will remain registered in the course whether or not you attend. Your transcript will show a grade of F for any course not successfully completed.

#### Withdrawal from the University

If you wish to withdraw from the University, you must consult the appropriate Office of the Associate Dean (Studies). Your student identification card must be surrendered to the Office of the Associate Dean (Studies). Your record in the courses being taken 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 Deans (Studies) 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.
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 programmes: Arts and Science I, Business I, Engineering I, Humanities I, Kinesiology I, Midwifery I, Music I, Science I, Nursing I, or 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 (Studies) has the discretion to permit you to take some of the work in the higher levels 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 at the University 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.

At the review when you complete the Level I work, if you attain a CA of at least 3.0 and have not previously been on academic probation, but fail to meet the admission requirements of any programme, you may continue at the University for one additional reviewing period on academic probation. You will be registered in your original Faculty, and will be classified as a Level I irregular student if your work may only qualify you to be considered for admission to a programme in another Faculty. If, at the end of the next reviewing period, you again do not qualify for admission to a programme, 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 Programme regulations listed below. Nursing I and Midwifery I students should refer to the programme regulations listed in the Faculty of Health Sciences section in this Calendar.

Minimum Requirements for Entering and Continuing in a Programme Beyond Level I
Admission to the programmes 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 programme-specific requirements of each Faculty, as described in this Calendar.

> ARTS & SCIENCE PROGRAMME

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

If your CA is 3.5 to 5.4, you must transfer to another programme for which you qualify, or register in the Art & Science programme as an irregular student for one reviewing period. During that period, you cannot take Arts & Science programme courses. At the end of that period you may apply for readmission to the Arts & Science programme.
If your CA is 3.0 to 3.4, you will be placed on academic probation. You may continue in the programme for one reviewing period as an irregular student but cannot take Arts & Science programme courses. The purpose of this period is to prepare yourself for a programme outside the Arts & Science programme. You may then either continue in that programme or choose another, or you may not continue at the University.

> SCHOOL OF BUSINESS

- Business I: For specific admission requirements to Commerce I see Programme Notes under the heading Programmes in the School of Business section of this Calendar.
- Business II: Upon satisfactory completion of Business II, qualified students may continue in one of the following programmes:
- Commerce Programme: You must have a CA of at least 3.5 to continue in the Commerce programme. If your CA is less than 3.5, you may not continue at the University.
- Honours B.Com. Programme: You must have a CA of at least 3.5 to continue in the Honours B.Com. programme. If your CA is 3.5 to 5.4, you may remain in the programme, but will be placed on programme probation. You may be on programme probation for only one reviewing period. If your CA is less than 3.5, you may not continue at the University.
- B.Com. Programme: You must have a CA of at least 4.0 to continue in the B.Com. programme. If your CA is 3.5 to 3.9, you may remain in the programme, but will be placed on programme probation. If your CA is less than 3.5, you may not continue at the University.

> FACULTY OF ENGINEERING

- B.Eng. Programmes: To be admitted to a Level II Engineering programme, you must have completed all Engineering I programme requirements and have obtained a minimum CA of 4.0.
- Honours B.A. Programmes: Honours B.A./B.Sc.; B.A./B.S.W.; B.S.W.: You must have a CA of at least 3.0 to continue in the Honours programmes. If your CA is 3.5 to 5.9, you may remain in the Honours programme, but will be placed on programme probation for one reviewing period. You may be on programme probation only once. If your CA is 3.0 to 5.4, you must transfer to another programme for which you qualify. If your CA is less than 3.0, you may not continue at the University.

> FACULTY OF HEALTH SCIENCES

- Honours B.A. Programmes: Honours B.S.W.: You must have a CA of at least 3.0 to continue in the Honours B.S.W. programme. If your CA is 3.5 to 5.9, you may remain in the programme, but will be placed on programme probation for one reviewing period. You may be on programme probation only once. If your CA is 3.0 to 5.4, you must transfer to another programme for which you qualify. If your CA is less than 3.0, you may not continue at the University.

> FACULTIES OF HUMANITIES and SOCIAL SCIENCES

- Honours B.A. Programmes: Honours B.Kin. Programme: You must have a CA of at least 3.0 to continue in the Honours B.Kin. programme. If your CA is 3.5 to 3.9, you may remain in the programme, but will be placed on programme probation for one reviewing period. You may be on programme probation only once. If your CA is 3.0 to 3.4, you may continue on academic probation for one reviewing period. You may only be on probation twice. If you have more than two failures since the last review, you may not continue in the Faculty. If you have a CA of 3.0 to 3.9, you may not continue in the Faculty. If your CA is less than 3.0, you may not continue at the University.

> FACULTY OF SCIENCE

- Honours B.Sc. Programmes: You must have a CA of at least 3.0 to continue in the Honours B.Sc. programme. If your CA is 3.5 to 5.9, you may remain in the programme, but will be placed on programme probation. You may be on programme probation for only one reviewing period. If your CA falls below 3.0, you may not continue at the University.

> TRANSFER BETWEEN PROGRAMMES

If you wish to transfer from one programme to another, you should discuss the possibility with the appropriate Office of the Associate Dean (Studies) 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 programme, you are eligible to obtain a Minor in another subject area, provided that the subject area is not integral to the requirements of your degree programme. You should check the calendar requirements state-
Second Bachelor's Degree Programmes

For admission to a second undergraduate degree programme you must hold a first undergraduate degree whether it be a three-level, four-level or five-level degree. The minimum admission requirements and programme 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 programme is required. If admitted, you must take at least 30 units beyond the first degree, including all Honours requirements specified for the programme. In some Faculties, this includes a minimum number of units of work in the discipline.

- **B.A. or B.Sc. in Another Subject**: For entry, you must meet the admission requirements for the programme. If admitted, you must complete at least 30 units beyond the first degree, including all Honours requirements specified for the programme. 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 programme and have a Cumulative Average of at least 8.0. If admitted, you must complete at least 60 units beyond the first degree, including all Honours requirements specified for the programme.

- **B.Eng.**: For entry, you must meet the admission requirements for the programme. If admitted, you must complete at least 60 units beyond the first degree. (Admission to a second B.Eng. degree is not possible if your first degree is in Engineering.)

- **B.Kin.**: For entry, you must meet the admission requirements for the programme and have a Cumulative Average of at least 7.0. If admitted, you must complete at least 60 units beyond the first degree including all programme requirements. Eligibility to transfer to the Honours B.Kin. programme or the Honours Kinesiology (B.Sc.) programme as a Second Degree is determined upon completion of 30 units of work.

Notes
1. All work for the second degree must be completed at McMaster University.
2. Some additional regulations are applied by the Faculty of Science involving cognate disciplines. E.g. Mathematics and Statistics. These are described in the Faculty of Science section of this Calendar.

3. A second degree is not available in all subject areas. See individual Faculty regulations for further information.
4. Minors will not be revoked to permit later registration in a three-level second degree in the same subject. Students may retake for a second degree in a subject in which they have obtained a Minor, but only at the Honours level. (See Minors above.)
5. Extra courses taken while you are registered in a first degree programme, or courses completed as a Continuing Student, may, with the approval of the Faculty, be applied to the second degree programme.
6. You must meet the same standards for continuation and graduation as are applied to students registered in a first degree programme.
7. 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 programme, 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 Sessional Average of 9.5 are named to the Deans’ Honour List. Full-time students must have completed a full programme load in a Fall/Winter session. The Associate Deans (Studies) may exercise discretion where the full load for a particular level of a programme is not 30 units. Part-time students will be assessed at the review periods where 90, 60, 90 and 120 units have been completed (based on the units completed since your last assessment).

**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.
- 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 medical certificate from Student Health Services, or a doctor, to the Office of the Associate Dean (Studies) of your Faculty before the end of the examination schedule. The certificate must indicate that you were medically unfit to write the examination.

If you are late for an examination, report immediately to the presider in your examination location or to the Examinations Office. You must apply for special consideration by submitting documentation to the Office of the Associate Dean (Studies) 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

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 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
A deferred examination may be granted by your Faculty Reviewing Committee if you fail to write a final examination for certified medical or compassionate reasons. Documentation must be submitted to the Associate Dean (Studies) of your Faculty before the end of the examination schedule.

Deferred examinations must be written in the examination session which follows the one for which the privilege is granted (e.g. in the April session for an examination missed in December). The results for a deferred examination will be reported on your grade report. You must confirm your intent to write by submitting an application, accompanied by applicable fees, to the Examinations Section of the Office of the Registrar. The deferred examination fee for 1998-99 is $50.00 per examination, to a limit of $150.00 per examination session. An additional fee of $50.00 is payable for each examination written at an off-campus site.

Examination and confirmation deadline dates appear in the Sessional Dates section of this Calendar.

4. 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 programmes for which a higher grade is specified in the programme regulations.

Since September 1982, the grading scale has been:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Equivalent Grade Point</th>
<th>Equivalent Percentages</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+</td>
<td>12</td>
<td>90-100</td>
</tr>
<tr>
<td>A</td>
<td>11</td>
<td>85-89</td>
</tr>
<tr>
<td>A-</td>
<td>10</td>
<td>80-84</td>
</tr>
<tr>
<td>B+</td>
<td>9</td>
<td>77-79</td>
</tr>
<tr>
<td>B</td>
<td>8</td>
<td>73-76</td>
</tr>
<tr>
<td>B-</td>
<td>7</td>
<td>70-72</td>
</tr>
<tr>
<td>C+</td>
<td>6</td>
<td>67-69</td>
</tr>
<tr>
<td>C</td>
<td>5</td>
<td>63-66</td>
</tr>
<tr>
<td>D+</td>
<td>4</td>
<td>60-62</td>
</tr>
<tr>
<td>D</td>
<td>3</td>
<td>57-59</td>
</tr>
<tr>
<td>D-</td>
<td>2</td>
<td>53-56</td>
</tr>
<tr>
<td>F</td>
<td>1</td>
<td>50-52</td>
</tr>
<tr>
<td></td>
<td></td>
<td>49 — Failure</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Course Grade</th>
<th>Course Points</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>A-</td>
<td>10 x 6</td>
<td>= 60</td>
</tr>
<tr>
<td>C+</td>
<td>6 x 3</td>
<td>= 18</td>
</tr>
<tr>
<td>B</td>
<td>8 x 6</td>
<td>= 48</td>
</tr>
<tr>
<td>B+</td>
<td>9 x 3</td>
<td>= 27</td>
</tr>
<tr>
<td>Total</td>
<td>18</td>
<td>153</td>
</tr>
</tbody>
</table>

To calculate Average: 153 / 18 = 8.5

5. UNDERGRADUATE ACADEMIC AWARDS
To retain Entrance Scholarships and to qualify for major In-Course Awards, full-time students must complete, during the Fall/Winter session, a full load of course units, as defined by the programme and level. A Full-load Average will be computed to determine your eligibility for these awards.

Terms and conditions of awards for full-time and part-time studies are defined in the section Undergraduate Academic Awards section.

6. GRADUATION
Graduation With Distinction standing may be awarded if a minimum CA of 8.5 is achieved.

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.Kin. — 4.0
- B.Kin. (Honours) — 5.0
- B.Mus. — 5.0
- B.Sc. — 3.5
- B.Sc. (Honours) — 5.0
- B.Tech. — 3.5
Please see the graduation regulations for individual Health Sciences programmes 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 programme.

If you are registered in Level III of an Honours or Major programme and wish to transfer to a three-level degree programme to be eligible for graduation at the next Convocation, you must apply to the appropriate Office of the Associate Dean (Studies) by March 1 for Spring Convocation, and by September 1 for Autumn Convocation. If permission is granted, you must go to the Office of the Registrar and complete a Graduation Information Card.

During the session in which you expect to complete your graduation requirements, you must file a Graduation Information Card in the Office of the Registrar by mid-February for Spring Convocation and by mid-July for Autumn 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 programme 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.

7. RECORDS POLICY

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

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.

The transcript fee for 1998-99 is $8.00 per copy. An additional charge of $5.00 applies to transcripts which are faxed from McMaster ($10.00 outside Canada). Fees are due at the time that transcripts are ordered. All mail or fax requests must include either a cheque, money order, or credit card number with the expiry date and name 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 business days for processing and 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 programmes 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 programmes and courses, provide the bases 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 enrol 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).
SENATE POLICY STATEMENTS

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

- Statement on Academic Ethics
- The University's Statement on Human Rights
- Sexual Harassment Policy
- Anti-Discrimination Policy
- Code of Conduct
- Alcohol Policy and Residence Community Alcohol Policy
- Student Appeal Procedures
- General Regulations for McMaster University Library
- Policy Statement on Applicants and Students with Disabilities
- Policy on Undergraduate Student Access to Final Examinations
- Welcome Week Regulations
- Senate Resolution on Course Outlines
- Guidelines on Access to Information and Protection of Privacy (Including Security of Student Data)

The following provides a summary of the major policies which pertain to students. Complete versions of the policies may be obtained from the Senate Secretariat, Room 104, Gilmour Hall.

Academic Ethics

The Senate Statement on Academic Ethics 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.

It is the responsibility of each student to adhere to the Senate Statement on Academic Ethics (and to any additional rules and regulations developed by Departments and instructors), not only in course work, tests and examinations, but also in other scholarly activities such as laboratory research, and the use of computing and library resources.

Breaches of academic ethics fall into two general categories:

a) a disregard for the norms of scholarly integrity, without necessarily intending to deceive, and

b) academic dishonesty, which is an intentional disregard for the norms of scholarly integrity.

Minor breaches of academic ethics that fall into category a) are normally drawn to students' attention by instructors and may result in penalties such as a reduced mark or a zero for the piece of work.

Academic dishonesty is not qualitatively different from other types of dishonesty. It consists of misrepresentation by deception or by other fraudulent means.

The Senate Resolutions on Academic Dishonesty define academic dishonesty and specify the procedures to be followed in the event that a student is charged with academic dishonesty. Penalties include expulsion from the University.

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 programme 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 University community implies acceptance of the principles of mutual respect for 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), 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 states:

Everyone 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.

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.

Student Records

The University has developed operating procedures which are designed to protect the confidentiality of undergraduate student records.

The following have been defined as public information: student name, sex, degrees earned and when, undergraduate awards earned and when, and whether a student is full-time or part-time. Additional information may be used by the various offices and officials of the University where a need to know has been established.

Information about applicants for admission who do not gain admission will be kept for a limited period only. A separate admission file is maintained for those admitted to the MD, Midwifery, Nursing, Occupational Therapy and Physiotherapy programmes.

While a student may have access to his or her file, documents received from a third party in confidence are not normally placed in the student's file. But, in those cases where they have been, they will not be disclosed.

The operating procedures for the maintenance of the University's records under the Freedom of Information Act are described in the University Library Regulations. The University is subject to the Ontario Freedom of Information Act. Information may be disclosed to: judicial and law enforcement agencies, the Ontario Universities' Application Centre, Statistics Canada, agencies charged with the recovery of funds, provided under OSAP or CSL, and secondary schools.

Transcripts are issued only with the consent of the student. Addresses will not be released except under provisions noted above.
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, diploma, campus health services, student organizations, and athletics, and are payable by all students. No caution deposits are required, but students will be assessed fees related supplementary fees.

The University reserves the right to assess other supplementary fees or charges in some courses or programmes 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 by the Board of Governors for the academic year beginning September 1.

Fees shown below are for 1998-99. The fee schedules for 1999-2000 are enclosed in the Registration Handbook sent to each student during the summer preceding registration and are available on the web at http://www.mcmaster.ca/bmes/finance/feesched.htm in the spring of 1999.

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

Base Per Unit Tuition Per Faculty

<table>
<thead>
<tr>
<th>Faculty</th>
<th>Canadian/Permanent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Programme/Visa Status</td>
<td></td>
</tr>
<tr>
<td>Arts &amp; Science</td>
<td>114.06 per unit 400.00 per unit</td>
</tr>
<tr>
<td>Business and Commerce</td>
<td>119.44 395.00</td>
</tr>
<tr>
<td>Commerce</td>
<td></td>
</tr>
<tr>
<td>Engineering</td>
<td>117.92 364.00</td>
</tr>
<tr>
<td>Eng. Mgt. II, IV</td>
<td>119.44 400.40</td>
</tr>
<tr>
<td>Eng. Mgt. III, V</td>
<td>117.92 364.00</td>
</tr>
<tr>
<td>Humanities</td>
<td>114.06 375.00</td>
</tr>
<tr>
<td>Kinesiology and Social Sciences</td>
<td>114.06 375.00</td>
</tr>
<tr>
<td>Nursing</td>
<td>114.06 400.00</td>
</tr>
<tr>
<td>Occupational Therapy</td>
<td>125.90 431.60</td>
</tr>
<tr>
<td>Physiotherapy</td>
<td>125.90 431.60</td>
</tr>
<tr>
<td>Science</td>
<td>114.06 400.00</td>
</tr>
</tbody>
</table>

Supplementary Fees

STUDENTS TAKING 1 TO 17 UNITS PAY (PER UNIT):

Mcmaster Association of Part-Time Students fees:
- Organization Fee: $4.00
- University Centre Fee: 2.00
- Athletics and Recreation Activity Fee: 4.20

Total Charge per unit: $10.20

Nursing Students Add:
- Learning Resource Fee: 6.25
- Nursing Total Per Unit: 16.45

STUDENTS TAKING 18 OR MORE PAY:

Students registered in 18 or more units at ANY time during the session will be responsible for the following fees:
- Athletics & Recreation Activity Fee: $75.60
- Student Health Service: 36.00
- Ontario Public Interest Research Group (OIPRG): 5.59

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

McMaster Student Union Fees:
- Student Organization Fee: $88.42
- Health Plan Premium: 37.00
- H.S.R. Bus Pass: 58.00
- WUSC Student Refugee Fee: 1.12
- Ancillary Fee for CFMU-FM: 12.95
- Ancillary Fee for MARMOR Yearbook: 6.75

Sub Total: $321.23

Plus:
- McMaster University’s Student Centre Building fee ($2.39 per unit), to a maximum of $71.70.
- Student Services Fee ($2.60 per unit), to a maximum of $78.00.

And Student Society Fees According to Faculty:
- Arts & Science Society: 26.00
- Bachelor of Kinesiology Society: 15.00
- Engineering Society: 82.00
- Engineering Endowment: 73.00
- Humanities Society: 50.00
- Nursing Society: 15.00
- Nursing Learning Resource Fee: 112.50
- Occupational Therapy Learning Resource Fee: 115.00
- Physical Therapy Learning Resource Fee: 57.00
- Science Society: 10.00
- Social Science Society: 15.00

Canadian Citizens and Landed Immigrant Students

(Examples of fees for full academic load.)

<table>
<thead>
<tr>
<th>Faculty</th>
<th>Tuition Fee</th>
<th>Fees</th>
<th>Total Fees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arts &amp; Science</td>
<td>3,421.80</td>
<td>496.93</td>
<td>3,918.73</td>
</tr>
<tr>
<td>Business and Commerce</td>
<td>3,583.20</td>
<td>552.93</td>
<td>4,136.13</td>
</tr>
<tr>
<td>Engineering and Engineering</td>
<td>3,891.36</td>
<td>593.93</td>
<td>4,485.29</td>
</tr>
<tr>
<td>Engineering and Engineering</td>
<td>3,583.20</td>
<td>593.93</td>
<td>4,177.13</td>
</tr>
<tr>
<td>Humanities and Social Sciences</td>
<td>3,421.80</td>
<td>485.93</td>
<td>3,907.73</td>
</tr>
<tr>
<td>Kinesiology</td>
<td>3,421.80</td>
<td>485.93</td>
<td>3,907.73</td>
</tr>
<tr>
<td>Medicine I, II (Admitted Sept 1998)</td>
<td>10,500.00</td>
<td>487.80</td>
<td>10,987.80</td>
</tr>
<tr>
<td>Medicine I, II (Admitted prior to Sept 1998)</td>
<td>8,064.00</td>
<td>487.80</td>
<td>8,551.80</td>
</tr>
<tr>
<td>Medicine III</td>
<td>5,376.00</td>
<td>487.80</td>
<td>5,863.80</td>
</tr>
<tr>
<td>Midwifery 4 Yr Programme</td>
<td>3,421.00</td>
<td>181.00</td>
<td>3,602.00</td>
</tr>
<tr>
<td>Midwifery 3 Yr Programme</td>
<td>5,132.00</td>
<td>181.00</td>
<td>5,313.00</td>
</tr>
<tr>
<td>Nursing</td>
<td>3,421.80</td>
<td>613.93</td>
<td>4,035.73</td>
</tr>
<tr>
<td>Occupational Therapy</td>
<td>3,777.00</td>
<td>585.93</td>
<td>4,362.93</td>
</tr>
<tr>
<td>Physiotherapy</td>
<td>3,777.00</td>
<td>527.93</td>
<td>4,304.93</td>
</tr>
<tr>
<td>Science</td>
<td>3,421.80</td>
<td>480.93</td>
<td>3,902.73</td>
</tr>
</tbody>
</table>

*You will be assessed extra fees for units taken over your program maximum load.*
Visa Students
(Examples of fees for full academic load.)

| Supplementary |
|---|---|---|
| Tuition Fee | Fees | Total Fees |
| *Arts & Science* | 12,000.00 | 496.93 | 12,496.93 |
| *Business and Commerce* | 11,850.00 | 552.93 | 12,402.93 |
| *Engineering and Engineering and Eng. Mgt. II, IV* | 12,012.00 | 593.93 | 12,605.93 |
| *Engineering and Eng. & Mgt. III, V* | 12,012.00 | 593.93 | 12,605.93 |
| *Humanities and Social Sciences* | 11,250.00 | 485.93 | 11,735.93 |
| *Kinesiology* | 11,250.00 | 485.93 | 11,735.93 |
| *Science* | 12,000.00 | 480.93 | 12,480.93 |

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

**Student Health Services Fees**

The supplementary student health services fee of $36.00 supports the on-campus clinic facilities, which provide the services of doctors and nurses. The McMaster Students Union Health Plan Premium fee of $37.00 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. These expenses may include X-ray, ambulance, dental treatment, prescribed drugs, wheelchairs or similar appliances. Reimbursement is not made for accident expenses to dental plates, crowns, fillings, glass frames, lenses or similar items. Accidents should be reported to Student Health Services within 10 days. Prescribed drugs, excluding contraceptives, may be claimed through this plan. For details concerning dollar amounts allowable, contact the McMaster Students Union Office.

**Co-op Fees**

Co-op students attending the full academic term (September-April) should add an $850.00 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 $425.00 Co-op Fee.

**Listeners**

As of 1991-92, you are classified as a Listener if you wish to attend classes, but are not seeking academic credit. You may be admitted at one-half of the standard fee upon application to the Centre for Continuing Education.

Listeners withdrawing from a course may do so without penalty up to five working days after the first meeting. After that and before the second class, an administrative fee of $30.00 will be withheld. There is no refund after the second class.

Students may register as Listeners in some degree or certificate courses. A Listener is not seeking credit and may be admitted at one-half of the standard fee upon application to the Centre for Continuing Education.

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 are aged 65 or over, you may register without payment of tuition and supplementary fees.

**FINANCIAL INFORMATION**

**RESIDENCE AND MEAL PLAN FEES**

**Regular Session**

If you live on campus, your residence fees cover the period, from Labour Day to 5 p.m. on the day following your last April examination, and excludes the Christmas vacation period.

The fees below are those for 1998-99.

**Traditional Residences**

- Double/Triple Quad: $2,860.00
- Single: $3,035.00
- Bates Residence: $3,175.00

**Meal Plans**

If living in a traditional residence you must select one of the following meal plans:

- Light: $2,225.00
- Small: $2,425.00
- Regular: $2,625.00
- Large: $2,825.00

**if you wish to change your selection of meal plans, you may do so up to September 17, 1999. Please contact the Mac Express Centre, ext. 27448, for details on how to change your plan.**

A complete and current schedule of residence charges and payment dates may be obtained upon application to the Manager, Residence Admissions, Commons Building, Room 101, telephone (905) 525-9140, ext. 24070.

**Summer Residence**

McMaster University offers residence, with centralized washroom facilities, to men and women of all ages from early May to late August each year.

For further information, contact Conference Services, Commons Building, Room 101, 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. Prepayment of fees may significantly simplify the registration process (see Prepayment of Fees). If you are unable to make full payment at the time of registration, you may be registered by paying the minimum first payment at the time of registration. Interest is added monthly to the unpaid balance. (Current rate is 1.2% per month.) The balance plus interest must be paid no later than January 12. Failure to make payment by January 12 will result in a late payment fee.

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 $28 for the first occurrence and an additional $10 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 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.

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.

Prepayment of Fees

All tuition, supplementary, residence and meal plan fees and any debts from prior sessions should be received by Financial Services prior to registration.

For payment deadlines, please refer to the registration handbook. You must complete the Payment Arrangement Form and send it with a cheque, which may be post-dated to the first day of registration. Your student identification number should be written on the back of your cheque. By following this procedure you will significantly reduce the time needed to complete registration.

If you expect to receive financial assistance under the Ontario Student Assistance Programme, or will receive scholarships, bursaries or other awards, you may select the appropriate option on the Payment Arrangement Form. All fees are payable upon receipt of financial assistance. Any difference between the amount of the award, and minimum first payment should accompany the Payment Arrangement Form.

If you are unable to pay your fees at the time of registration, please contact Financial Services, Room 208, Gilmour Hall, Ext. 24478, prior to registration.

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 period.

MISCELLANEOUS FEES

The following fees were in effect for the 1999-99 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 .......................................................... 35.00
- Certification of Enrolment Fee .............................................................. 8.00
- Contribution to Psycho-Educational Assessment ....................................... 200.00
- Deferred Examination on campus .......................................................... 50.00
- Deferred Examination at Another Centre ............................................... 100.00
- Examination Reread (Refunded if grade is changed) ................................ 50.00
- Letter of Permission .................................................................................. 50.00
- Notarizing Fee (plus 50 cents per page over 10) ..................................... 10.00
- Photocopying of Examination Script ...................................................... 10.00
- Replacement of Diploma ........................................................................... 30.00
- Replacement of Student I.D. Card ............................................................ 30.00
- Supervision of Examinations at Other Universities ................................. 50.00
- Transcript (per copy) ................................................................................. 8.00
- Transcript Assessment Fee ........................................................................ 50.00

Financial/Administrative User Fees

- Replacement Fee
- Income Tax Receipt/Education Credit Certificate ...................................... 8.00
- Certification of Fee Payment ...................................................................... 8.00
- Meal Plan Withdrawal Fee ......................................................................... 50.00
- Fine for Meal Card Misuse ......................................................................... 25.00
- Returned Cheque Charge (NSF, Stopped Payment)
  - First Occurrence ...................................................................................... 28.00
  - Each Subsequent Occurrence (Additional) .............................................. 10.00
- Late Document Fee .................................................................................... 50.00
- Late Registration Fee
  - Full-time Students .................................................................................. 50.00
  - Part-time Students .................................................................................. 50.00
- Late Payment Fee ....................................................................................... 32.00
- Deferment Fee ............................................................................................ 32.00
- Reinstatement Fee ...................................................................................... 100.00
- Locker Rentals ............................................................................................ 12.00
- 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 $80.00.

Registration Examinations

Graduates of the B.Sc.N. programme can expect to pay fees ($200 in 1997) 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.
INQUIRY SEMINAR REQUIREMENTS

Inquiry seminars are comprised of 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 (3CA6, 3CB6, etc.) and are described in the programme 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 Programme may undertake Combined Honours programmes in many disciplines within the Faculties of Humanities, Science and Social Sciences. The combined programmes with Biology, Chemistry and Physics need five years for completion. Combined programmes that are already established are described below. Students should consult the Director of the Arts & Science Programme for consideration of other possible combinations. Application for Admission to Level II (mid March) is required for all Combined Honours Programmes.

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

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

INTERNATIONAL/CANADIAN EXCHANGE PROGRAMMES

One calendar year before study abroad, interested students should consult the Director, Arts & Science Programme.

Calendar year of planned travel: No later than the end of December, students must propose a programme 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.

The International Students’ Advisor (Hamilton Hall, room 405) has information on formal exchange programmes as well as independent study abroad. For further information please see International Study in the General Academic Regulations section in this Calendar. Group of Ten Student Exchange Programme (GOTSEP) information can be found in the Academic Facilities, Student Services and Organizations section of this Calendar under the heading Student Exchanges.

ARTS & SCIENCE PROGRAMMES

B.Arts Sc. (Honours) {2027} and B.Arts Sc.

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.

REQUIREMENTS

LEVEL I: 30 UNITS

24 units ARTS&SCI 1A06, 1B06, 1C06, 1D06
6 units BIOLOGY 1A03, 1A03 (BIOLOGY requirement must be completed by the end of Level II)

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)

LEVEL III: 30 UNITS

6 units Electives or BIOLOGY 1A03, 1A03 (if not completed in Level I)

6 units Electives or Upper-level Inquiry if this requirement has not already been completed.

12 units Electives
### Honours Arts & Science and Biology (2027050)

**ADMISSION**
Completion of Arts & Science I with a Cumulative Average of at least 6.0 and a grade of at least B- in ARTS&SCI 1D06 and an average of at least 7.0 in CHEM 1A03, 1AA3.

**NOTES**
1. Students who have completed CHEM 2A03 and 2B03 may substitute this for CHEM 2BA3 and 2BB3 and students who have completed ARTS&SCI 2D06 may substitute this for PHYSICS 1A06 or PHYSICS 1B06, or 1B03 (or 1C03 and 1B3A or 1BB3).  
2. For those students considering postgraduate studies in Chemistry, it should be noted that 18 units of Level IV Chemistry are required for consideration for admission at McMaster.

**COURSE LIST**
ARTS&SCI 3A06, 3B03, 3BB3, 3L03, 3S03

**Requirements**
- Level I: 30 units
  - 24 units ARTS&SCI 1A06, 1B06, 1C06, 1D06
  - 6 units CHEM 1A03, 1AA3
- Level II: 30 units
  - 18 units ARTS&SCI 2A06, 2B06, 2R06
  - 6 units CHEM 2A03, 2B03
- Level III: 30 units
  - 6 units ARTS&SCI 3B03, 3BB3, 3L03, 3S03
  - 9 units from Course List
  - 12 units Electives
- Level IV: 30 units
  - 18 units from Course List
  - 12 units Electives

### Honours Arts & Science and Chemistry (2027070)

**ADMISSION**
Completion of Arts & Science I with a Cumulative Average of at least 6.0 and a grade of at least B- in ARTS&SCI 1D06 and an average of at least 7.0 in CHEM 1A03, 1AA3.

**NOTES**
1. Students who have completed CHEM 2A03 and 2B03 may substitute this for CHEM 2BA3 and 2BB3 and students who have completed ARTS&SCI 2D06 may substitute this for PHYSICS 1A06 or PHYSICS 1B06, or 1B03 (or 1C03 and 1B3A or 1BB3).  
2. For those students considering postgraduate studies in Chemistry, it should be noted that 18 units of Level IV Chemistry are required for consideration for admission at McMaster.

**COURSE LIST**
ARTS&SCI 3A06, 3B03, 3BB3, 3L03, 3S03

**Requirements**
- Level I: 30 units
  - 24 units ARTS&SCI 1A06, 1B06, 1C06, 1D06
  - 6 units CHEM 1A03, 1AA3
- Level II: 30 units
  - 18 units ARTS&SCI 2A06, 2B06, 2R06
  - 6 units CHEM 2A03, 2B03
- Level III: 30 units
  - 6 units ARTS&SCI 3B03, 3BB3, 3L03, 3S03
  - 9 units from Course List
  - 12 units Electives
- Level IV: 30 units
  - 18 units from Course List
  - 12 units Electives
LEVEL III: 30 UNITS
6 units from Course List
15 units CHEM 2A03, 2I03, 2L03, 2PA3, 2PB3
3 units MATH 2A03
6 units Electives

LEVEL IV: 30 UNITS
6 units from Course List
6 units Upper-level Inquiry
18 units CHEM 3A03, 3BA3, 3BB3, 3DO3 (or 3F03), 3P03, 3Q03

LEVEL V: 30 UNITS
6 units from Course List
6 units CHEM 4G06
6 units Level IV Chemistry
12 units Electives

Honours Arts & Science and Comparative Literature {2027142}

ADMISSION
Completion of Arts & Science I with a Cumulative Average of at least 6.0 including a grade of at least B- in COMP LIT 1A06.

NOTES
1. Students must successfully complete six units of a language other than English.
2. Upon completion of 60 units of work and with the approval of the Associate Dean of Humanities (Studies) and of the Director of the Arts & Science Programme, Level III of this programme may be replaced by courses of study at a university under the Humanities Study Elsewhere Programme.

REQUIREMENTS

LEVEL I: 30 UNITS
24 units ARTS&SCI 1A06, 1B06, 1C06, 1D06
6 units COMP LIT 1A06

LEVEL II: 30 UNITS
18 units ARTS&SCI 2A06, 2R06, BIOLOGY 1A03, 1AA3
6 units COMP LIT 2A03, 2AA3
6 units. Language Requirement (See Note 1 above.)

LEVEL III: 30 UNITS
12 units ARTS&SCI 2D06, 3B03, 3BB3
6 units Upper-level Inquiry
9 units COMP LIT 3D03, 3DD3, 3QQ3
3 units Comparative Literature

LEVEL IV: 30 UNITS
6 units ARTS&SCI 3L03, 3S03
6 units from COMP LIT 4A03, 4B03, 4C03, 4E03
12 units Comparative Literature
6 units Electives

Honours Arts & Science and Computer Science {2027145}

ADMISSION
Completion of Arts & Science I with a Cumulative Average of at least 6.0, including a grade of at least B- in each of ARTS&SCI 1D06, and COMP SCI 1MC3, 1MD3.

NOTE:
It is possible to take COMP SCI 1MD3 if COMP SCI 1SA3 was completed with a grade of B+ or better, in which case COMP SCI 1SA3 can be used as a substitute for COMP SCI 1MC3.

REQUIREMENTS

LEVEL I: 30 UNITS
24 units ARTS&SCI 1A06, 1B06, 1C06, 1D06
6 units COMP SCI 1MC3, 1MD3

LEVEL II: 33 UNITS
12 units ARTS&SCI 2A06, 2D06
6 units BIOLOGY 1A03, 1AA3
6 units STATS 2D03: MATH 1B03
3 units COMP SCI 2MD3
6 units from COMP SCI 2ME3, 2MF3, 2SC3

LEVEL III: 33 UNITS
12 units ARTS&SCI 3A06, 3B03, 3BB3
6 units Upper-level Inquiry
3 units COMP SCI 2M3
9 units COMP SCI 3MG3, 3MH3, 3MI3
3 units from COMP SCI 3CB3, 3EA3, 3IA3

LEVEL IV: 30 UNITS
6 units ARTS&SCI 3L03, 3S03
15 units COMP SCI 4MP6 and nine additional units of Level III or IV Computer Science courses, including COMP SCI 3EA3 if not already taken
9 units Electives

Honours Arts & Science and Drama {2027148}

ADMISSION
Completion of Arts & Science I with a Cumulative Average of at least 6.0 in 12 units of Level I work, including a grade of at least B- in DRAMA 1A06.

REQUIREMENTS

LEVEL I: 30 UNITS
24 units ARTS&SCI 1A06, 1B06, 1C06, 1D06
6 units DRAMA 1A06

LEVEL II: 30 UNITS
12 units ARTS&SCI 2A06, 2R06
6 units BIOLOGY 1A03, 1AA3
6 units Level II Drama
6 units from: DRAMA 2D06, 2M06

LEVEL III: 30 UNITS
12 units ARTS&SCI 2D06, 3A06
6 units Upper-level Inquiry
12 units Level III or IV Drama

LEVEL IV: 30 UNITS
12 units ARTS&SCI 3B03 and 3BB3, 3L03 and 3S03
6 units Level III or IV Drama
6 units Level IV Drama approved as the Arts & Science Programme Individual Study/Thesis requirement
6 units Electives

Honours Arts & Science and Economics

(There are two options of study for this combined programme described as Option A or Option B.)

ADMISSION
Completion of Arts & Science I with a Cumulative Average of at least 6.0 including a grade of at least B- in ECON 1A06.

NOTE
One of OAC Finite Math, STATS 1L03, or 2D03 is a prerequisite for the research methods course offered by the Department of Economics (ECON 2B03).

REQUIREMENTS

OPTION A (2027151)

LEVEL I: 30 UNITS
24 units ARTS&SCI 1A06, 1B06, 1C06, 1D06
6 units ECON 1A06

LEVEL II: 30 UNITS
12 units ARTS&SCI 2A06, 2D06
6 units BIOLOGY 1A03, 1AA3
12 units ECON 2G03, 2GG3, 2H03, 2H03

LEVEL III: 30 UNITS
12 units ARTS&SCI 3A06, 3B03, 3BB3
6 units ECON 2B03 and 3U03 or ARTS&SCI 2R06
3 units from ECON 2K03, 3I03
9 units Electives

LEVEL IV: 30 UNITS
6 units ARTS&SCI 3L03, 3S03
6 units Upper-level Inquiry
12 units ECON 3L33, 3A03 and 12 additional units Economics, of which at least six units must be from Levels III and IV; six of these units must be approved as substitutes for ARTS&SCI 4A06 or 4C06
OPTION B (2027152)

LEVEL I: 30 UNITS
24 units ARTS&SCI 1A06, 1B06, 1C06, 1D06
6 units BIOLOGY 1A03, 1AA3

LEVEL II: 30 UNITS
18 units ARTS&SCI 2A06, 2D06, 2R06
6 units ECON 1A06
6 units Electives

LEVEL III: 30 UNITS
12 units ARTS&SCI 3A06, 3B03, 3BB3
6 units Upper-level Inquiry
12 units ECON 2G03, 2G03, 2H03, 2HH3

LEVEL IV: 30 UNITS
6 units ARTS&SCI 3L03, 3S03
3 units from ECON 2K03, 3I03
6 units ECON 3LL3, 4A03
6 units Economics to replace ARTS&SCI 4A06 or 4C06
3 units Economics
6 units Electives

Honours Arts & Science and English (2027200)

ADMISSION
Completion of Arts & Science I with a Cumulative Average of at least 6.0 including a grade of at least B- in ENGLISH 1D06.

NOTES
1. With permission of the English Department, students may substitute ENGLISH 4X03 for three units of Level IV seminar work in the second term.
2. Most graduate programmes in English require proficiency in a second language. Students who plan to pursue graduate studies in English are strongly encouraged to include in their programmes a second language beyond the introductory level.

COURSE LIST 1 (SIX UNITS REQUIRED)
ENGLISH 3C06, 3I06, 3K06, 3L06, 3M06, 3V06

COURSE LIST 2 (SIX UNITS REQUIRED)
ENGLISH 2I06, 3G06, 3M03, 3MM3

COURSE LIST 3 (SIX UNITS REQUIRED)
ENGLISH 2G06, 2I06, 3R06

COURSE LIST 4 (SIX UNITS REQUIRED)
ENGLISH 2B06, 2K06, 3J06, 3N06, 3Q03, 3QQ3

COURSE LIST 5 (SIX UNITS REQUIRED)
Courses in Lists 1-4 and: ENGLISH 3B03, 3CC3, 3F03, 3HH3, 3I03, 3P03, 3S03, 3W03, 3X03, 3ZZ3

LEVEL I: 30 UNITS
24 units ARTS&SCI 1A06, 1B06, 1C06, 1D06
6 units ENGLISH 1D06

LEVEL II: 30 UNITS
18 units ARTS&SCI 2A06, 2R06; BIOLOGY 1A03, 1AA3
12 units Level II or III English from Course Lists 1-5

LEVEL III: 30 UNITS
12 units ARTS&SCI 2D06, 3B03, 3BB3
6 units Upper-level Inquiry
12 units Level II or III English from Course Lists 1-5

LEVEL IV: 30 UNITS
6 units ARTS&SCI 3L03, 3S03
6 units Level II or III English from Course Lists 1-5
6 units Level IV English seminars
12 units Electives

Honours Arts & Science and French (2027230)

ADMISSION
Completion of Arts & Science I with a Cumulative Average of at least 6.0, including a grade of at least B- in FRENCH 1A06 or 1M06 or a grade of at least B+ in FRENCH 1N06 or 1NN6.

NOTES
1. When selecting their courses, students must ensure that the overall total includes a minimum of 24 units of Level III and IV French courses.
2. Upon completion of 60 units of work (including at least 12 units of required Level II French courses), and with the approval of the Department of French, the Associate Dean of Humanities (Studies), and the Director of the Arts & Science Programme, up to 15 units of Level III French may be replaced by courses of study at a French-language university.

COURSE LIST (SIX UNITS REQUIRED)
FRENCH 4P03, 4I03, 4LLL3, 4MM3, 4N03, 4Q03, 4Q30, 4S03, 4U03, 4X03, 4Y03

REQUIREMENTS
LEVEL I: 30 UNITS
24 units ARTS&SCI 1A06, 1B06, 1C06, 1D06
6 units FRENCH 1A06 or 2M06, 1N06, or 1NN6

LEVEL II: 30 UNITS
12 units ARTS&SCI 2A06, 2R06
6 units BIOLOGY 1A03, 1AA3
12 units FRENCH 2B03, 2B83; 2J03 or 2J3; 2W03 or 2WW3

LEVEL III: 30 UNITS
12 units ARTS&SCI 2D06, 3B03, 3BB3
6 units Upper-level Inquiry
3 units FRENCH 3C03
6 units FRENCH 3K03 or 3KK3; FRENCH 3C03 or 3QQ3
3 units from FRENCH 3AA3, 3BB3, 3Z03, 4U03

LEVEL IV: 30 UNITS
6 units ARTS&SCI 3L03, 3S03
9 units FRENCH 4A03; two three-unit Level IV French courses from Course List
3 units from FRENCH 3A03, 3SS3, 4J03
12 units Electives

Honours Arts & Science and Geography (2027240)

ADMISSION
Completion of Arts & Science I with a Cumulative Average of at least 6.0 including a minimum average of at least 6.0 in six units from GEO 1A03, 1B03, 1G03. (See Note below.)

NOTE
Beginning in 2000-2001, admission to the programme will require completion of Arts & Science I with a Cumulative Average of at least 6.0 and an average of at least 7.0 in GEO 1HS3 and 1HU3 (or a grade of at least B- in GEO 1HB6 if previously completed).

COURSE LIST 1:
GEO 4A03, 4B03, 4CC3, 4C03, 4D03, 4FE3, 4G03, 4HS3, 4HT3, 4HU3, 4HX3, 4HY3, 4HZ3, 4I03, 4R06, 4S03, 4W03, 4WW3

COURSE LIST 2:
GEO 3A03, 3B03, 3C03, 3FE3, 3G03, 3H03, 3HF3, 3HG3, 3HH3, 3HT3, 3HX3, 3HZ3, 3I03, 3R03, 3S03, 3W03, 3Y03

COURSE LIST 3:
GEO 2B03, 2C03, 2G03, 2HA3, 2HB3, 2HD3, 2HR3, 2HY3, 2W03

REQUIREMENTS
LEVEL I: 30 UNITS
24 units ARTS&SCI 1A06, 1B06, 1C06, 1D06
6 units from GEO 1A03, 1B03, 1G03

LEVEL II: 30 UNITS
12 units ARTS&SCI 2A06, 2D06
6 units BIOLOGY 1A03, 1AA3
6 units from ARTS&SCI 2R06, GEO 2S03, STATS 1CC3
3 units GEO 2I03
3 units Course List 3

LEVEL III: 30 UNITS
12 units ARTS&SCI 3A06, 3B03, 3BB3
3 units from GEO 3FE3 or 3HF3
9 units Course List 2
6 units Course List 3

LEVEL IV: 30 UNITS
6 units ARTS&SCI 3L03, 3S03
6 units Upper-level Inquiry
12 units Course List 1, including one of GEO 4CC3, 4R06
6 units Electives
Honours Arts & Science and History {2027290}

ADMISSION
Enrolment in this programme is limited. Selection is based on academic achievement, but requires, as a minimum, completion of Arts & Science I with a Cumulative Average of at least 6.0, including a grade of at least B- in any Level I History course.

NOTES
1. In selecting courses, students must ensure that they take a minimum of three units in each of three fields of History. For this purpose the Department has established the following six fields: European, Ancient, Asian, Canadian, British, and the Americas (excluding Canada). This requirement must be completed by the end of Level III. All Level II and III History courses shown in the list of Subfields (see listing in the Faculty of Humanities, Department of History section of this Calendar) may be used toward this requirement. Students are permitted a maximum of 18 units of work in any one of the preceding fields.
2. No Level IV seminars may be taken before completion of 12 units of History beyond Level I.

REQUIREMENTS
LEVEL I: 30 UNITS
24 units ARTS&SCI 1A06, 1B06, 1C06, 1D06
6 units Level I History

LEVEL II: 30 UNITS
18 units ARTS&SCI 2A06, 2D06, 2R06
6 units BIOLOGY 1A03, 1AA3
6 units Level II History, HUMAN 2F03

LEVEL III: 30 UNITS
12 units ARTS&SCI 3A06, 3B03, 3BB3
6 units Upper-level Inquiry
12 units six units Level II History; six units Level III History

LEVEL IV: 30 UNITS
6 units ARTS&SCI 3L03, 3S03
12 units six units Level IV History; six units Level IV History approved as substitutes for ARTS&SCI 4A06 or 4C06
12 units Electives

Honours Arts & Science and Mathematics {2027320}

ADMISSION
Completion of Arts & Science I with a Cumulative Average of at least 6.0, including a weighted average of 7.0 in ARTS&SCI 1D06 or MATH 1A03 or 1A03, and MATH 1B03.

REQUIREMENTS
LEVEL I: 33 UNITS
27 units ARTS&SCI 1A06, 1B06, 1C06, 1D06; MATH 1B03
6 units BIOLOGY 1A03, 1AA3

LEVEL II: 33 UNITS
18 units ARTS&SCI 2A06, 2D06, 2R06
15 units MATH 2A03, 2AB3, 2C03, 2R03, 2S03

LEVEL III: 33 UNITS
12 units ARTS&SCI 3A06, 3B03, 3BB3
6 units Upper-level Inquiry
15 units MATH 3A03, 3AA3, 3E03, 3EE3, 3X03

LEVEL IV: 30 UNITS
6 units ARTS&SCI 3L03, 3S03
6 units ARTS&SCI 4A06 or 4C06
3 units from MATH 4B03, 4E03, 4X03
12 units Level III or IV Mathematics or Statistics courses
3 units Electives

Honours Arts & Science and Philosophy {2027420}

ADMISSION
Completion of Arts & Science I with a Cumulative Average of at least 6.0, including a grade of at least B- in any Level I Philosophy course 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 programme.
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, the Associate Dean of Humanities (Studies), and the Director of the Arts & Science Programme, one or both terms of Level III may be replaced by courses of study at a designated university abroad.

REQUIREMENTS
LEVEL I: 30 UNITS
24 units ARTS&SCI 1A06, 1B06, 1C06, 1D06
6 units BIOLOGY 1A03, 1AA3

LEVEL II: 30 UNITS
18 units ARTS&SCI 2A06, 2D06, 2R06
6 units PHILOS 2A06
6 units Level III or IV Philosophy

LEVEL III: 30 UNITS
12 units ARTS&SCI 3A06, 3B03, 3BB3
6 units Upper-level Inquiry
6 units PHILOS 2C06
6 units Level III or IV Philosophy

LEVEL IV: 30 UNITS
6 units ARTS&SCI 3L03, 3S03
12 units six units Level III or IV Philosophy; six units Level IV Philosophy
12 units Electives

Honours Arts & Science and Physics {2027440}

ADMISSION
Completion of Arts & Science I with a Cumulative Average of at least 6.0, including either a grade of at least a C+ in ARTS&SCI 1D06 or an average of at least 6.0 in MATH 1A03 and 1AA3.

NOTES
1. Continuation in the programme beyond Level II requires at least an average of 6.0 in 6 units from PHYSICS 1B03, 1A03 (or 1BB3).
2. BIOLOGY 1A03 and 1AA3 may be replaced by BIOLOGY 1A06, PHYSICS 1B03 and 1B03 (or 1BB3) may be replaced by PHYSICS 1A06 or 1B06.
3. BIOLOGY 1A03, 1AA3, PHYSICS 1B03, 1A03 (or 1BB3) must be completed by the end of Level II.
4. Students who do not have some familiarity with a programming language such as Basic C, Fortran or Pascal should elect COMP SCI 1A03 (Level III Elective).

REQUIREMENTS
LEVEL I: 33 UNITS
18 units ARTS&SCI 1A06, 1B06, 1C06
6 units from ARTS&SCI 1D06, MATH 1A03, 1AA3
6 units from BIOLOGY 1A03, 1AA3, PHYSICS 1B03, 1A03 (or 1BB3)
3 units MATH 1B03

LEVEL II: 30 UNITS
6 units ARTS&SCI 2A06
6 units Upper-level Inquiry
6 units from BIOLOGY 1A03, 1AA3, PHYSICS 1B03, 1A03 (or 1BB3)
6 units from CHEM 1A06, 1A03, 1AA3
3 units MATH 2A03
3 units MATH 2C03

LEVEL III: 31 UNITS
12 units ARTS&SCI 3B03, 3BB3, and 3A06 or 3L03, 3S03
16 units PHYSICS 2B06, 2H04, 2K03, 2L03
3 units Electives
LEVEL IV: 31 UNITS
6 units ARTS&SCI 3A06 or 3L03, 3S03 (whichever not completed)
16 units PHYSICS 3H04, 3K03, 3M03, 3M03 and 3N03
6 units MATH 3C03, 3D03
3 units Electives

LEVEL V: 29 UNITS
6 units ARTS&SCI 4C06
11 units PHYSICS 4B04, 4F03, 4J04
9 units from Level III or IV Physics, Level III Astronomy, GEO 3ZZ3, excluding PHYSICS 4Q04
3 units Electives

Honours Arts & Science and Political Science
Requirements

Admission
Completion of Arts & Science I with a Cumulative Average of at least 6.0 including a grade of at least B- in six units of Political Science courses.

Notes
(Also, see notes under Faculty of Social Science, Political Science section):
1. Prerequisites: A number of Level III and IV courses have Level II prerequisites. Students who wish to enter courses but who lack the necessary prerequisites must obtain permission of the instructor.
2. The mathematics requirement for this combined honours programme may be fulfilled by either ARTS&SCI 2R06 (taken in Level II) or POL SCI 3N03 (taken in Level III).

Requirements

LEVEL I: 30 UNITS
24 units ARTS&SCI 1A06, 1B06, 1C06, 1D06
6 units BIOLOGY 1A03, 1AA3

LEVEL II: 30 UNITS
12 units ARTS&SCI 2A06, 2D06
6 units ARTS&SCI 2R06 (See Note 2 above.)
12 units Level II or III Political Science

LEVEL III: 30 UNITS
12 units ARTS&SCI 3A06, 3B03, 3BB3
6 units Upper-level Inquiry
6 units Level III Political Science
6 units Electives (or POL SCI 3N03 if ARTS&SCI 2R06 not already completed)

LEVEL IV: 30 UNITS
6 units ARTS&SCI 3L03, 3S03
6 units Level III or IV Political Science
6 units Level IV Political Science approved to replace ARTS&SCI 4A06 or 4C06
12 units Electives

Honours Arts & Science and Psychology
Requirements

Admission
Completion of Arts & Science I with a Cumulative Average of at least 6.0, an average of at least 7.0 in PSYCH 1A03 and 1AA3 and a grade of at least C- in ARTS&SCI 1D06.

Notes
1. ARTS&SCI 1D06 with a grade of at least C- must be completed before entrance into Level II of the programme.
2. PSYCH 2R03 and STATS 1C03 must be completed before entrance into Level III.
3. BIOLOGY 1A03 is a prerequisite for PSYCH 2F03.
4. At some time during the programme, the student must meet a laboratory requirement by completing one of 3E03, 3L03, 3LL3, 3QQ3, 3S03, 3V03, 4G03, 4QQ3. Enrolment in Psychology Laboratory courses is limited. Permission of the Department is required by March 1.
5. Students who are planning to do graduate studies in Psychology and who meet the prerequisites should complete PSYCH 4D06 and MATH 1B03.

Course List
PSYCH 3E03, 3L03, 3LL3, 3QQ3, 3S03, 3V03, 4G03, 4QQ3

Requirements

LEVEL I: 30 UNITS
24 units ARTS&SCI 1A06, 1B06, 1C06, 1D06
6 units PSYCH 1A03, 1AA3

LEVEL II: 30 UNITS
12 units ARTS&SCI 2A06, 2D06
6 units BIOLOGY 1A03, 1AA3
6 units STATS 1C03 and PSYCH 2R03 (or ARTS&SCI 2R06)
6 units from PSYCH 2E03, 2F03, 2H03, 2T03, 2V03

LEVEL III: 30 UNITS
12 units ARTS&SCI 3A06, 3B03, 3BB3
6 units Upper-level Inquiry
3 units from PSYCH 2E03, 2F03, 2H03, 2T03, 2V03 (whichever not taken in Level II)
6 units Level III Psychology (See Note 4 above.)
3 units Electives

LEVEL IV: 30 UNITS
6 units ARTS&SCI 3L03, 3S03
9 units Level III or IV Psychology including one course from Course List, if not already completed. (See Note 4 above.)
6 units PSYCH 4D06 or six units Level IV Psychology approved as substitutes for ARTS&SCI 4A06 or 4C06
9 units Electives

Honours Arts & Science and Religious Studies
Requirements

Admission
Completion of Arts & Science I with a Cumulative Average of at least 6.0 including a grade of at least B- in ARTS&SCI 1A06.

Notes
1. All honours students are required to consult a departmental undergraduate advisor in the selection of their Level III and IV courses.
2. See faculty of Social Sciences note under RELIGIOUS STUDIES regarding possible language requirement.
3. ARTS&SCI 1A06 serves as the Level I Religious Studies requirement; all Religious Studies courses taken must be above Level I.

Course Lists
Three units from Course List 1: three units each from two other Course Lists.

1. ASIAN RELIGIONS
   ARTS&SCI 3L03, RELIG ST 2E03, 2J06, 2L03, 2P06, 2RR3, 2T03, 3A03, 3E03, 3H03, 3L03, 3S03, 3U03, 3UU3, SANSKRIT 3A06, 4B06

2. BIBLICAL STUDIES
   RELIG ST 2B03, 2D03, 2E03, 2GG3, 2HH3, 2VV3, 2YY3, 2Z03, 3DD3, 3M03, 3N03, 3R03, 3T03;
   HEBREW 2A03, 2B03, 3A03, 3B03

3. WESTERN RELIGIOUS THOUGHT
   RELIG ST 2C03, 2CC3, 2H03, 2L03, 2J03, 2KK3, 2U03, 2UU3, 2V03, 2ZZ3, 3DD3, 3L03, 3S03, 3U03, 3V03, 3ZZ3

4. CONTEMPORARY AND COMPARATIVE RELIGIONS
   RELIG ST 2AA3, 2BB3, 2EA3, 2EB3, 2MO3, 2NO3, 2Q03, 2QQ3, 2SS3, 2V03, 2W03, 2WW3

Requirements

LEVEL I: 30 UNITS
24 units ARTS&SCI 1A06, 1B06, 1C06, 1D06
6 units BIOLOGY 1A03, 1AA3

LEVEL II: 30 UNITS
12 units ARTS&SCI 2A06, 2D06
3 units Course List 1
6 units Course List 2, 3, 4 (three units each of two lists)
3 units Religious Studies
6 units Electives
<table>
<thead>
<tr>
<th>LEVEL III: 30 UNITS</th>
<th>REQUIREMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 units ARTS&amp;SCI 2D06, 3A06</td>
<td>24 units ARTS&amp;SCI 1A06, 1B06, 1C06, 1D06</td>
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<tr>
<td>6 units Upper-level Inquiry</td>
<td>6 units SOCIOL 1A06</td>
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<tr>
<td>3 units RELIG ST 3F03</td>
<td>12 units ARTS&amp;SCI 2A06, 2D06</td>
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<tr>
<td>6 units Level III Religious Studies</td>
<td>6 units BIOLOGY 1A03, 1AA3</td>
</tr>
<tr>
<td>3 units Course List 1</td>
<td>12 units SOCIOL 2S06, 2Z03; three units Sociology</td>
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<tr>
<td><strong>LEVEL IV: 30 UNITS</strong></td>
<td><strong>LEVEL III: 30 UNITS</strong></td>
</tr>
<tr>
<td>6 units ARTS&amp;SCI 3B03, 3BB3</td>
<td>6 units ARTS&amp;SCI 3B03, 3BB3</td>
</tr>
<tr>
<td>12 units RELIG ST 4A06, 4J06</td>
<td>15 units SOCIOL 3H06, nine units Sociology</td>
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<tr>
<td>12 units Electives</td>
<td>3 units from SOCIOL 3A03, 3P03, 3PP3</td>
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<tr>
<td><strong>Honours Arts &amp; Science and Sociology</strong></td>
<td>3 units from SOCIOL 3I03, 3O03, 3W03</td>
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<tr>
<td><strong>ADMISSION</strong></td>
<td>3 units Electives</td>
</tr>
<tr>
<td>Completion of Arts &amp; Science I with a Cumulative Average of at least 6.0 including a grade of at least B- in SOCIOL 1A06.</td>
<td><strong>LEVEL IV: 30 UNITS</strong></td>
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<tr>
<td><strong>NOTES</strong></td>
<td>12 units ARTS&amp;SCI 3A06, 3L03, 3S03</td>
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<tr>
<td>1. A student may take a maximum of six units of Level IV Independent Research (SOCIOL 4M03/4N03 or 4MM6).</td>
<td>6 units Upper-Level Inquiry</td>
</tr>
<tr>
<td>2. Students should check both this Calendar and the Departmental Handbook for prerequisites and course descriptions.</td>
<td>6 units Level IV Sociology</td>
</tr>
<tr>
<td>6 units Upper-level Inquiry, 6 units Electives</td>
<td>6 units SOCIOL 4M03 and 4N03 or 4MM6 to replace ARTS&amp;SCI 4A06 or 4C06</td>
</tr>
</tbody>
</table>
INTERNATIONAL/CROSS-CULTURAL/LANGUAGE MENU

In its revised programmes, 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 broad understanding of business functions and their relationships in the world. 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 complete successfully two courses from an International/Cross-Cultural/Language menu. 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, student may choose from those additional courses as well. The menu for 1999-2000 is as follows:

All Anthropology courses
All courses in the Faculty of Humanities, except all English courses
All Indigenous Studies courses
All Political Science courses, except POL SCI 1G06, 3C03, 3D03, 3F03, 3F03, 3J03, 3S03, 4C06, 4S06
All Religious Studies courses
ECON 2F03 Asian-Pacific Economies
ECON 2F03 Globalization and Economic Development
ECON 2L03 Peace, Human Security and Economic Development
ECON 3H03 International Monetary Economics
ECON 3H03 International Trade
ECON 3I03 Economic History of the United States
ECON 3L03 History of Economic Theory
ECON 3T03 Economic Development: Agriculture and Population
GEO 1H03 Social Geography
GEO 1H03 Urban Economic Geography
GEO 3H03 Geography of Japan (JAPAN ST 3J03)
SOCIOL 2F06 Racial and Ethnic Group Relations
SOCIOL 3Z03 All courses included under the Peace Studies minor (see Interdisciplinary Minors and Thematic areas section of the Calendar)

FULL-TIME/PART-TIME STUDIES

Students can take Business I and the Commerce programmes on a full-time or part-time basis. Progression to the next level is at the end of the successful completion of the 30 units of work that pertain to the lower level. It should be noted that only a few Commerce courses are offered in the evenings or in the summer sessions.

CONTINUING STUDENTS

Graduates of McMaster's Commerce programmes or one of the Engineering and Management programmes may take, as part-time students, Level III and IV Commerce courses (not previously taken, to a maximum of 18 units), excluding COMMERCE 4A3, 4A3, 4A3, 4A3, with the permission of the Academic Programmes Office. Such permission will be given only if normal prerequisites are satisfied and if space permits after meeting the requirements of in-course students. Registrations will be approved after classes start. (See the Admission Requirements section of this Calendar under the heading Continuing Students.)

*These courses are available as ACC 500, ACC 501, ACC 502, through the School of Business, subject to sufficient enrolments and availability of qualified instructors. For details concerning these courses, please see the McMaster University Spring/Summer Calendar.

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 reendorsed to either of the Commerce programmes. Such a student may wish to apply for admission to the M.B.A. programme.

CREDIT TOWARDS PROFESSIONAL DESIGNATIONS

Educational requirements toward a variety of professional designations can be met in varying degrees within the Commerce programmes and the Engineering and Management programmes.
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 programmes. Additional course work may be taken as Extras (see Extra Courses below) while in the programme. 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 Programmes Office in the School of Business.

MINOR
A minor is an option available to a student enrolled in a four- or five-level programme. A minor normally 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 programme 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 the minor, a notation to that effect will be recorded on the student's transcript. For further information, please refer to Minor in the General Academic Regulations section of this Calendar.

ACADEMIC REGULATIONS
A student enrolled in either of the Commerce programmes, in addition to meeting the General Academic Regulations of the University, will be subject to the following School of Business Regulations:

QUALIFYING FOR HONOURS COMMERCE
To be considered for Level III of the Honours Commerce programme, students must have attempted at least 24 units of course work for Level II Commerce (as described in the School of Business Programmes 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 programme upon entry to Level III, there is one final opportunity for consideration. To be considered for Level IV of the Honours Commerce programme, students must have attempted at least 24 units of course work for Level III Commerce (as described in the School of Business Programmes 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 PROGRAMME
A student may transfer between Commerce programmes prior to entering Level IV, provided that, after consultation with the Academic Programmes Office of the School of Business, it has been determined that the academic requirements of the new programme have been met, and an acceptable revised programme of study can be established. This revised programme of study must be approved by the Academic Programmes Office.

Students in good standing in the Engineering and Management programme may transfer to a Commerce programme with the permission of the Academic Programmes Office. The conditions for eligibility for entrance to the Commerce programmes 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 programme. A part-time student in Business I is permitted to take a maximum of 18 units in any Fall/Winter session.

In any Fall/Winter session, a student may not register for more than 30 units (including Extra courses) without the approval of the Academic Programmes Office. Such approval will not be given to a student with a Cumulative Average (CA) below 7.0. In any Spring/Summer session, a student may not register for more than 12 units.

COURSE CHANGES
It is the responsibility of the student to ensure that the programme of work undertaken meets the requirements of the degree. All course changes must be made through the Academic Programmes Office.

WITHDRAWALS
Failure to complete a course, without obtaining approval to withdraw, will result in a course grade that includes zero on all grade components not completed. All withdrawals require approval from the Academic Programmes Office by the stated deadlines if they are to be made without academic penalty.

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 programme requirements for continuation in the programme will not necessarily be permitted to undertake further work before clearing deferred examinations. Please note that students registered in the School of Business are not normally granted a second deferral of an examination which has been previously deferred. Students who fail to write a deferred examination for medical or compassionate reasons must submit the appropriate documentation to the Academic Programmes Office by the end of the examination schedule and will be granted a grade of “Not Complete” or “N.C.” on their transcripts. Students who receive a grade of “N.C.” in a required course must re-register for that course in the following Fall/Winter academic session and pay the associated tuition fee. Students who receive a grade of “N.C.” in an elective course may repeat the course or choose a replacement and in either case must pay the associated tuition fee.

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

EXTRA COURSES
Courses in addition to those which constitute the student's programme must be designated Extra at registration. Extra courses may be taken only upon successful completion of Level III of any of the Commerce programmes. No Extra courses may be scheduled in a manner which would delay completion of a student's programme. Commerce courses previously taken cannot be repeated as Extras. The designation of Extra can be neither added nor removed retroactively.

The last day to change the Extra designation is the last day for withdrawal without failure by default of the term to which it pertains.

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

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 programme load. Courses must be taken in the sequence specified by the School of Business.
READEMISSION

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

Application for readmission must be made in writing to the Associate Dean (Academic) by June 30 for entry in September. This application should explain why the applicant would expect to succeed in the programme if readmitted. Forms for this purpose may be obtained from the Academic Programmes Office in the M.G. DeGroote Building, Room 104.

A student who is readmitted after having become ineligible to continue in a Commerce programme 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 programme 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.

REINSTATEMENT

A student who May Not Continue at the University may apply for reinstatement.

There are two categories of students who may apply for reinstatement to Business I:

1. Applicants who have been registered in Business I within the past five years, and have not been registered in another McMaster programme or at another University during that time, or

2. Applicants from other Faculties.

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

Applications 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 can be considered only after admission to McMaster, as well as the nature of the 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.

FORMER COMMERCE STUDENTS

If a student was previously registered in a McMaster Commerce programme and was in good standing but did not attend in the preceding year, the student must write to the Academic Programmes 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 programmes 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 Associate Dean (Academic) with appropriate documentation attached. Guidelines for such requests may be obtained from the Academic Programmes Office, in the M.G. DeGroote Building, Room 104.

COMMERCES INTERNSHIP PROGRAMME

This is a programme designed to provide students with an opportunity to participate in career oriented work terms. Positions begin during the summer, and students at 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 programme. Students securing positions will be required to register in COMMERCE 3INC, Commerce Internship Programme, 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 3INC, 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, Michael G. DeGroote School of Business, Room 112.

EXCHANGE PROGRAMMES

There are a number of official exchange programmes offered to undergraduate students registered in the School of Business. The countries involved are: Denmark, England, Norway, Mexico, France and Singapore. Official exchange programmes 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 be in good standing to be eligible to participate in an exchange. In most cases, students who participate in exchange programmes go abroad for Level III of their programme. Information is available from Prof. M. Adams, Exchange Programmes Coordinator, M.G. DeGroote Building, Room 320.

Additional information may be found under International Study in the General Academic Regulations section of this Calendar.

Information concerning GST/EIP (The Group of Ten Student Exchanges Programme) can be found in the Academic Facilities, Student Services and Organizations section of this Calendar under the heading Student Exchanges. Acceptance to the Ontario and University-wide Exchange Programmes is by recommendation. Application forms can be obtained from:

STUDENT EXCHANGES
HAMILTON HALL, ROOM 405
TELEPHONE: (905) 525-9140, EXTENSION 24748

PROGRAMMES

PROGRAMME NOTES

1. Students in Business I are not eligible to take upper Level Commerce course work.

2. 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 1A06, COMMERCE 1S03, COMP SCI 1B3, MATH 1M03 or MATH 1A03). For students without OAC Calculus or whose credit in same is older than five years, MATH 1K03 must be taken before MATH 1M03 or MATH 1A03; students without OAC Finite or whose credit is in same is older than five years, must take STAT 2L03;
   c) have no more than six units of failure in the elective component of Business I courses.

3. Refer to Workload under the Academic Regulations section in the School of Business for information on full-time and part-time Business I course loads.

4. 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.
5. Transfer students may be admitted to Commerce II from other universities or from other Faculties within McMaster University. A maximum of 50 spaces in Commerce II may be given to transfer students. Academic requirements for admission of transfer students may be more demanding than those for Business I students. Contact the Academic Programmes Office in M.G. DeGroote Building, Room 104, for information.

6. Admission to either of the Commerce programmes 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:

3 units

COMMERCE 1S03

3 units

COMP SCI 1BA3

6 units

ECON 1A06

3 units

MATH 1M03 or 1A03 (see Note 4 above)

0-3 units

MATH 1K03 (for those without OAC Calculus or whose credit in same is older than five years)

0-3 units

STATS 1L03 (for those without OAC Finite or whose credit in same is older than five years)

9-15 units

Electives to total 30 units. See also the International/Cross-Cultural/Language Menu in this section of the Calendar.

Commerce II

REQUIREMENTS

LEVEL II: 30 UNITS

24 units

COMMERCE 2AA3, 2AB3, 2BA3, 2FA3, 2MA3, 2QA3, 2QB3, 2S03

3 units

ECON 2X03

3 units

Electives from non-Commerce courses. See also the International/Cross-Cultural/Language Menu in this section of the Calendar.

Honours Commerce (Honours B.Com.)

REQUIREMENTS

LEVEL III: 30 UNITS

15 units

COMMERCE 3BC3, 3FA3, 3MC3, 3QA3, 3QC3

6 units

Level III or IV Commerce

9 units

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

9 units

Level III or IV Commerce

6 units

Level III or IV Commerce courses or electives from non-Commerce courses

9 units

Electives from non-Commerce courses. See also the International/Cross-Cultural/Language Menu in this section of the Calendar.

Commerce (B.Com.)

REQUIREMENTS

LEVEL III: 30 UNITS

15 units

COMMERCE 3BC3, 3FA3, 3MC3, 3QA3, 3QC3

15 units

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.

24 units

Electives from non-Commerce courses. See also the International/Cross-Cultural/Language Menu in this section of the Calendar.

Minor in Business

NOTES:

1. 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) is limited to 40 students who are registered in a four- or five-level McMaster degree programme. Places in these courses will be allocated on a first-come, first-served basis.

2. Beginning 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.

3. For purposes of the Business Minor, KINESIO 3103 will be accepted as a substitute for COMMERCE 2BA3; STATS 1CC3 will be accepted as a substitute for COMMERCE 2QA3.

REQUIREMENTS

LEVEL III: 30 UNITS

15 units

COMMERCE 3BC3, 3FA3, 3MC3, 3QA3, 3QC3

6 units

Level III or IV Commerce

9 units

Electives from non-Commerce courses. See also the International/Cross-Cultural/Language Menu in this section of the Calendar.
McMaster baccalaureate degree programmes in Engineering are accredited by the Canadian Engineering Accreditation Board (CEAB) of the Canadian Council of Professional Engineers, except the programmes in Software Engineering which will be examined for the first time at the next accreditation. Provincial Engineering Associations accept the accreditation as a major requirement for admission to the qualification Professional Engineer. The B.Eng., B.Eng.Mgt. and B.Eng.Society programmes are honours degree programmes.

At McMaster, B.Eng. students take a common Level I programme comprising Mathematics, Physics, Chemistry, Engineering Design, Computation and a complementary studies elective. The specialized programmes are entered at Level II. Students interested in one of the Engineering and Management programmes must take COMMERCE 1503 and ECON 1803 as their electives in Level I. Students interested in one of the Engineering and Society programmes are advised to choose the six units complementary studies in Level I to be consistent with their chosen focus of the programme.

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

**Complementary Studies Electives** are broadening courses which are not in subjects that are an integral part of B.Eng. programmes.

In addition to ENGINEER 4A03 or equivalent and 2B03 or 4B03, complementary studies electives are required in all B.Eng. programmes. Of these, three units must be selected from courses that are designated as being above Level I.

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. Engineering I students should refer to the **Degrees and Programmes** section of this Calendar to determine which Level I Complementary Studies electives are possible.

**Technical Electives** are Engineering or Applied Science courses in subjects relevant to the particular B.Eng. programme.

**Complementary Electives** are required in Level V of Engineering and Management programmes.

**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 programme, such that they form a proper sequence of the focus electives. With permission of the Director of the Engineering and Society Programme, students registered in a Theme School may use Theme School courses as focus electives.

Before the appropriate Department Chair, the Associate Dean of Engineering must approve each student's Technical, Commerce and Society Focus Elective Courses.

**THEME SCHOOL PARTICIPATION**

Students in B.Eng. programmes, other than Engineering and Management, may participate in a Theme School. Admission to a particular Theme School is governed by the regulations of that Theme School. In general, Theme School courses are taken in addition to the course requirements of the Department. Some Theme School courses may be considered as complementary studies electives, technical electives, or Engineering and Society focus electives.

**INDUSTRIAL INTERNSHIPS**

The Faculty of Engineering offers 12 to 16-month full-time paid work placements in industry to provide B.Eng. students with the technical work experience based on their course work. Students who qualify complete ENGINEER 3010 which includes career planning preparation, and a competitive application and interviewing process with participating companies. Students must be in their second or third level of a four-level programme, or third or fourth level of a five-level programme and be eligible to return to complete their undergraduate engineering degree prior to taking an internship placement. Students must have a minimum of 24 units to complete upon returning to studies at McMaster after the work term. An administrative fee is assessed following the start of the Placement. Industrial Internships are open to all disciplines and B.Eng. programmes within the Faculty of Engineering.

**EXCHANGE PROGRAMMES**

Formal exchange programmes 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. Further information please see International Study in the General
FACULTY OF ENGINEERING 39

ACADEMIC REGULATIONS FOR B.ENG. PROGRAMMES

Students enrolled in Engineering programmes, in addition to meeting the General Academic Regulations of the University, shall be subject to the following Faculty Regulations:

ENGINEERING I
To be eligible for Level II a student must successfully complete all 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 whose Cumulative Average (CA) is less than 4.0 can no longer continue in Engineering.

SEQUENCE OF COURSES
Courses must be taken in the sequence specified in the Calendar for the programme. 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 programme or may be replaced if the courses are not explicitly required. Courses must be repeated following failure or if required by the Faculty.

LEVEL OF REGISTRATION
A student will 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.

FALL/WINTER SESSION WORKLOAD
The Faculty of Engineering has set a minimum Fall/Winter session workload of 34 units for Engineering I students. The work load for other students must be approved by the appropriate Department Chair and the Associate Dean of Engineering. In order to qualify for most scholarships and be eligible for Dean's Honour List, students must register in the full load of work prescribed by programme and level. No more than 21 units in one term will be approved.

REINSTATEMENT 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 Returning Student Application available at the Office of the Registrar or the Office of the Associate Dean of Engineering. The completed application and the $50 application fee must be submitted to the Office of the Registrar by June 30. Applications 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 programme 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 programme probation.

PROGRAMME CHANGES
All programme changes must be made through the Office of the Associate Dean of Engineering and will be subject to the dates established by the University (see Sessional Dates section of this Calendar).

LEVEL I PROGRAMME

ENGINEERING I: 34 UNITS

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<td>ENGINEER 1A00, 1C04, 1D04</td>
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<td>11</td>
<td>MATH 1H05, 1N03, 1NN3</td>
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<td>PHYSICS 1D03, 1E03</td>
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<tr>
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<td>approved complementary studies electives</td>
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PROGRAMMES FOR THE B.ENG., B.ENG.MGT., AND B.ENG. SOCIETY DEGREES

Admission to Level II

Engineering Programmes

Admission to Level II Engineering programmes requires completion of Engineering I with a minimum CA of 4.0. A programme selection form must be submitted to the Office of the Associate Dean of Engineering by April 7, 2000. All programmes have limited enrolment; should there be more applicants than the limiting number in any programme, admission to that programme will be based on a full load using the Level I CA. Admission to a Level II programme for students registered in a reduced load will be by selection and/or an interview.

In addition, admission to a B.Eng.Mgt. programme requires the completion of COMMERC 1S03 and ECON 1B03 with an average of 5.0 in these two courses; an interview may also be required. Students admitted to a B.Eng. Society programme are required to submit a statement indicating the educational objectives for the focus electives.

Students seeking admission to the Engineering and Management programme or the Engineering and Society programme must first be admitted to the relevant department. Thereafter, they will be considered for admission to either of these two programmes.

Chemical Engineering (B.Eng.)

Admission

See Admission to Level II Engineering Programmes.

LEVEL II: 37 UNITS

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LEVEL III: 36 UNITS

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<td>from BIOCHEM 2E03, CHEM ENG 3Q03, CHEM 3I03, ENGINEER 2003</td>
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LEVEL IV: 34 UNITS

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<td>from ENGINEER 4A03, 4H03, ENG PHYS 4C03</td>
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Management (B.Eng.Mgt.)

Admission

See Admission to Level II Engineering Programmes.

LEVEL II: 37 UNITS

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<td>16</td>
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<td>ECON 1BB3, 2X03</td>
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<tr>
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<td>MATH 2M06</td>
</tr>
</tbody>
</table>
LEVEL III: 39 UNITS
24 units CHEM ENG 3D03, 3E04, 3G03, 3K04, 3L02, 3M04, 3O04
12 units ENG MGT 3AA1, 4A01
3 units approved complementary studies electives (above Level I)
6 units from BIOCHEM 2EE3, CHEM ENG 2Q03, CHEM 2A03, 3I03, ENGINEER 2D03

LEVEL V: 32 UNITS
8 units CHEM ENG 4N04; one of CHEM ENG 4W04 or 4Y04
3 units COMMERCE 4P03
3 units ENGMGT 5B03
9 units from CHEM ENG 4B03, 4C03, 4E03, 4K03, 4T03, 4Q03, 4Z03, ELEC ENG 4C03, ENGINEER 4U03
3 units from ENGINEER 4A03, 4H03, ENG PHYS 4C03
3 units Commerce electives selected from Level III or IV Commerce or COMMERCE 2Q03 (six units in 2000-2001)
3 units approved Level III or IV technical electives

Chemical Engineering and Society (B.Eng. Society) {4080535}

ADMISSION
See Admission to Level II Engineering Programmes.

NOTE
A minimum of 18 units of focus elective courses is required for the programme.

LEVEL II: 34-37 UNITS
16 units CHEM ENG 2A04, 2C02, 2D04, 2F04, 2G02
3 units CHEM 1A03
6 units ENGSOCTY 2X03, 2Y03
6 units MATH 2M06
3-6 units Engineering and Society focus electives

LEVEL III: 32-35 UNITS
17 units CHEM ENG 3D03, 3K04, 3L02, 3M04, 3O04
6 units CHEM 2A03, 2E03
6 units ENGSOCTY 3Y03, 3Z03
3-6 units Engineering and Society focus electives

LEVEL IV: 30-33 UNITS (1999-2000 ONLY)
15 units CHEM ENG 3E04, 3G03, 3P03, 4L02, 4M03
6 units ENGSOCTY 3X03, 3Z03
3 units STATS 3N03
3 units from BIOCHEM 2EE3, CHEM ENG 3Q03, CHEM 3I03, ENGINEER 2E03
3-6 units Engineering and Society focus electives

LEVEL V: 32 UNITS
8 units CHEM ENG 4N04; one of CHEM ENG 4W04 or 4Y04
9 units from CHEM ENG 4B03, 4C03, 4E03, 4K03, 4T03, 4Q03, 4Z03, ELEC ENG 4C03, ENGINEER 4U03
6 units ENGSOCTY 4X03, 4Z03
3 units approved Level III or IV technical electives
6 units Engineering and Society focus electives

Civil Engineering (B.Eng.) {4120}

ADMISSION
See Admission to Level II Engineering Programmes.

NOTE
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 elective form, and ensure that it has been approved by the Department before completing a Level IV Registration Form.

LEVEL II: 37 UNITS
20 units CIV ENG 2A02, 2C04, 2E03, 2I03, 2J04, 2O04
11 units ENGINEER 2C03, 2P04, 2Q04
6 units MATH 2M06

Civil Engineering and Management (B.Eng.Mgt.) {4120325}

ADMISSION
See Admission to Level II Engineering Programmes.

NOTE
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 a Level V Registration Form.

LEVEL IV: 34-36 UNITS (1999-2000 ONLY)
3 units CIV ENG 4B03
6 units ENGINEER 4A03, 4H03 or ENG PHYS 4C03
22-24 units from Level IV Civil Engineering technical electives or ENGINEER 4I03
3 units approved complementary studies electives (above Level I)

LEVEL IV: 31-33 UNITS (EFFECTIVE 2000-2001)
6 units ENGINEER 4B03; and ENGINEER 4A03, 4H03 or ENG PHYS 4C03
22-24 units from Level IV Civil Engineering technical electives or ENGINEER 4U03
3 units approved complementary studies electives (above Level I)

Civil Engineering and Management (B.Eng.Mgt.) {4120325}
21-22 units from Level IV Civil Engineering technical electives or
ENGINEER 4U03
3 units COMMERCIAL 4P3
4 units ENGN G7T 4A01, 5B03
6 units Commerce electives selected from Level III and IV
Commerce or COMMERCER 2Q83
3 units from ENGINEER 4A03, 4H03, ENG PHYS 4C03

LEVEL V: 34-35 UNITS (EFFECTIVE 2001-2002)
21-22 units from Level IV Civil Engineering technical electives or
ENGINEER 4U03
3 units COMMERCIAL 4P3
4 units ENGN G7T 4A01, 5B03
3 units Commerce electives selected from Level III and IV
Commerce or COMMERCER 2Q83
3 units from ENGINEER 4A03, 4H03 or ENG PHYS 4C03

Civil Engineering and Society (B.Eng. Society) {4120535}

ADMISSION
See Admission to Level II Engineering Programmes.

NOTES
1. 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 a Level V Registration Form.

2. A minimum of 18 units of focus elective courses is required for the programme.

LEVEL II: 36-39 UNITS
17 units CIV ENG 2A02, 2C04, 2I03, 2J04, 2O04
4 units ENGINEER 2P04
6 units MATH 2M06
6 units ENGSOCTY 2X03, 2Y03
3-6 units Engineering and Society focus electives

LEVEL III: 30-33 UNITS
13 units CIV ENG 2E03, 3G03, 3M04, 3S03
7 units ENGINEER 2C03, 2O04
4 units MATH 3J04
3 units ENGSOCTY 3Y03
3-6 units Engineering and Society focus electives

LEVEL IV: 34-37 UNITS (1999-2000 ONLY)
22 units CIV ENG 3A03, 3B03, 3C03, 3G03, 3J04, 3K03, 3S03
3 units ENGINEER 3P03
6 units ENGSOCTY 3X03, 3Z03
3-6 units Engineering and Society focus electives

LEVEL IV: 31-34 UNITS (EFFECTIVE 2000-2001)
16 units CIV ENG 3A03, 3B03, 3C03, 3J04, 3K03
3 units ENGINEER 3P03
6 units ENGSOCTY 3X03, 3Z03
6-9 units Engineering and Society focus electives

LEVEL V: 36-40 UNITS (1999-2000 ONLY)
3 units CIV ENG 4B03
3 units ENGINEER 4B03
6 units ENGSOCTY 4K03, 4Z03
3-6 units Engineering and Society focus electives
21-22 units from Level IV Civil Engineering technical electives or
ENGINEER 4U03

LEVEL V: 36-40 UNITS (2000-2001 ONLY)
3 units ENGINEER 4B03
6 units ENGSOCTY 4K03, 4Z03
6-9 units Engineering and Society focus electives
21-22 units from Level IV Civil Engineering technical electives or
ENGINEER 4U03

LEVEL V: 33-37 UNITS (EFFECTIVE 2001-2002)
3 units ENGINEER 4B03
6 units ENGSOCTY 4X03, 4Z03
3-6 units Engineering and Society focus electives
21-22 units from Level IV Civil Engineering technical electives or
ENGINEER 4U03

Computer Engineering (B.Eng.) {41444}

ADMISSION
See Admission to Level II Engineering Programmes.

LEVEL II: 37 UNITS
8 units COMP ENG 2D14, 2S14
12 units ELEC ENG 2C04, 2G4, 2E14
6 units ENGINEER 2E03
8 units MATH 2P04, 2Q04
3 units approved complementary studies electives (above Level I)

LEVEL III: 39 UNITS
16 units COMP ENG 3D14, 3S14, 3SK4, 3SL4
20 units ELEC ENG 3C04, 3E4, 3F14, 3T14, 3TJ4
3 units MATH 3K03

LEVEL IV: 36-38 UNITS
4 units ELEC ENG 4HI3, 4H1J
20 units COMP ENG 4D14, 4D4, 4DM4, 4O14, 4SN4
5-4 units technical electives from Electrical Engineering or
Computer Engineering Level III or IV
3 units Science technical electives (approved by the department)
3 units technical electives (from Level III and IV of the Faculty of Engineering)
3 units from ENGINEER 4A03, 4H03, ENG PHYS 4C03

Computer Engineering and Management (B.Eng.Mgt.) {4144325}

ADMISSION
See Admission to Level II Engineering Programmes.

LEVEL II: 38 UNITS
3 units COMMERCIAL 2AA3
8 units COMMERCIAL 2D14, 2S14
6 units ECON 1B03, 2X03
8 units ELEC ENG 2C04, 2G4, 2E14
2 units ENGN G7T 2A02
8 units MATH 2P04, 2Q04
3 units Science technical elective approved by the department

LEVEL III: 36 UNITS (1999-2000 ONLY)
9 units COMMERCIAL 2A03, 2F03, 2MA03
8 units COMMERCIAL 2S14, 3J04
12 units ELEC ENG 2E14, 3T14, 3TJ4
3 units ENGINEER 2E03
1 unit ENGN G7T 3A01
3 units MATH 3K03

LEVEL III: 38 UNITS (EFFECTIVE 2000-2001)
12 units COMMERCIAL 2A03, 2B03, 2FA3, 2MA03
4 units COMMERCIAL 3S14
12 units ELEC ENG 2J14, 3TJ4
3 units ENGINEER 2E03
1 unit ENGN G7T 3A01
3 units MATH 3K03
3 units approved complementary studies electives (above Level I)

LEVEL IV: 39 UNITS
13 units ELEC ENG 3C04, 3E14, 3F14, 4H1J
8 units COMMERCIAL 3B03, 3F03, 3MC03
9 units STATS 3Y03
3 units Commerce electives selected from Level III and IV
Commence or COMMERCER 2QB3
3 units from ENGINEER 4A03, 4H03, ENG PHYS 4C03

6 units COMMERCIAL 3G03, 3PA3
12 units COMMERCIAL 4D14, 4D4, 4SN4
1 unit ELEC ENG 4HI1
3 units from ENGINEER 4A03, 4H03, ENG PHYS 4C03
3 units ENGN G7T 5B03
6 units Commerce electives selected from Level III and IV
Commence or COMMERCER 2QB3
6-8 units from COMP SC1 3SD3, 4CB3, Level III or IV Electrical Engineering or Engineering Physics or Level IV Computer Engineering (not ELEC ENG 4QA3 or 4H1J)
LEVEL V: 40 UNITS (2000-2001 ONLY)
6 units COMMERCe 3OC3, 4PA3
24 units COMP ENG 3K4, 4DK4, 4DL4, 4DM4, 4014, 4SN4
4 units ENGN MGT 4A01, SB03
3 units Commerce electives selected from Level III and IV
3 units approved complementary studies electives (above Level I)

Computer Engineering and
Society (B.Eng. Society)

ADMISSION
See Admission to Level II Engineering Programmes.

NOTE
A minimum of 18 units of focus elective courses is required for the programme.

LEVEL II: 35-38 UNITS
8 units COMP ENG 2D14, 2S14
8 units ELEC ENG 2C14, 2CJ4
3 units ENGINEER 2E03
6 units ENGSOCY 2X03, 2Y03
8 units MATH 2P04, 2Q04
3-6 units Engineering and Society focus electives

8 units COMP ENG 2S14, 3SJ4
16 units ELEC ENG 2E14, 3CK4, 3T14, 3TJ4
3 units ENGSOCY 3Y03
3 units MATH 3K03
3 units Engineering and Society focus electives

LEVEL IV: 33-38 UNITS
9 units ELEC ENG 3EJ4, 3FI4, 4HJ1
12 units COMP ENG 3DJ4, 3SK4, 3SL4
6 units ENGSOCY 3X03, 3Z03
3-6 units Engineering and Society focus electives
3 units Science electives (approved by department)

LEVEL V: 34-40 UNITS (1999-2000 ONLY)
12 units COMP ENG 4DK4, 4DL4, 4014
1 unit ELEC ENG 4HJ1
6 units ENGSOCY 4X03, 4Z03
3 units ENGINEER 4B03
3-6 units Engineering and Society focus electives
9-12 units from COMP SCI 3SD3, 4CB3, Level III or IV Electrical Engineering or Engineering Physics or Level IV Computer Engineering (not ELECT ENG 4OA3 or 4HI3)

LEVEL VI: 32-36 UNITS (EFFECTIVE 2000-2001)
20 units COMP ENG 4DK4, 4DL4, 4DM4, 4014, 4SN4
6 units ENGSOCY 4X03, 4Z03
3-6 units Engineering and Society focus electives
3-4 units technical electives from Electrical Engineering or
Computer Engineering Level III or IV (not ELECT ENG 4HI3)

Electrical Engineering (B.Eng.)

ADMISSION
See Admission to Level II Engineering Programmes.

NOTE
Students in the Electrical Engineering programme will follow a revised course structure leading to two options in the final level: Telecommunications and Systems.

PROGRAMME OPTION COMPULSORY COURSES:
- Systems: ELEC ENG 4CL4, 4PK4, 4PL4, MECH ENG 4H03
- Telecommunications: COMP ENG 4DK4, ELECT ENG 4FJ4, 4TK4, 4TL4

LEVEL II: 37 UNITS
8 units COMP ENG 2D14, 2S14
12 units ELEC ENG 2C14, 2CJ4, 2E14
6 units ENGINEER 2B03, 2E03
8 units MATH 2P04, 2Q04
3 units approved complementary studies electives (above Level I)

LEVEL III: 39 UNITS
12 units COMP ENG 3DJ4, 3SJ4, 3SK4
24 units ELEC ENG 3CK4, 3EJ4, 3FI4, 3PI4, 3TI4, 3TJ4
3 units MATH 3K03

LEVEL IV: 36-38 UNITS
8 units ELEC ENG 4HI3, 4H14, 4I04
16 units Compulsory Courses for one Programme Option (see above)
3-4 units technical electives from Electrical Engineering or
Computer Engineering Level III or IV
3 units Science electives (approved by department)
3-4 units technical electives (from Level III and IV of the
Faculty of Engineering)
3 units from ENGINEER 4A03, 4H03, ELEC PHYS 4C03

Electrical Engineering and
Management (B.Eng.Mgt.)

ADMISSION
See Admission to Level II Engineering Programmes.

PROGRAMME OPTION COMPULSORY COURSES:
- Systems: ELEC ENG 4CL4, 4PK4, 4PL4, MECH ENG 4H03
- Telecommunications: COMP ENG 4DK4, ELECT ENG 4FJ4, 4TK4, 4TL4

LEVEL II: 38 UNITS
3 units COMMERCe 2AA3
8 units COMP ENG 2D14, 2S14
6 units ECON 1BB3, 2X03
8 units ELEC ENG 2C14, 2CJ4
2 units ENGN MGT 2AA2
8 units MATH 2P04, 2Q04
3 units Science technical electives approved by department

9 units COMMERCe 2AB3, 2FA3, 2MA3
8 units COMP ENG 2S14, 3SJ4
12 units ELEC ENG 2E14, 3T14, 3TJ4
3 units ENGINEER 2E03
1 unit ENGN MGT 3AA1
3 units MATH 3K03
3 units approved complementary studies electives (above Level I)

LEVEL III: 38 UNITS (EFFECTIVE 2000-2001)
12 units COMMERCe 2AB3, 2BA3, 2FA3, 2MA3
4 units COMP ENG 3SJ4
12 units ELEC ENG 2E14, 3TI4, 3TJ4
3 units ENGINEER 2E03
1 unit ENGN MGT 3AA1
3 units MATH 3K03
3 units approved complementary studies electives (above Level I)

LEVEL IV: 39 UNITS
17 units: ELEC ENG 3CK4, 3EJ4, 3FI4, 3PI4, 4HJ1
4 units COMP ENG 3DJ4
9 units COMMERCe 3BC3, 3FA3, 3MC3
3 units STATS 3X03
3 units Commerce electives selected from Level III and IV
Commercial or COMMERCe 2QB3
3 units from ENGINEER 4A03, 4H03, ELEC PHYS 4C03

LEVEL VI: 35-36 UNITS (1999-2000 ONLY)
6 units COMMERCe 3OC3, 4PA3
5 units ELEC ENG 4HJ1, 4O14
3 units ENGN MGT 5B03
8 units Commerce electives selected from Level III and IV
Commercial or COMMERCe 2QB3
15-16 units Level III or IV approved technical electives, of which at least twelve units must be selected from Electrical Engineering Level IV or Computer Engineering Level III or IV courses (not ELEC ENG 4QA3 or 4HI3)

**LEVEL V: 40 UNITS (2000-2001 ONLY)**

<table>
<thead>
<tr>
<th>Units</th>
<th>Course</th>
</tr>
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<tbody>
<tr>
<td>6</td>
<td>COMMERCE 3QC3, 4PA3</td>
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<td>ENGN MGT 3S03, 4A01</td>
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<tr>
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<td>COMP ENG 3SK4</td>
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<td>3</td>
<td>Commerce electives selected from Level III and IV Commerce or COMMERCE 2QB3</td>
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<td>16</td>
<td>Compulsory Courses for one Programme Option (see above)</td>
</tr>
<tr>
<td>3</td>
<td>approved complementary studies electives (above Level I)</td>
</tr>
</tbody>
</table>

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

**ADMISSION**

See Admission to Level II Engineering Programmes.

**NOTE**

A minimum of 18 units of focus elective courses is required for the programme.

**PROGRAMME OPTION COMPULSORY COURSES:**

- Systems: ELEC ENG 4CL4, 4PK4, 4PL4, MECH ENG 4H03
- Telecommunications: COMP ENG 4DK4, ELEC ENG 4FJ4, 4TK4, 4TL4

**LEVEL II: 36-38 UNITS**

<table>
<thead>
<tr>
<th>Units</th>
<th>Course</th>
</tr>
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<tbody>
<tr>
<td>8</td>
<td>COMP ENG 2D14, 2S14</td>
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<td>ELEC ENG 2C14, 2CJ4</td>
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<td>ENGINEER 2E03</td>
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<td>ENGSOCTY 2X03, 2Y03</td>
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<td>8</td>
<td>MATH 2P04, 2Q04</td>
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<tr>
<td>3-6</td>
<td>Engineering and Society focus electives</td>
</tr>
</tbody>
</table>


<table>
<thead>
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<th>Units</th>
<th>Course</th>
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<tbody>
<tr>
<td>8</td>
<td>COMP ENG 2S14, 3SJ4</td>
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<tr>
<td>16</td>
<td>ELEC ENG 2E14, 3CK4, 3TI4, 3TJ4</td>
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<tr>
<td>3</td>
<td>ENGSOCTY 3Y03</td>
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<td>3</td>
<td>MATH 3K03</td>
</tr>
<tr>
<td>3-6</td>
<td>Engineering and Society focus electives</td>
</tr>
</tbody>
</table>


<table>
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<th>Course</th>
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<tbody>
<tr>
<td>4</td>
<td>COMP ENG 3SJ4</td>
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<td>ENGINEER 2B03</td>
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<tr>
<td>16</td>
<td>ELEC ENG 2E14, 3CK4, 3TI4, 3TJ4</td>
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<tr>
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<td>ENGSOCTY 3Y03</td>
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<td>MATH 3K03</td>
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<tr>
<td>3-6</td>
<td>Engineering and Society focus electives</td>
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**LEVEL IV: 36-39 UNITS**

<table>
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<tr>
<th>Units</th>
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<tbody>
<tr>
<td>13</td>
<td>ELEC ENG 3EJ4, 3FI4, 3PJ4, 4HJ1</td>
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<tr>
<td>8</td>
<td>COMP ENG 3DJ4, 3SK4</td>
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<td>6</td>
<td>ENGSOCTY 3X03, 3Z03</td>
</tr>
<tr>
<td>6-9</td>
<td>Engineering and Society focus electives</td>
</tr>
<tr>
<td>3</td>
<td>Science electives (approved by department)</td>
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<table>
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<td>6</td>
<td>ENGSOCTY 4X03, 4Z03</td>
</tr>
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<td>ENGINEER 4B03</td>
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<tr>
<td>6</td>
<td>Engineering and Society focus electives</td>
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<tr>
<td>12-13</td>
<td>Electrical Engineering Level IV or Computer Engineering Level III or IV (not ELEC ENG 4QA3 or 4HI3)</td>
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**LEVEL V: 31 UNITS (EFFECTIVE 2000-2001)**

<table>
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<tr>
<td>4</td>
<td>ELEC ENG 4C14</td>
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<td>ENGSOCTY 4X03, 4Z03</td>
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<tr>
<td>16</td>
<td>Compulsory Courses for one Programme Option (see above)</td>
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<tr>
<td>6-9</td>
<td>Engineering and Society focus electives</td>
</tr>
<tr>
<td>3-4</td>
<td>technical electives from Electrical Engineering or Computer Engineering Level III or IV (not ELEC ENG 4HI3)</td>
</tr>
</tbody>
</table>

**Engineering Physics (B.Eng.)**

**ADMISSION**

See Admission to Level II Engineering Programmes.

**NOTE**

The following areas and courses are suggested as technical electives for Level IV:
- Computer Systems: PHYSICS 4D06
- Lasers and Optical Communications: ENG PHYS 4G03, 4K03, 4S04
- Nuclear Engineering: ENG PHYS 4D03, 4L03, 4N03
- Microelectronic Devices: ENG PHYS 4E03, 4F03

**LEVEL II: 39 UNITS**

<table>
<thead>
<tr>
<th>Units</th>
<th>Course</th>
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<tbody>
<tr>
<td>4</td>
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<td>ENGINEER 2C03, 2P04</td>
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<td>11</td>
<td>ENG PHYS 2A03, 2E04, 2H04</td>
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<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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<tbody>
<tr>
<td>16</td>
<td>ENG PHYS 3D03, 3E03, 3F03, 3Q03, 3W04</td>
</tr>
<tr>
<td>9</td>
<td>MATH 3C03, 3D03, 4C03</td>
</tr>
<tr>
<td>9</td>
<td>PHYSICS 3B06, 3M03</td>
</tr>
<tr>
<td>3</td>
<td>Complementary studies electives (above Level I)</td>
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**LEVEL IV: 36-38 UNITS**

<table>
<thead>
<tr>
<th>Units</th>
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<tbody>
<tr>
<td>3</td>
<td>ENGINEER 4B03</td>
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<td>11</td>
<td>ENG PHYS 4A04, 4C03, 4U04</td>
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<tr>
<td>22-24</td>
<td>approved Level III or IV technical electives, of which 10 units must be selected from the following courses: ENG PHYS 4D03, 4E03, 4F03, 4G03, 4N03, 4S04, PHYSICS 4D06</td>
</tr>
</tbody>
</table>

**Engineering Physics and Management (B.Eng.Mgt.)**

**ADMISSION**

See Admission to Level II Engineering Programmes.

**LEVEL II: 38 UNITS**

<table>
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<tr>
<th>Units</th>
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<tbody>
<tr>
<td>6</td>
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<td>ENG PHYS 2A03, 2E04, 2H04</td>
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<td>MATH 2P04, 2Q04</td>
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**LEVEL III: 40 UNITS**

<table>
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<th>Units</th>
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<tbody>
<tr>
<td>9</td>
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<td>ENG PHYS 3E03, 3F03, 3W04</td>
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<td>PHYSICS 2D03, 3B06</td>
</tr>
</tbody>
</table>

**LEVEL IV: 39-39 UNITS**

<table>
<thead>
<tr>
<th>Units</th>
<th>Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>COMMERCE 3B03, 3FA3, 3MC3, 3QC3</td>
</tr>
<tr>
<td>1</td>
<td>ENGN MGT 3AA1</td>
</tr>
<tr>
<td>13</td>
<td>ENG PHYS 3D03, 3Q03, 4C03, 4J04</td>
</tr>
<tr>
<td>3</td>
<td>MATH 4G03</td>
</tr>
<tr>
<td>3</td>
<td>PHYSICS 3M03</td>
</tr>
<tr>
<td>3</td>
<td>approved complementary studies elective (above Level I)</td>
</tr>
<tr>
<td>3-4</td>
<td>approved Level III or IV technical electives</td>
</tr>
</tbody>
</table>

**LEVEL V: 35-37 UNITS**

<table>
<thead>
<tr>
<th>Units</th>
<th>Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>COMMERCE 4P03</td>
</tr>
<tr>
<td>4</td>
<td>ENGN MGT 4A01, 5B03</td>
</tr>
<tr>
<td>4</td>
<td>ENG PHYS 4A04</td>
</tr>
<tr>
<td>18-20</td>
<td>approved Level III or IV technical electives, of which 10 units must be selected from the following courses: ENG PHYS 4D03, 4E03, 4F03, 4G03, 4N03, 4S04, PHYSICS 4D06</td>
</tr>
<tr>
<td>6</td>
<td>Commerce electives selected from Level III and IV Commerce or COMMERCE 2QB3</td>
</tr>
</tbody>
</table>
### Engineering Physics and Society (B.Eng. Society)

**ADMISSION**
See Admission to Level II Engineering Programmes.

**NOTE**
A minimum of 18 units of focus elective courses is required for the programme.

**LEVEL II: 35-38 UNITS**
- 7 units ENGINEER 2003, 2P04
- 11 units ENG PHYS 2A03, 2E04, 2H04
- 6 units ENGSOCTY 2X03, 2Y03
- 8 units MATH 2P04, 2Q04
- 3-6 units Engineering and Society focus electives

**LEVEL III: 35-38 UNITS**
- 4 units COMP ENG 2D14
- 10 units ENG PHYS 3E03, 3F03, 3W04
- 3 units ENGSOCTY 3Y03
- 6 units MATH 3C03, 3D03
- 9 units PHYSICS 2D03, 3B06
- 3-6 units Engineering and Society focus electives

**LEVEL IV: 31-35 UNITS**
- 13 units ENG PHYS 3D03, 3Q03, 4C03, 4U04
- 6 units ENGSOCTY 3X03, 3Z03
- 3 units MATH 4Q03
- 3 units PHYSICS 3M03
- 3-4 units approved Level III or IV technical electives
- 3-6 units Engineering and Society focus electives

- 3 units ENGINEER 4B03
- 7 units ENG PHYS 4A04, 4C03
- 6 units ENGSOCTY 4X03, 4Z03
- 13-15 units approved Level III or IV technical electives, of which 10 units must be selected from the following courses:
  - ENG PHYS 4D03, 4E03, 4F03, 4G03, 4N03, 4S04, PHYSICS 4D06
- 6-9 units Engineering and Society focus electives

**LEVEL VI: 34-39 UNITS (EFFECTIVE 2000-2001)**
- 3 units ENGINEER 4B03
- 4 units ENG PHYS 4A04
- 6 units ENGSOCTY 4X03, 4Z03
- 18-20 units approved Level III or IV technical electives, of which 10 units must be selected from the following courses:
  - ENG PHYS 4D03, 4E03, 4F03, 4G03, 4N03, 4S04, PHYSICS 4D06
- 3-6 units Engineering and Society focus electives

### Manufacturing Engineering (B.Eng.)

**ADMISSION**
See Admission to Level II Engineering Programmes.

**LEVEL II: 36 UNITS**
- 14 units ENGINEER 2MM3, 2003, 2P04, 2Q04
- 3 units MANUFACT 2C03
- 6 units MATH 2M06
- 10 units MECH ENG 2A03, 2W04, 3C03
- 3 units approved English literature (Term I)

**LEVEL III: 35 UNITS**
- 3 units ENGINEER 3N03
- 2 units MANUFACT 3M02
- 3 units MATL5 3M03
- 21 units MECH ENG 3A03, 3E04, 3F04, 3Q04, 3R03, 4D03
- 3 units STATS 3Y03
- 3 units complementary studies electives (above Level I)

**LEVEL IV: 39 UNITS**
- 3 units COMMERCE 3QC3
- 9 units from ENGINEER 4A03 or 4H03 or ENG PHYS 4C03, and ENGINEER 4B03, 4J03
- 9 units MANUFACT 4A03, 4M04, 4P02
- 15 units MECH ENG 4H03, 4K03, 4Q03, 4R03, 4Z03
- 3 units approved technical electives (See Level IV Mechanical Engineering.)

### Manufacturing Engineering and Society (B.Eng. Mgt.)

**ADMISSION**
See Admission to Level II Engineering Programmes.

**LEVEL II: 37 UNITS**
- 9 units COMMERCE 2A03, 2B03, 2MA3
- 6 units ECON 1B03, 2X03
- 4 units ENGINEER 2P04
- 2 units ENGN MGT 2A02
- 3 units MANUFACT 2C03
- 6 units MATH 2M06
- 7 units MECH ENG 2A03, 2W04

**LEVEL III: 38 UNITS**
- 6 units COMMERCE 2AB3, 2FA3
- 13 units ENGINEER 2O03, 2MM3 (Term 1), 2Q04, 3N03
- 2 units MANUFACT 3M02
- 14 units MECH ENG 3C03, 3F04, 3C04, 3R03
- 3 units STATS 3Y03

**LEVEL IV: 35 UNITS**
- 9 units COMMERCE 3C03, 3FA3, 3MC3
- 2 units ENGN MGT 3A01, 4A01
- 5 units MANUFACT 4A03, 4P02
- 3 units MATL5 3M03
- 13 units MECH ENG 3A03, 3E04, 4D03, 4Z03
- 3 units complementary studies electives (above Level I)

**LEVEL V: 37 UNITS (1999-2000 ONLY)**
- 6 units COMMERCE 3C03, 4PA3
- 6 units from ENGINEER 4A03 or 4H03 or ENG PHYS 4C03, and ENGINEER 4J03
- 3 units ENGN MGT 5B03
- 4 units MANUFACT 4M04
- 12 units MECH ENG 4H03, 4Q03, 4R03, 4Z03
- 6 units Commerce electives selected from Level III and IV Commerce or COMMERCE 2Q3B

**LEVEL VI: 37 UNITS (EFFECTIVE 2000-2001)**
- 6 units COMMERCE 3C03, 4PA3
- 6 units from ENGINEER 4A03 or 4H03 or ENG PHYS 4C03, and ENGINEER 4J03
- 3 units ENGN MGT 5B03
- 4 units MANUFACT 4M04
- 12 units MECH ENG 4H03, 4Q03, 4R03, 4Z03
- 6 units Commerce electives selected from Level III and IV Commerce or COMMERCE 2Q3B

### Manufacturing Engineering and Society (B.Eng. Society)

**LEVEL II: 36 UNITS**
- 7 units ENGINEER 2003, 2P04
- 6 units ENGSOCTY 2X03, 2Y03
- 3 units MANUFACT 2C03
- 6 units MATH 2M06
- 7 units MECH ENG 2A03, 2W04
- 3-6 units Engineering and Society focus electives

**LEVEL III: 34-37 UNITS**
- 10 units ENGINEER 2MM3 (Term 1), 2Q04, 3N03
- 3 units ENGSOCTY 3Y03
- 2 units MANUFACT 3M02
- 13 units MECH ENG 3A03, 3C03, 3E04, 3R03
- 3 units STATS 3Y03
- 3-6 units Engineering and Society focus electives

- 3 units ENGINEER 4J03
- 6 units ENGSOCTY 3X03, 3Z03
- 2 units MANUFACT 4P02
- 3 units MATL5 3M03
- 16 units MECH ENG 3A03, 3F04, 4D03, 4H03, 4R03
- 3-6 units Engineering and Society focus electives
Materials Engineering (B.Eng.) {43151525}

ADMISSION
See Admission to Level II Engineering Programmes.

NOTE
This programme is designed to permit choices of electives in Levels III and IV which will allow in-depth study of various types of modern engineering materials (e.g. electronic materials, plastics, amorphous solids, high performance alloys, composites and ceramics.)

LEVEL II: 37 UNITS
4 units CHEM 2WW4
10 units ENGINEER 2MM3, 2003, 2P04
11 units MATLS 2B03, 2D03, 2H03, 2X02
6 units MATH 2M06
6 units approved complementary studies electives

LEVEL III: (MATERIALS ENGINEERING STREAM): (43151525)
36-38 UNITS
4 units CHEM ENG 2A04
20 units MATLS 3B03, 3C03, 3D03, 3E04, 3M03, 3T04
3 units MATH 3I03
3 units from STAT 3N03 or 3Y03
6-8 units from CHEM ENG 3004, 3Q03, GEO 2M04 (formerly GEOL 2B04), ENG PHYS 3F03, MATLS 4P03, 4R03 or 4S03, MECH ENG 3004

LEVEL IV: (MATERIALS ENGINEERING STREAM): 36-37 UNITS
9 units from ENGINEER 4A03 or 4H03 or ENG PHYS 4C03, and ENGINEER 4B03, 4J03
12 units MATLS 4A02, 4B04, 4L02; and one of MATLS 4K04 or 4Q04
3 units approved complementary studies electives (above Level I)
12-13 units approved Level III or IV technical electives, which must include ENG PHYS 3F03 and either CHEM ENG 3004 or MECH ENG 3004, if not completed

LEVEL III: (CERAMIC ENGINEERING STREAM): (4316)
37 UNITS
4 units CHEM ENG 2A04
4 units GEO 2M04 (formerly GEOL 2B04)
23 units MATLS 3B03, 3C03, 3D03, 3E04, 3M03, 3T04; 4R03 or 4S03
3 units MATH 3I03
3 units from STAT 3N03 or 3Y03

LEVEL IV: (CERAMIC ENGINEERING STREAM): 34 UNITS
4 units from CHEM ENG 3004 or MECH ENG 3004
3 units ENG PHYS 3F03
9 units from ENGINEER 4A03 or 4H03 or ENG PHYS 4C03, and ENGINEER 4B03, 4J03
15 units MATLS 4A02, 4B04, 4L02; one of MATLS 4K04 or 4Q04 and one of MATLS 4R03 or 4S03
3 units approved complementary studies electives (above Level I)

Materials Engineering and Management (B.Eng.Mgt.)

ADMISSION
See Admission to Level II Engineering Programmes.

LEVEL II: 36 UNITS
4 units CHEM 2WW4
3 units COMMERCE 2MA3
6 units ECON 1B03, 2X03
2 units ENG 2083, 2A02
6 units ENGINEER 2MM3, 2003
6 units MATH 2M06
9 units MATLS 2B03, 2D03, 2H03

LEVEL III: 39 UNITS
4 units CHEM ENG 2A04
6 units ENGINEER 4A03
3 units from CHEM ENG 2A04
12 units ENGINEER 4B03, 4C03, 4M03, 4Z04
3 units MATH 3I03
3 units from STAT 3N03 or 3Y03
3 units COMMERCE 2A03

LEVEL IV: (MATERIALS ENGINEERING STREAM): (43151525)
36 UNITS
4 units from CHEM ENG 3004 or MECH ENG 3004
12 units ENGINEER 2AB3, 2BC3, 3FA3, 3MC3
3 units ENGN MGT 2A01
10 units MATLS 3B03, 3M03, 3T04
3 units approved complementary studies electives (above Level I)
6 units approved technical electives

LEVEL V: (MATERIALS ENGINEERING STREAM): 36-37 UNITS
6 units ENGINEER 4A03 or 4H03 or ENG PHYS 4C03; ENGINEER 4J03
3 units ENGN MGT 2B03
12 units MATLS 4A02, 4B04, 4L02; one of MATLS 4K04 or 4Q04
6 units Commerce selected from Level III and IV Commerce or COMMERCE 2QB3
3-4 units approved technical electives

LEVEL IV: (CERAMIC ENGINEERING STREAM): (43163125)
37 UNITS
12 units COMMERCE 2AB3, 2BC3, 3FA3, 3MC3
4 units from CHEM ENG 3004 or MECH ENG 3004
1 unit ENGN MGT 2A01
4 units GEO 2M04 (formerly GEOL 2B04)
13 units MATLS 3B03, 3M03, 3T04; MATLS 4R03 or 4S03
3 units approved complementary studies electives (above Level I)

LEVEL V: (CERAMIC ENGINEERING STREAM): 36 UNITS
6 units COMMERCE 3C03, 4P03
6 units from ENGINEER 4A03 or 4H03 or ENG PHYS 4C03; ENGINEER 4J03
3 units ENGN MGT 2B03
15 units MATLS 4A02, 4B04, 4L02; MATLS 4K04 or 4Q04; MATLS 4R03 or 4S03
6 units Commerce selected from Level III and IV Commerce or COMMERCE 2QB3

Materials Engineering and Society (B.Eng. Society)

ADMISSION
See Admission to Level II Engineering Programmes.

NOTE
A minimum of 18 units of focus elective courses is required for the programme.

LEVEL II: 34-37 UNITS
4 units CHEM 2WW4
6 units ENGINEER 2MM3, 2003
6 units ENGSOCTY 2X03, 2Y03
9 units MATLS 2B03, 2D03, 2H03
6 units MATH 2M06
3-6 units Engineering and Society focus electives
FACULTY OF ENGINEERING

LEVEL III: 35-38 UNITS

4 units CHEM ENG 2A04
4 units ENGINEER 2P04
3 units ENG PHYS 3F03
3 units ENGSOCTY 3Y03
12 units MATLS 2X02, 3C03, 3D03, 3E04
3 units MATH 3I03
3 units from STATS 3N03 or 3Y03
6 units Engineering and Society focus electives

LEVEL IV: (MATERIALS ENGINEERING STREAM): 4315535

32-36 UNITS

4 units from CHEM ENG 3C04 or MECH ENG 3D04
6 units ENGSOCTY 3X03, 3Z03
10 units MATLS 3B03, 3M03, 3T04
3-6 units Engineering and Society focus electives
9-10 units approved technical electives

LEVEL V: (MATERIALS ENGINEERING STREAM): 30-34 UNITS

6 units ENGINEER 4B03, 4I03
6 units ENGSOCTY 4X03, 4Z03
12 units MATLS 4A02, 4B04, 4L02; MATLS 4K04 or 4Z04
3-4 units approved technical electives
3-6 units Engineering and Society focus electives

LEVEL IV: (CERAMIC ENGINEERING STREAM): 4316535

33-36 UNITS

4 units from CHEM ENG 3C04 or MECH ENG 3D04
6 units ENGSOCTY 3X03, 3Z03
4 units GEO 2M04 (formerly GEOLOGY 2B04)
13 units MATLS 3B03, 3M03, 3T04; MATLS 4R03 or 4S03
3-6 units Engineering and Society focus electives
3 units approved technical electives

LEVEL VI: (CERAMIC ENGINEERING STREAM): 30-33 UNITS

6 units ENGINEER 4B03, 4I03
6 units ENGSOCTY 4X03, 4Z03
15 units MATLS 4A02, 4B04, 4L02; MATLS 4K04 or 4Z04;
MATLS 4R03 or 4S03
3-6 units Engineering and Society focus electives

Mechanical Engineering (B.Eng.) {4330}

ADMISSION

See Admission to Level II Engineering Programmes.

LEVEL II: 36 UNITS

11 units ENGINEER 2003, 2P04, 2Q04
6 units MATH 2M06
16 units MECH ENG 2A03, 2B03, 2C03, 2W04, 3C03
3 units approved English literature (Term I)

LEVEL III: 35 UNITS

6 units ENGINEER 2MM3 (Term 1), 3N03
3 units MATH 3I03
23 units MECH ENG 3A03, 3D03, 3E04, 3F04, 3M02, 3C04, 3R03
3 units ENGSOCTY 3Y03

LEVEL IV: 36 UNITS

3 units MATLS 3M03
18 units MECH ENG 3D03, 4M04, 4P02, 4Q03, 4R03, 4S03
6 units from ENGINEER 4A03 or 4H03 or ENG PHYS 4C03
3 units approved Engineering (B.Eng.)
6 units ENGINEER 4B03
3 units complementary studies electives (above Level I)
6 units from CHEM ENG 4T03, CIV ENG 3K03, COMMERCE
3G03, ELEC ENG 3P14, ENGINEER 4J03, 4X03, ENG
PHYS 3F03, 3X03, 4D03, 4L03, MECH ENG 4C03, 4H03,
4I03, 4K03, 4L03, 4T03, 4U03, 4V03, 4X03, 4203 , MANUFACT 4A03

Electives must be chosen so that no more than 21 units are taken
in any one term.

Mechanical Engineering and {4330325}
Management (B.Eng.Mgt.)

ADMISSION

See Admission to Level II Engineering Programmes.

LEVEL II: 37 UNITS

9 units COMMERCE 2AA3, 2B03, 2MA3
6 units ECON 1BB3, 2X03
7 units ENGINEER 2M03, 2P04
6 units MATH 2M06
7 units MECH ENG 2A03, 2W04
2 units ENGSOCTY 2AA2

LEVEL III: 36 UNITS

3 units COMMERCE 2FA3
7 units ENGINEER 2003, 2Q04
1 unit ENGSOCTY 3AA1
3 units MATH 3I03
19 units MECH ENG 2C03, 3A03, 3C03, 3F04, 3M02, 3O04
3 units LEVEL III level V approved technical electives

LEVEL IV: 34 UNITS

12 units COMMERCE 2AB3, 3BC3, 3FA3, 3MC3
1 unit ENGSOCTY 4A01
18 units MECH ENG 3D03, 3E04, 3R02, 4P02, 4R03, 4S03
3 units Level III or IV approved technical electives

LEVEL V: 34 UNITS

6 units COMMERCE 3QC3, 4PA3
6 units ENGSOCTY 5BB3
7 units MECH ENG 4M04, 4Q03
3 units from ENGINEER 4A03 or 4H03 or ENG PHYS 4C03
6 units Commerce electives selected from Level III and IV
Commerce or COMMERCE 2Q03
6 units from CHEM ENG 4T03, CIV ENG 4K03, ELEC ENG
3P14, ENGINEER 3N03, 4J03, 4X03, ENG PHYS
3F03, 3X03, 4D03, 4L03, MECH ENG 4D03, 4H03,
4I03, 4K03, 4L03, 4T03, 4U03, 4V03, 4X03, 4Z03,
MANUFACT 4A03, MATLS 3P03
3 units approved complementary studies elective (above
Level I)

Mechanical Engineering and {4330535}
Society (B.Eng. Society)

ADMISSION

See Admission to Level II Engineering Programmes.

NOTE

A minimum of 18 units of focus elective courses is required for
the programme.

LEVEL II: 32 UNITS

7 units ENGINEER 2003, 2P04
6 units ENGSOCTY 2X03, 2Y03
6 units MATH 2M06
7 units MECH ENG 2A03, 2W04
6 units Engineering and Society focus electives

LEVEL III: 34-37 UNITS

7 units ENGINEER 2MM3, 2Q04
3 units ENGSOCTY 3Y03
3 units MATH 3I03
15 units MECH ENG 2C03, 3A03, 3M02, 3O04, 3R03
3 units ENGSOCTY 3Y03
3-6 units Engineering and Society focus electives

LEVEL IV: 31-34 UNITS

6 units ENGSOCTY 3X03, 3Z03
19 units MECH ENG 3C03, 3D03, 3E04, 3F04, 4P02, 4S03
3-6 units Engineering and Society focus electives
3 units approved Level III or Level IV technical electives

LEVEL V: 31-34 UNITS

3 units ENGSOCTY 3X03, 3Z03
3 units ENGINEER 4B03
6 units ENGSOCTY 4X03, 4Z03
10 units MECH ENG 4M04, 4Q03, 4R03
3-6 units Engineering and Society focus electives
6 units approved Level III or Level IV technical electives

Software Engineering (B.Eng.) {4517}

ADMISSION

See Admission to Level II Engineering Programmes.

LEVEL II: 39 UNITS

3 units ENGINEER 2003
6 units MATH 2M06
24 units SFWR ENG 2A04, 2B04, 2C04, 2D04, 2E04, 2F04
6 units approved complementary studies elective
PROGRAMME FOR THE B.TECH. DEGREE

The Manufacturing Engineering Technology Programme is offered jointly by Mohawk College of Applied Arts and Technology and McMaster University. The objectives of the programme are to upgrade the knowledge and skills of existing technologists/technical specialists and to allow them to perform with a broad technical and academic background along with solid hands-on experience. The programme is designed to complement and enhance the student's background in basic engineering sciences, mathematics and advanced manufacturing technologies. An attempt has been made to structure the curriculum in concert with examinations typically assigned by the Professional Engineers of Ontario (PEO) to individuals seeking licensure in the field of Mechanical Engineering, so that the number of examinations required by the PEO may be minimized.

ACADEMIC REGULATIONS

Students enrolled in a programme 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 THE PROGRAMME

All students must maintain a CA of at least 3.5 at each academic review to continue at the University. 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.

REINSTATEMENT

A student who is ineligible to continue may apply for reinstatement to the programme. Application for reinstatement must be made in writing to the Committee ofInstruction and should include a recommendation from the current employer. 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 academic probation.

Manufacturing Engineering Technology (B.Tech.)

ADMISSION

Enrolment in this programme is limited. Admission requires satisfactory completion of a three-year Mechanical Engineering Technology Diploma (or equivalent). Applicants who meet the academic requirements will be interviewed, and some applicants may be required to write specific entrance examinations.

NOTES

1. Advance credit can be considered at the time of admission. However, a minimum of 33 units of work must be completed at McMaster in order to obtain the degree.

2. The Sessional Dates in this Calendar do not apply to this programme. Further information with regard to course offering dates and academic deadlines will be made available upon request to the Office of the Associate Dean (Studies) of Engineering.

LEVEL I: 18 UNITS

6 units ENG TECH 1MA3
3 units ENG TECH 1ML3
3 units ENG TECH 1PC3
4 units MAN TECH 1CD3
3 units MAN TECH 1D3
3 units MAN TECH 1TF3

LEVEL II: 18 UNITS

3 units ENG TECH 2CT3
3 units ENG TECH 2FE3
3 units ENG TECH 2MN3
3 units MAN TECH 2MD3
3 units MAN TECH 2MT3
3 units MAN TECH 2TF3

LEVEL III: 36 UNITS (EFFECTIVE 2000-2001)

12 units ENGINEER 2003, 3K03, 3L03, 4G03
6 units ENGSOCTY 3X03, 3Y03
12 units SFWR ENG 3J03, 4E03, 4I03, 4J03
3-6 units Engineering and Society focus electives

LEVEL IV: 36 UNITS (EFFECTIVE 2001-2002)

6 units ENGSOCTY 4X03, 4Z03
18 units SFWR ENG 4A03, 4C03, 4D03, 4F03, 4G03, 4H03
6 units approved technical electives

3-6 units Engineering and Society focus electives
FACULTY OF HEALTH SCIENCES

WEB ADDRESS: http://www-fhs.mcmaster.ca

Dean and Vice-President
R.T. Joffe, M.D., F.R.C.P.C.

Associate Vice-President
R. Rathbone, M.B., B.S., M.D., Ph.D.

Associate Dean (Education)
S.D. Denburg, Ph.D., C.Psych.

Associate Dean (Nursing)
A. Baumann, B.Sc.N., M.Sc.N., Ph.D.

Associate Dean (Rehabilitation Science)

Associate Dean (Health Services)
J.R. Hewson, M.D., Acting Associate Dean (Research)

R. Rathbone, M.B., B.S., M.D., Ph.D.

For information concerning Health Sciences education programmes and admission requirements, contact:
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 integrated relationships.

The programmes 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 new School of Physiotherapy and Occupational Therapy (School of Rehabilitation Science) was established, in 1993 the Midwifery Education Programme was established. The Faculty offers the following undergraduate degree programmes: Doctor of Medicine (M.D.), Bachelor of Science in Nursing (B.Sc.N.), Bachelor of Health Science (B.H.Sc.) in Occupational Therapy, Physiotherapy or Midwifery. In addition to its undergraduate programmes, the Faculty of Health Sciences also has responsibility for Postgraduate (Internship and Residency) Education programmes.

Through the School of Graduate Studies, the Faculty offers the Medical Sciences programme 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. programmes in Clinical Health Sciences (Health Research Methodology) are available through Medical Sciences. The Clinical Health Sciences (Nursing) Programme, Master's or Ph.D., began in 1995.

Interprofessional programmes, 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 programmes for other health professions based at the College.

Research programmes encompassing the broad spectrum of health have been established, including basic and applied research and various aspects of health-care delivery. The graduate programmes 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 Division of the Hamilton Health Sciences Corporation) with extensive ambulatory clinics for primary and specialized aspects of patient care. The building has been designed to bring into close proximity the programmes 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 programmes are based at other Hamilton Health Sciences Corporation sites (Chehoke, General, Henderson), Hamilton Psychiatric Hospital, St. Joseph's Hospital, Hamilton and 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 programme 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 programmes in medicine have been developed on a regional basis.

UNDERGRADUATE HEALTH PROFESSIONAL EDUCATION PROGRAMMES

ADMISSION AND REGISTRATION

Application to any programme 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 programmes.

Registration in any programme in the Faculty of Health Sciences implies acceptance on the part of the student of the objectives of that programme 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 programmes, and should be considered in conjunction with specific admission requirements described on the following pages for the School of Medicine (M.D.), the Midwifery programme (B.H.Sc.), the School of Nursing (B.Sc.N.) and the School of Rehabilitation Science (B.H.Sc.).

The following application deadlines are strictly enforced. Deadline dates are for consideration of admission to a programme in the following September.

Programme

<table>
<thead>
<tr>
<th>Programme</th>
<th>Deadline</th>
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<tbody>
<tr>
<td>Medicine (M.D.)</td>
<td>October 15</td>
</tr>
<tr>
<td>Midwifery (B.H.Sc.)</td>
<td>February 1</td>
</tr>
<tr>
<td>Nursing (B.Sc.N.)</td>
<td>November 15</td>
</tr>
</tbody>
</table>


Applicants directly from Ontario Secondary Schools........ May 1

Diploma Registered Nurses......................... February 15

Nurse Practitioner................................. February 1

Applicants with Other Qualifications......... February 15

Transfers from other degree Nursing programmes........ June 30

Occupational Therapy and Physiotherapy:

(Second Degree Programme) (B.H.Sc.).............. December 1

The University reserves the right to change the admission requirements at any time without notice.

As places in the degree programmes of the Faculty of Health Sciences are limited, admission is by selection of applicants, 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 programme 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 programme 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 programme.

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 programmes, a faculty member is selected for each student in the September of entry to a degree programme and provides each student with advice on evaluations, electives and other educational needs throughout the programme. In the M.D. programme, 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 Co-ordinator 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, occupational therapy and physiotherapy are subject to any qualifying 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 PROGRAMMES

DIPLOMA PROGRAMME IN CHILD LIFE STUDIES

This is an eight-month applied professional programme in the Faculty of Health Sciences, focussing on the development of knowledge and skills for individuals working with children, adolescents and families in a health care setting.

The learning objectives are:

1. to examine and review the growth and development of children and adolescents, incorporating communication, play, expression of feelings, discovery and mastery of 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.

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 programme.

A related university degree or diploma is required with an overall B average. Relevant experience is strongly recommended. Admission is based on the assessed strengths of each applicant as determined by the application package and interviews. Applications must be submitted by late March for the study period beginning in September of the same year. Application information outlining specific dates and application requirements can be obtained by contacting the Child Life Studies programme office at (905) 525-9140, ext. 22795.

DIPLOMA PROGRAMME IN CLINICAL BEHAVIOURAL SCIENCES

The Clinical Behavioural Sciences (CBS) Post-Baccalaureate Diploma and Selected Studies Programme is offered through Continuing Health Sciences Education. This part-time programme 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 and a diploma should be completed within five years. A small group learning format is used. Applicants must have professional qualifications (degree, certificate or mandate in current job); employment (possibly including volunteer positions); leave from employer 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 (HSC 3G49) by April for September courses and by October for January courses. Personal interviews will be arranged. Applications can be obtained by contacting the CBS Office at (905) 521-2100 ext. 6427.

DIPLOMA PROGRAMME IN ENVIRONMENTAL HEALTH

The programme is offered through the McMaster Institute of Environment and Health. The programme is of eight months duration, admitting up to 15 students per academic year. Students have the option of enrolling in the campus-based instruction programme or the distance education programme. It is designed to provide new and/or upgraded skills and knowledge in the principles and practice of environmental health, suitable for public health unit professionals, physicians, 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 will be selected to give the class a multidisciplinary character. A relevant university degree or equivalent will normally be required. Admission is based on the number of places available and on the experience of applicants. Those without environmental health experience may also be considered.

Applications must be submitted by the end of March for the study period 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 admission decisions by the beginning of June.

DIPLOMA PROGRAMME IN OCCUPATIONAL HEALTH AND SAFETY

The Programme in Occupational Health and Environmental Medicine offers two programmes each year for this Diploma. A full-time programme starts in September catering to those who wish to complete the course in three months. A part-time programme is designed so that students within commuting distance from Hamilton can continue their normal employment. This programme also starts in September and continues through 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 may also be considered. Physicians, nurses, hygienists, related professionals and others are invited to apply. A relevant university degree or equivalent is required.

Applications must be submitted by February 1 each year for the course beginning in September. Applications can be obtained by contacting the Programme in Occupational Health and Environmental Medicine at (905) 525-9140, ext. 22332.

THE SCHOOL OF MEDICINE

WEB ADDRESS: http://www-fhs.mcmaster.ca/mdprog/

The School of Medicine, established in 1965, offers major programmes in undergraduate, postgraduate and graduate medical education. The clinical programmes use not only the teaching hospitals and comprehensive ambulatory care and research facilities at the McMaster University Medical Centre division of the Hamilton Health Sciences Corporation, but also the clinical teaching units at each of the major Hamilton hospitals and community health-care centres.
The Undergraduate Medical Programme for the MD degree was initiated in 1969, graduating its first students in May 1972. At present, 100 students are admitted to the programme each year. The academic programme operates on an 11 months-a-year basis and students qualify for the M.D. 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 programmes 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 programmes are available from the Postgraduate Medical Education Office.

The Northwestern Ontario Medical Programme (NOMP) has been developed in cooperation with the Thunder Bay Medical Society and physicians in towns in Northwestern Ontario. Clinical training opportunities exist in community hospitals adjacent to Hamilton. Excellent clinical experiences in these settings is part of both the undergraduate and postgraduate medical programmes.

Graduate programmes leading to the M.Sc. and Ph.D. degrees are offered in Biochemistry and in Medical Sciences. An M.H.Sc. (Health Care Practice) programme is interprofessional in nature and is for experienced health professionals who wish advanced preparation as clinicians.

The Undergraduate Medical Programme (7880)

The three-year programme in Medicine uses a problem-based approach to learning that should apply throughout the physician's career. The components have been organized in sequential units with early exposure to patients and case management. Flexibility is ensured to allow for the variety of student backgrounds and career goals.

GENERAL OBJECTIVES

The aim of the Undergraduate Medical Programme is to provide students with a general professional education as physicians. The programme enables students to build on previous education and experience, using available learning resources and opportunities. The competencies achieved by graduates will qualify them to proceed to further postgraduate training. While most graduates will be involved directly with the care of individual patients, it is expected that some will choose careers concerned with the health of populations and the development of new knowledge.

The overriding objective to be achieved is the demonstrated ability to identify, analyze and manage clinical problems in order to provide effective, efficient and humane patient care.

The enabling objectives of knowledge, skills and professional behaviour comprise the following:

KNOWLEDGE

To acquire and put into practice concepts and information required to understand and manage health-care problems. The study of human structure, function and behaviour will be guided by an analysis of the determinants of health and illness. A spectrum of factors will be considered in both the external and internal environments of individuals when deciding on preventive, therapeutic, rehabilitative and supportive management.

SKILLS

To acquire and use the following skills:

1. Critical Thinking Skills: The application of certain rules of evidence to clinical, investigational and published data in order to determine their validity and applicability.

2. Clinical Skills: The ability to acquire, interpret, synthesize and record clinical information in managing the health problems of patients, considering their physical, social and emotional function. Included is the use of the clinical reasoning process.

3. Self-Directed Learning Skills: The ability to identify areas of deficiency in one's own knowledge, skills and attitudes, and to plan and undertake appropriate educational resources, evaluate personal learning progress and use new knowledge and skills in the care of patients.

PROFESSIONAL BEHAVIOUR

To recognize, develop and maintain the professional behaviour required for a career as a health professional. Acquiring the authority to intervene in the lives of patients carries with it the obligation to:

1. toward oneself: to recognize and acknowledge personal assets, emotional reactions and limitations in one's own knowledge, skills and attitudes, to build on one's assets and to overcome areas of limitation;

2. toward patients and their families: to be able, under appropriate supervision, to take responsibility for the assessment and care of patients and their families;

3. toward colleagues: to contribute to productive communication and cooperation among colleagues engaged in learning, research or health care;

4. toward the community: to contribute to the maintenance and improvement of the health of the general population.

LEARNING METHODS

To achieve the objectives of the Undergraduate Medical Programme, students are introduced to patients within the first unit of the curriculum. In this way, students understand the relevance of what they are learning, maintain a high degree of motivation and begin to understand the importance of responsible professional attitudes.

Students are presented with a series of health-care problems, requiring for their solution the understanding of underlying physical, biological, population and behavioural principles, the appropriate collection of data and the critical appraisal of evidence. In each problem area, the student may select the most appropriate issues to ensure the understanding and application of fundamental concepts. This flexibility provides an opportunity for early consideration of individual interests and goals. The faculty functions to assist in planning resources or guides. Learning by a process of inquiry is stressed.

The central focus of the programme is the tutorial. The class is divided into small groups, each with a tutor. In the tutorial session students develop a series of learning objectives from each health-care problem and negotiate how they will approach their learning tasks. They then acquire the knowledge and skills to meet the objectives of the unit 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 provides a basis for life-long working and learning habits. Attendance is mandatory.

Students admitted to the Undergraduate Medical Programme have the responsibility and privilege of taking an active role in the planning and evaluation of the educational programme. 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 programme. Such participation is a hallmark of the Programme.

STUDENT EVALUATION METHODS

The evaluation format has been designed to complement learning in the Undergraduate Medical Programme. Evaluation methods have been developed to measure how well the student achieves the stated educational objectives in the various units of the programme. Continuous evaluation of the student occurs within the tutorial setting with input from their peers, faculty preceptors, and the tutor.

Two evaluation exercises are required in each unit. At the completion of the unit, the tutor is responsible for the final summary statement of student learning progress. The tutor prepares a written summary of the student's performance in the tutorials and all associated activities during that unit. 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 a multiple-choice format. Results are presented in a form to provide an easy-to-understand summary form, to the student advisor. Progress testing is in addition to, and does not replace, tutorial- and performance-based evaluation. The Programme 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 unit, including the clerkship, and additionally by Objective Structured Clinical Evaluations (OSCE's) which are run on an annual basis.

The Evaluation Committee, a subcommittee of the Medical Education Committee, has the responsibility of working with the Medical Programme to assist with the development and implementation of evaluation methods to provide timely and helpful information to assist students and faculty in assessing progress and performance.

The Curriculum Plan

The following curriculum plan is subject to approval by the Senate of McMaster University.

The curriculum outline presented below reflects curriculum modifications which will be implemented in September, 2000 for the Class of 2003. Students currently enrolled in the MD programme should reference the 1998-99 Undergraduate Calendar (http://registrar.mcmaster.ca/calendar/year9899/sec_198.htm) or contact Deborah Martin, MD Programme Administrator, (905) 525-9140, ext. 22141 to determine the former Curriculum Plan.

PROGRAMME OUTLINE FOR UNIT 5 - THE CLERKSHIP

In this component of the programme students participate in the direct care of patients as they learn about the management of health and illness. All prior objectives apply, but the health-care problems are now real patients or populations. Students become self-sufficient in contemporary medicine, but are able to sense when today's medicine becomes out-of-date by adopting good habits of learning and evaluation.

The Clerkship programme consists of rotations in Medicine, Surgery, Family Medicine, Psychiatry, Pediatrics, Obstetrics and Gynecology, and in elective time of which one-half must be spent in clinical medicine. The compulsory components of the clerkship are carried out in teaching practices and in all the teaching hospitals in the Hamilton region. The elective experience can be spent in various activities utilizing local, regional or distant resources.

PROGRAMME OUTLINE FOR UNIT 6

The main theme for this unit is the practicing physician. With a knowledge of the biological bases of medicine acquired in previous units and the clinical experience of the Clerkship, the students are now ready to tackle issues derived from societal expectations of practicing physicians. In both seminar and clinical settings, students will consider important legal, ethical and clinical practice organization issues. Health economics and health policy analysis continue to be major perspectives of the academic experiences of this unit. Students will also consider complex health problems of individuals and populations using a multi-disciplinary approach.

ELECTIVES

Elective studies form an integral part of the Curriculum 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 Programme 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 Programme. Block Electives occur after Unit 3 (eight weeks), after Unit 4 (four weeks), during the Clerkship (eight weeks) and immediately following the Clerkship (seven weeks).

2. Horizontal Electives: These are undertaken concurrently with other parts of the curriculum. Horizontal electives are entirely voluntary, not required for the completion of the programme. It is particularly important that the student's advisor be involved in all decisions concerning the selection and carrying out 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 in the fields of medicine and health care. Examples include: research training and experience; community health projects; international health opportunities. These experiences are often undertaken following Unit 4 or during the first half of Unit 5. Some experiences may potentially have partial funding (e.g. by student research fellowships).

REGULATIONS FOR LICENCE TO PRACTICE

A degree in medicine in itself is not a license 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 are not required to register as students with the College of Physicians and Surgeons of Ontario. 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.
FACULTY OF HEALTH SCIENCES

CANADIAN RESIDENT MATCHING SERVICE (CaRMS)
The Matching Service is a clearing-house designed to help final year Canadian medical students obtain the post-MD programme of their choice, and to help programme directors obtain the students of their choice. It provides an orderly method for students to decide where to train and for programme directors to decide which applicants they wish to enrol. For both students and directors, it removes the factors that generate unfair pressures and premature decisions. Further information is available from Deborah Martin, M.D. Programme Administrator, (905) 525-9140, ext. 22141.

BASIC CARDIAC LIFE SUPPORT TRAINING
All students are required to have obtained a current certificate in Basic Cardiac Life Support (Adult and Child CPR) prior to registration in the medical programme. Courses are readily available in most communities. Information will be sent to successful applicants prior to registration.

Specific questions can be directed to Deborah Martin, M.D. Programme 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 M.D. Programme, they must complete Pre-Clinical Communicable Disease Screening through the Student Health Services. More information will be sent to specific applicants prior to registration. Specific questions can be directed to Deborah Martin, M.D. Programme Administrator, (905) 525-9140, ext. 22141.

Admission Policy for the Medical Programme
The official admission policy and deadlines for the Undergraduate Medical Programme for September 2000 shall be as published in the 2000 Ontario Medical School Application Booklet. This booklet is available through:

Ontario Medical School Application Service (OMSAS)
PO Box 1328
650 Woodlawn Road West
Guelph, Ontario, N1H 7P4
(519) 823-1940
email: omsas@netserv.uoac.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 enforced strictly. All relevant documentation must be provided by the specified deadlines. Applicants must follow the instructions precisely.

SELECTION PROCEDURE
The intention of the McMaster Undergraduate Medical Programme is to prepare students to become physicians who have the capacity and flexibility to adapt and compete in the broad field of medicine. The applicant is selected with this goal in mind. Faculty, medical students and members of the community are normally involved in the admissions process.

Application to the medical programme implies acceptance by the applicant of the admission policies and procedures, and the methods by which candidates are chosen for the programme.

Applications received in the fall of 1999 are for the academic year commencing in the fall of 2000. Applicants who will not be ready or able to begin studies in the fall may withdraw their applications without prejudice. Application fees cannot be refunded. Applications must be submitted by October 15, 1999, 4:30 pm EST. OMSAS will contact applicants who have completed their application kit to confirm that they have requested all the transcript materials on their request. Evidence to show that applicants have requested transcripts will result in disqualification of the application.

Admission requirements from the previous year may not apply. All applicants must fulfill the requirements described below in both (a) and (b).

a) By September 1, 2000, applicants must have completed a minimum of three years of undergraduate work. Only degree credit courses taken at an accredited university will be considered.

Two of the three years must be above Level/Year 1. A year is the full block of work specified for a year or level of the programme as indicated on the university transcript and in the appropriate university calendar. If requested, applicants must provide evidence that this requirement has been met.

An applicant who has completed a diploma at a CEGEP must have completed to by November 16, 1999, at least two additional years of degree credit work at an accredited university. One of those years must be a full programme of courses above Level/Year 1.

b) By October 15, 1999, applicants must have achieved an overall average of at least second-class B standing in their academic work to date. A B average is considered to be an OMSAS overall converted average of at least 3.0 on the 4.0 scale. Marks on supplementary courses will be included in the grade point average calculation. If an applicant has not achieved the overall B standing in the OMSAS converted average, but has completed a graduate degree, the graduate degree will be taken into account to assess eligibility.

Academic Assessment will be as outlined in the Ontario Medical School Application Booklet.

TRANSCRIPT REQUIREMENTS
It is expected that applicants will request all transcript materials in a timely fashion, to allow adequate time for processing requests and for receipt at OMSAS by the prescribed deadline. For this reason, applicants are strongly urged to request two sets of transcripts. One must be sent by the institution directly to, and received at OMSAS by November 16, 1999; the second copy should be sent to the applicant to ensure that the request has been fulfilled. Applicants should retain all receipts and correspondence related to their transcript request. Evidence to show that applicants have requested transcripts in a timely fashion may be requested by McMaster University.

It is not normally possible to notify applicants of any outstanding transcripts before November 16, 1999. Therefore, it is totally the applicant's responsibility to ensure that all transcripts and Registrar statements are received at OMSAS by November 16, 1999. Failure to meet this requirement 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 for all courses/programmes attended at any post-secondary institution. This includes community colleges, CEGEPs, junior colleges, pre-university programmes, etc.

Failure by the applicant to comply with the instructions or to meet the deadlines will result in disqualification of the application.

AUTOBIOGRAPHICAL SUBMISSION
Applicants must provide an Autobiographical Submission which is a description about their preparedness for medicine and suitability for the McMaster Undergraduate Medical Programme.

The Autobiographical Submission Booklet is included in the application kit provided by OMSAS.

The Autobiographical Submission Booklet includes detailed instructions with regard to the length and format of responses. Those instructions are considered to be part of the Admission Policy and Procedures for the McMaster Undergraduate Medical Programme. Failure to comply with the instructions for the Autobiographical Submission Package will result in disqualification of the application.

GEOGRAPHICAL CONSIDERATION
The geographical status is determined from the Autobiographical Sketch. Applicants may be asked to provide evidence of geographical status. In selecting applicants for interview, the bona fide place of residence will be used in the following order of priority:

1. the province of Ontario
2. the rest of Canada; and
3. other countries.
To qualify for 1 above, an applicant must:

a) be a Canadian citizen or permanent resident by October 15, 1999, and

b) have resided for at least three years in the province of Ontario since the age of 14. Attendance at a university in Ontario for at least three years by the date of possible entry to the programme satisfies the second requirement.

Any other applicant who is a Canadian citizen or permanent resident qualifies for 2.

All other applicants qualify for 3. While all applicants from this Geographic Category are considered, they may be selected for interview based on if they are judged on each criterion to be clearly superior to other applicants.

INTERVIEWS

Approximately 400 applicants will be invited to Hamilton for an interview. The selection of these applicants is based on the composite score which weights equally the grade point average from the Academic Assessment and the scores from the Autobiographical Submission. Geographical consideration is applied to determine the composition of the pool of applicants that are selected for interview.

Because the interviews involve many other people, applicants must appear on the date and time specified. Applicants are responsible for their own travel expenses.

Each applicant is assessed in two activities: the Simulated Tutorial and the Personal Interview. In the Simulated Tutorial, a group of applicants discuss a health-related problem or situation. The applicant's group skills and problem-exploration skills are assessed.

In the Personal Interview, the applicant is interviewed by a team which is not involved in the assessment of the Simulated Tutorial. Before an applicant meets the interview team, the interviewers are provided with the candidate's Autobiographic Sketch. This Autobiographic Sketch is not assessed but serves as a background for the interviewers. In making the overall assessment of the applicant, the Personal Interview team considers the following areas: depth and breadth of experience, personal characteristics and preparation for medical school.

SELECTION

All the information resulting from the process described above, as well as the Confidential Assessments from referees, is reviewed and used in the final selection. Applicants will be notified the last working day in May 2000.

APPLICATION FOR DEFERRED REGISTRATION

Deferred registration may be granted only under exceptional circumstances. Deferred registration applications may be requested only by those candidates offered a place in the class on the last working day in May and who have accepted that offer. The request for deferral must be submitted within two weeks of the offer of admission.

SPECIAL APPLICANTS

Candidates who wish to determine if they qualify as Special Applicants, must contact, in writing, the Chair of the MD Admissions Committee, McMaster Undergraduate Medical Programme, HSC Room 157, before making a formal application. All relevant information and documentation, including transcripts, must be provided by September 15 to be considered for eligibility for that year's selection and admission cycle. This category is designed to provide opportunities only to those who meet all of the following. They must:

1. not have attended any post-secondary institution, including those offering diploma or certificate programmes, as a full-time student;
2. have completed, at the time of application, the equivalent of at least four but not more than ten full degree credits as a part-time student, obtaining an overall OMSAS converted average of at least 3.0. A current university transcript must accompany the request for consideration;
3. have been employed or active in the community for at least seven years since leaving high school;
4. must be a resident of Ontario at the time of application, and
5. must be assessed as having made an exceptional contribution to society. In this, candidates must have shown creativity, initiative, and leadership, and a letter from the candidate, outlining any activities and contributions to society must accompany the request for assessment. Only those who meet the above criteria will be eligible to apply to the programme.

First Nation applicants who do not meet the criteria for application through the regular stream must meet all of the above requirements except #1.

ADVANCED STANDING/TRANSFER

The structure of the McMaster Programme requires that all students begin in Unit 1. There is no provision for advanced standing or transfer into the programme.

UNSUCCESSFUL APPLICANTS

Applications from one year are not held over to another year. If an unsuccessful applicant wishes to reapply, a new application package, including supporting documentation must be submitted, using the OMSAS Application, the OMSAS Instruction Booklet, and the McMaster Autobiographical Submission for the new admission selection cycle.

Unsuccessful applicants may enquire about their application for the current year. Their percentile ranking on the application instrument is the only feedback that is available. The applicant must make the request in writing to the Chair of the Admissions Committee, McMaster Undergraduate Medical Programme, HSC Room 157, by June 30 of the year of application, after which time feedback will be provided.

Financial Information

Financial difficulties are among the most frequent problems experienced by students in undergraduate medical schools. At McMaster, these are intensified by the lack of opportunity for summer employment.

In this situation, it is incumbent on students admitted to the MD Programme to clarify immediately their personal financial situation and to secure or identify sufficient support to meet their financial obligations over the subsequent three years. The Undergraduate MD Programme cannot assume this responsibility.

In 1998-99, the academic fees (tuition and student supplementary fees) for a student in the McMaster Undergraduate Medical Programme were:

<table>
<thead>
<tr>
<th>Category</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canadian Citizens and Land Immigrants</td>
<td>$10,987.80</td>
</tr>
<tr>
<td>Year II</td>
<td>$8,551.80</td>
</tr>
<tr>
<td>Year III</td>
<td>$3,863.80</td>
</tr>
</tbody>
</table>

(Please note that Year II and III fees were for students admitted prior to September 1998, prior to de-regulation of tuition.)

In addition, the cost of books and diagnostic equipment for a Year I student was approximately $1,900. It is strongly recommended that students purchase the full complement of medical equipment necessary for clinical skills. Equipment lists and special prices will be offered to medical students within the first few months of medical school. Students are also responsible for their transportation costs related to clinical study.

Financial assistance is available to Ontario residents from the federal and provincial governments through the Ontario Student Assistance Programme (OSAP). To be eligible a student must be a Canadian Citizen or permanent resident of Canada and fulfill certain requirements for residency in Ontario. Students who are legal residents of other provinces need to check with their respective provincial financial aid office for eligibility for support prior to acceptance. In addition, the following sources of funding are available to undergraduate medical students:

Bursaries

There is an extensive bursary programme which has been developed by the Faculty of Health Sciences and the central University campus. Bursaries are awarded to students in financial need and are disbursed during the fall of each year. Bursaries are intended to offset financial assistance provided, but not to supplement the full cost of medical education. For further information about bursaries, please contact Deborah Martin, (905) 525-9140, ext. 22141.

ACADEMIC AWARDS

The Undergraduate Medical Programme has in the past indicated its preparedness to recognize students who distinguish themselves and the University by virtue of their scholarship and their
contribution to the university community. At the same time, the School has indicated that the terms of reference for such awards should neither compromise the spirit of cooperative scholarship nor replace its priority of concern for financial assistance awards.

A small but growing number of estates and agencies have donated funds to the University and the Undergraduate Medical Programme for purposes of recognizing scholastic merit among medical students. In order to meet the requirements of these awards without the assistance of a University Scholarship, these funds are available to support individual students in the pursuit of specific elective projects or activities.

Students are required to submit an application through the Electives Office, outlining the nature of their work and the need for funds. For further information, contact Deborah Martin, (905) 525-9140, ext. 22141.

**ABBOTT MEMORIAL SCHOLARSHIP LOAN FUND**

This fund was established by the Federation of Medical Women of Canada. Small loans are available to any female medical student or first-year resident. In special cases, a loan up to $1,000 may be made to a student for recognized postgraduate training. Loans are payable within five years of date of issue, after which time interest will be charged at a rate of 5% compounded annually.

Information regarding these loans may be obtained from Kay Moffat, Executive Coordinator, Federation of Medical Women of Canada, Box 8244, Ottawa, Ontario, K1G 3H7.

**MEDICAL OFFICER TRAINING PLAN**

The Department of National Defence administers a programme for medical students known as the Canadian Forces Medical Officer Training Plan. Under this plan, students may be subsidized (tuition, plus pay) throughout their undergraduate medical studies and internship. To qualify for enrolment a student must be accepted without condition in a course in medicine in a Canadian university or in an accredited internship.

Further information on this programme and on the career opportunities in medicine in the Canadian Armed Forces may be obtained from local Canadian Forces Recruiting Centres. In Hamilton, the Recruiting Centre is at 100 Main Street East, (905) 572-4000.

**LOAN FUNDS**

The Undergraduate Medical Programme administers a small loans programme to assist medical students with demonstrable need. Unfortunately, these funds are limited and cannot be relied on to meet a major portion of any student's financial obligations. The sources of these funds include: The Ontario Medical Association Loan Fund, the William Andrew Vanderburgh Sr. Memorial Fund, the Ripley Estate Loan Fund, the Dr. Elizabeth Bagshaw Fund and the Dr. A. Bolt Memorial Fund.

For further information about loans contact Robert Wakefield, (905) 525-9140, ext. 22979.

**B.H.SC. MIDWIFERY PROGRAMME (6501)**

**WEB ADDRESS:** http://www-fhs.mcmaster.ca/midwifery

**Programme Overview**

The baccalaureate programme in midwifery was announced by the Ontario Government in December 1992. The first class was admitted in August 1993. The programme is jointly offered by McMaster University, Laurentian University and Ryerson Polytechnic University and leads to the degree Bachelor of Health Sciences (B.H.Sc.) in Midwifery. In addition to meeting all requirements of the midwifery programme, students must satisfy the academic regulations of the institution in which they are enrolled.

The curriculum includes courses from basic sciences, social sciences, health sciences, women's studies and electives, in addition to clinical courses. A variety of course formats are used, with a mix of large and small group sessions. Distance learning formats, such as teleconferencing, and print-based courses, will be used extensively in the first three years of the programme in four years. Students should note that due to the shortage of clinical placements/preceptors, students must be prepared for the possibility that they may not complete the programme in four years.

In 1999, applicants wishing to complete the programme in four years (full-time), should apply to McMaster University (English Stream) or Laurentian University (French Stream). Part-time applicants should apply to Ryerson Polytechnic University. The part-time programme can be completed in five to seven years depending on a student's preference, course availability and on the amount, if any, of transfer credits awarded. The suitability of part-time study for meeting clinical requirements is being carefully assessed. Periods of full-time participation will be necessary in order to participate in intensive courses and clinical placements.

Each student is assigned to a midwifery practice for an extended period of clinical practice. This ensures that students will provide continuity of care to clients and obtain continuity of supervision from a clinical preceptor. During the programme students will be placed in at least one other midwifery practice and other sites to facilitate their learning. In addition to a placement with a midwife preceptor, clinical opportunities are limited and cannot be satisfactorily acquired in hospital settings and in conjunction with a family physician, an obstetrician and in elective placements. Students will be brought together for several days five times during the four-year programme as a means of fostering professional identity and group support.

The programme reflects the philosophy of midwifery in Ontario and its focus on women's participation in their health care. The importance of public involvement in the evolution of the profession is evident in the ongoing participation of health-care users in programme decision and evaluation activities and in the applicant admission process. The programme works closely with practising midwives and other maternity-care providers to ensure a high-quality clinical environment for students.

**Curriculum Plan**

The course sequence moves from foundation courses in basic and social sciences, women's studies and health sciences to the application of knowledge in clinical practice.

The distance learning format (teleconferencing) requires that students convene in small groups. These will usually be on the university campus, but may be in other locations. Students undertake some focused clinical activities in Level I to foster an understanding of clinical basis of the profession. In Levels II, III and IV there are extended opportunities to acquire clinical skills and to integrate theoretical material with clinical experience in addition to completing the courses necessary to acquire the broad base of knowledge of a health professional. While efforts will be made to place students in the geographic location of their choice for their extended clinical practice, students may be required to travel or relocate in order to be placed in a practice that can provide suitable clinical supervision. Students must be prepared to supply their own transportation and to cover their travel and living costs during clinical placements.

There are five (5) opportunities for students in the three (3) locations; one-week intensive orientation and beginning of the course, Introduction to Midwifery, is held in August of the year of entering the programme. Students are required to attend this session and to live in residence. The exact dates and locations of these opportunities are arranged on a year to year basis.

**LEVEL I: 30 UNITS**

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<tr>
<th>Units</th>
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<tr>
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<td>6 units</td>
<td>HTH SCI 1C06</td>
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<td>6 units</td>
<td>WOMEN ST 1A06</td>
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<td>HTH SCI 3A03 (Term II)</td>
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<td>MIDWIF 1A06</td>
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**LEVEL II: 30 UNITS**

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**LEVEL IV: 30 UNITS**

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<tr>
<td>3 units</td>
<td>MIDWIF 3E03</td>
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Admission Process and Criteria

The following are the requirements for admission in the academic year 1999-2000. Please note that the admission policy is reviewed annually and the admission requirements from previous years may not apply.

As places in the Midwifery Programme are limited, the admission process is competitive. Possession of the published minimum requirements does not guarantee admission.

ADMISSION CRITERIA

Applicants to the Midwifery Education Programme come from a wide variety of educational backgrounds; however, all applicants must meet or be in the process of completing the following basic admission requirements by the date of application (i.e., February 1 of the year in which the applicant is seeking admission).

A. OSSD with 8 OAC (Ontario Academic Credit) courses including the following three prerequisites:
   1. One of OAC English i or OAC English II
   2. One of OAC Biology or OAC Chemistry
   3. An OAC in social science (i.e., history, sociology, psychology, geography, law)

AND

B. Students must obtain a minimum overall final average of 70% in six OAC courses including the three prerequisite subjects OR

The equivalent of OAC courses from other provinces/countries with a 70% average.

For those currently registered in required subjects, interim grades must be submitted. Courses must be completed by June 30, 1999 and final grades made available immediately thereafter.

Prior/Current Community College (C.A.A.T.) Applicants

Applicants with studies completed at an Ontario Community College (CAAT) or equivalent, must have full courses that are equivalent to the OACs in the three subject areas specified. The average from at least two years of college work must be a minimum of 70% or better. In addition, students must also have 70% in each of the three prerequisite subjects. Applicants with CEGEP background should consult the OAC equivalence chart found in the Admission Requirements at the beginning of this Calendar.

Prior/Current University Applicants

Applicants with at least two full-time years at an accredited university at the time of application must have completed OACs or equivalent university courses in at least two of the three subject areas noted. The applicant's overall average from the best 10 full courses equivalent to two years of university work, must be a minimum of 70%. Students must also have a minimum of 70% in two of the prerequisite subjects.

Mature Applicants

1. Mature students are required to possess the three prerequisite subjects as described in the basic requirements.
2. Mature candidates lacking the academic background described below will be advised to upgrade by either taking OACs or introductory university level courses. Those who take OAC upgrading may have the two year absence from formal studies guideline waived.
3. Mature candidates are expected to have a 70% overall average or better in the required courses or subject areas.
4. Other specific requirements are:
   i) must be at least 21 years of age, or will be, prior to the first day of classes for the session to which application is made;
   ii) have not attended secondary school for at least two years;
   iii) have never attended university;
   iv) have not been enrolled in a college diploma programme within the last five years.

Transfer or Challenge Credit

Applicants with previous university courses may be eligible for credit for electives or other non-clinical courses in Level 1 and 2. Transfer/challenge credit will not be available for midwifery courses.

The actual amount of credit awarded to an applicant will not be determined until the conclusion of the overall admissions process; each application will be assessed on an individual basis. An offer of admission does not guarantee that credit will be awarded. Applicants should be aware of the University's residency requirements and time span completion policies. Transfer or challenge credit will not generally reduce the time span required to complete the programme.

Successful applicants are able to challenge the following courses: Sociocultural Dimensions of Health (HTH SCI 1C06), Topics in Biological Science (HTH SCI 1D06), Life Sciences for Midwifery (HTH-SCI-1C03) and Critical Appraisal of Research Literature (HTH SCI 3A03). Further details about the availability of challenge exams or other means of obtaining credit for programme requirements will be available at a later time in the admissions process.

Deferral of Registration

Those students offered admission will not be granted a deferral and will be asked to reapply.

SELECTION PROCEDURE

The intention of the Midwifery Education Programme is to prepare students to become midwives who have the ability to give the necessary supervision, care and advice to women during pregnancy, labour and the postpartum period, to conduct deliveries on her/his own responsibility and to care for the newborn infant. In order to fulfill this criteria, midwives must have a thorough and rigorous academic preparation.

Midwives, as primary health care providers within our society, are expected to have well-developed interpersonal skills. They must be highly competent in areas of health education, counseling and interprofessional collaboration. Applicants to this programme should expect to be thoroughly assessed for their ability to exhibit and further develop these important personal/professional qualities.

The admission process is detailed in three parts:

1. Assessment of Academic Eligibility: Review of applications for completeness and evidence of academic eligibility according to the criteria listed above.
2. Review of Personal Questionnaire: Each applicant is asked to answer five (5) questions in a typed submission not exceeding five double-spaced pages. The personal questionnaire is the opportunity for applicants to show how their background experiences and personal attributes are well-suited to being a midwife. The personal questionnaire will be scored by teams of two evaluators who have no information about the academic background of the applicant.
3. Personal Interviews: Selected candidates will be invited for a personal interview. Interviews will be conducted by teams of three consisting of a consumer, faculty member, midwife and midwifery student who have no previous information about the applicant. Interviewers will assess applicants in areas such as their motivation to become a midwife, their awareness of midwifery in Ontario and career goals. Candidates may be asked to participate in a test of writing skill on site.

A total review of each applicant's file will help determine offers of admission at the conclusion of this three part process. A waiting list will be formed for any places that become available.

UNSUCCESSFUL APPLICANTS

Applications are not held over from one year to another. If an unsuccessful applicant wishes to reapply to the Midwifery Education Programme, a new application, including transcripts and supplementary materials must be submitted. Unsuccesful applicants may request feedback about their application for the current year. Applicants must make their requests in writing to the programme no later than June 30th of the year of application. Depending on the volume of requests it may take several months for the programme to reply.

APPLICATION DEADLINE

Submission of completed application forms to the Ontario Universities' Application Centre and all supporting documents/transcripts, must be received by the University no later than February 1 of the year in which registration is expected.
Financial Information
In 1998-99 the tuition fees for a student in the Midwifery Education Programme were $3,602.00. Supplementary fees are estimated at $400.00 per year.
A confirmation fee may be required at the time of acceptance of an offer of admission.
Financial assistance is available from the federal and provincial governments through the Ontario Student Assistance Programme (OSAP). Students intending to apply for OSAP may begin their application process to OSAP once they are notified about receiving an interview. The final status of your application can be confirmed with OSAP at a later date.
Additional costs include books, supplies, and other learning resources estimated at $500.00-$1000.00.

Academic Regulations
In addition to meeting the General Academic Regulations of the University, students enrolled in the Midwifery Education Programme shall be subject to the following programme regulations.
Where the performance of a student in clinical midwifery practice may jeopardize or endanger the welfare of a client, or the client's family, the student may be removed from clinical experience at any time during the academic year until continuation in the course is reviewed.

CONTINUATION IN THE PROGRAMME
All required (clinical and non-clinical) Midwifery and Health Science courses and WOMEN ST 1A06 are required for the degree. Students are reviewed at the end of each term and academic year. Students must achieve a CA of at least 4.0 (C) in all graded courses and achieve a pass/satisfactory performance in all clinical courses at each review to continue in good standing in the programme. A CA of 3.5 or lower will result in the student being required to withdraw from the programme.

PROBATION
A student will be placed on probation if he/she:
1. obtains a CA less than 4.0 but not lower than 3.5, overall in all graded courses or
2. obtains a grade of less than 65% in HTH SCI 1D06 (Topics in Biological Sciences), or
3. does not achieve a pass/satisfactory performance in all clinical (midwifery) courses or
4. fails any one course.
If students fail to meet the minimum grade requirements in the required courses or a pass/satisfactory designation in the clinical courses, they may, at the discretion of the Programme Chair in consultation with a reviewing committee, be allowed to repeat the course on programme probation. A student must obtain a minimum grade of 4.0 (or pass/satisfactory in clinical courses) at the completion of the programme probation.
A student will be granted programme probation for one review period if his/her CA is less than 4.0, but no lower than 3.5, and if he/she has not been on probation before.

REQUIRED TO WITHDRAW
A student will be required to withdraw from the programme if he/she has a:
1. failure in more than one clinical course.
2. more than one failure in any academic session.
3. failure after the second attempt at a required course.
4. cumulative Average (CA) which falls below 3.5.
5. failure to complete the programme within its maximum time limit.

DEAN'S HONOUR LIST
Students will be evaluated for standing on the Dean's Honour List only upon completion of the programme. Students will be named to the Dean's Honour List if they receive no failing, provisional or unsatisfactory grades in any courses throughout the programme and achieve a minimum average of 9.5, calculated using the grades on all graded courses taken throughout the programme.

GRADUATION REQUIREMENTS
To graduate with a Bachelor of Health Science in Midwifery a student must:
1. complete all required courses, including electives, with a CA of at least 4.0 on all graded courses (and a minimum grade of 65% in HTH SCI 1D06).
2. satisfy and complete all requirements for clinical performance throughout the programme.
3. complete all courses for the degree within five years of the first midwifery course.

Professional Membership
The programme requires that all students become members of the College of Midwives and the Association of Ontario Midwives when they enter the programme. The total cost for these memberships is approximately $200.00 annually. Please note that the College of Midwives requires all applicants to disclose any past criminal or professional proceedings.

Qualifying for Registration by the College of Midwives
The practice of midwifery is regulated by the College of Midwives under the Midwifery Act, 1981 and the Regulated Health Professionals Act, 1991. The College of Midwives has developed a set of core competencies for entry to practice which guide the Midwifery programme's curriculum.
Regulations under the Midwifery Act set out the following for registration: attendance at a minimum of 60 births, of which the student must be involved as a primary caregiver for 40; 30 births must include care throughout pregnancy, labour and the puerperium.
Graduation from the Midwifery Education Programme does not guarantee registration with the College of Midwives. All applicants to the College must meet additional registration requirements.
Regulatory requirement are subject to change from time to time. The programme will maintain a close working relationship with the regulatory body so that students obtain the required clinical experiences to be eligible for registration.

THE SCHOOL OF NURSING
WEB ADDRESS: http://www-fhs.mcmaster.ca/nursing

In 1942, McMaster University began its first programme in Nursing, a cooperative effort between the University and the Hamilton General Hospital. Since the establishment of McMaster University's School of Nursing in 1946, students have received a Bachelor of Science in Nursing degree upon graduation. The programme has functioned completely under the supervision of the University, while enjoying the full cooperation of community hospitals and agencies in the operation of its clinical courses. In July 1974, the Schools of Nursing and Medicine became the Faculty of Health Sciences. In 1982, the Post-Baccalaureate Diploma in Nursing Programme was introduced. This second category of admission was created to provide Diploma Registered Nurses with the opportunity to work towards a B.Sc.N. degree.

McMaster University is one of ten Ontario universities collaborating with the Council of Ontario Universities for Program in Nursing to offer a Primary Health Care Nurse Practitioner Programme. The programme commenced in September 1995 and funding has been extended to 2003 by the Ministry of Health. This programme enables Nursing diploma prepared students to obtain a B.Sc.N. degree and a Nurse Practitioner Certificate. Those students who hold a Nursing Baccalaureate receive the Nurse Practitioner certificate upon completion of the programme.
In 1994, the first Ph.D. candidates entered the Clinical Health Sciences (Nursing) graduate programme which is offered by the School of Graduate Studies through the Faculty of Health Sciences. M.Sc. candidates entered in the fall term of 1995. All enquiries about the Clinical Health Sciences (Nursing) graduate programme should be directed to the Graduate Programme Office, HSC-3N10, (905) 525-9140, ext. 22982.
To find out more information about McMaster and the B.Sc.N. Programme, Information Sessions for high school students are held by the Student Liaison Office during the school year. For more details about these sessions or to register for a visit, please call the Office of the Registrar at (905) 525-4600. Applicants not applying directly from high school who require an application package should call (905) 525-4600.
The B.Sc.N. Programme

The B.Sc.N. programme promotes the development of nursing as a caring, client-centred, scientifically based profession. With an emphasis on problem-based, small group, self-directed learning, the programme 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. programme promotes skills in its graduates to prepare them for life-long, self-directed, learning, critical thinking, advocacy and professional practice.

As students progress in the B.Sc.N. programme, they will find an increasing emphasis on interpersonal 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 clinical practice experiences).

Evaluation by self, peers and faculty is part of an on-going assessment process of the achievement of clinical, course, and programme objectives.

BELIEFS AND GOALS

We believe that nursing is a scientific activity which seeks to describe, understand and accept reality as human beings experience it, and to provide professional care in this context. The scientific activity of nursing involves critical appraisal, the ability to selectively utilize research findings and the use of a problem-solving process. We believe that all human beings are unique, self-interpreting individuals with potential and with freedom of choice in determining the quality of life. Both the nurse and the client (individual, group or community) are accountable for their decisions and actions.

The unique contribution of nursing is in professional caring, which has both scientific and humanistic components. At McMaster, we believe that health care is a team responsibility and that nursing education can be offered most beneficially in an interprofessional setting. We believe that we can contribute to the development of nursing as a profession by providing graduates who:

1. Demonstrate personal characteristics that reflect a developing professional meaning; that is:
   a) recognize the intrinsic dignity, worth and uniqueness of persons
   b) demonstrate sensitivity and awareness of personal assets and limitations
   c) demonstrate advocacy, empathy, tolerance, accountability
   d) maintain ethical standards
   e) think rigorously and critically
   f) foster independent and collaborative practice
   g) provide leadership for change.

2. Accept responsibility for life-long learning and professional growth.

3. Identify and understand internal and external influences on nursing and health.

4. Utilize knowledge of biological, physical, verbal, emotional and spiritual factors in nurse/client situations.

5. Demonstrate knowledge of the impact of interprofessional interchange on nursing, other health disciplines, and the health-care system.

6. Demonstrate nursing practice that reflects knowledge of the processes of change, caring, coping, valuing, learning and critical reflection.

7. Demonstrate a comprehensive approach to nursing practice in a variety of settings.

8. Support and promote a humanistic and scientific approach to the care of nursing clients.

Admission Policy and Procedure

ADMISSION POLICY

Application to the B.Sc.N. programme in the Faculty of Health Sciences implies acceptance of admission policies, procedures and the methods by which applicants are chosen for the programme.

As places in the B.Sc.N. programme are limited, admission is by selective process. Possession of the published minimum requirements does not guarantee admission.

There are three streams of study leading to the completion of the B.Sc.N degree. The Basic (A) Stream requires four years of study, and is available to those applying directly from an Ontario secondary school with OACs; to those who have qualifications equivalent to OACs; to university students who wish to transfer into nursing; 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 programme who are admitted to the B.Sc.N. programme are granted advanced credit and may complete the programme in two calendar years of full-time study.

The Ontario Primary Health Care Nurse Practitioner Programme (C) Stream is a post diploma/post degree programme. Diploma prepared nurses require 24 months of full-time study to complete their BScn/NP degree, while 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. Under current funding, all Nurse Practitioner courses must be completed by August 2003.

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. Any student admitted to the programme having submitted false documentation will be withdrawn.

Detailed medical information will be required upon acceptance into the programme including a record of completion of required immunizations.

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 change. Applicants should refer to the School of Nursing Admissions Procedure and Guidelines for Applicants with Disability available form the School of Nursing Admissions Office (905) 525-9140, ext. 22232 and consult the Centre for Student Development (905) 529-7070, ext. 24028 or TTY (905) 521-9709.

Applicants Directly from Ontario Secondary Schools

The selection method for Ontario secondary school applicants is by academic qualifications. First round of early conditional offers of admission are made in late March and will be based on the following:

a) six appropriate midterm/interim OAC courses.

Applicants for not applying directly from Secondary School or without the necessary OAC equivalents, the selection method is based on academic qualifications, a rating obtained on a questionnaire and a personal interview. (Nurse Practitioner applicants will not be interviewed.) The response to the questionnaire is assessed by teams normally representing the faculty, the students and the current community. Applicants may be invited to a personal interview at McMaster on May 7, 1999. Applicants are responsible for their travel expenses. Failure to attend the interview will result in cancellation of the application. The scores awarded by the assessors are final.

Applicants with Other Qualifications

Applicants not applying directly from Secondary School or without the necessary OAC equivalents, the selection method is based on academic qualifications, a rating obtained on a questionnaire and a personal interview. (Nurse Practitioner applicants will not be interviewed.) The response to the questionnaire is assessed by teams normally representing the faculty, the students and the current community. Applicants may be invited to a personal interview at McMaster on May 7, 1999. Applicants are responsible for their 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.
POST DIPLOMA APPLICANTS

The selection method is based on academic qualifications, a rating obtained on a questionnaire and a personal interview. (Integrated BScN/NP applicants will not be interviewed.) 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 on May 7, 1999.

Applicants are responsible for their 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. Applicants enrolled in diploma nursing programmes at the time of application must be eligible to write the nursing registration examinations no later than June of the year of application to the B.Sc.N. Programme in order to assure possession of a current annual registration payment card from the College of Nurses of Ontario.

Admission Procedure

Applicants from Ontario Secondary Schools (A Stream)

Applicants currently completing OACs apply through the Ontario Universities' Application Centre (OUAC). (See address below.) Application forms are available in secondary school guidance offices. Applications for all studies beginning in September must be received by OUAC no later than May 1st. Secondary schools will forward mid-term and final transcripts directly to OUAC in support of applications.

Applicants With Qualifications Equivalent to OAC (A Stream)

Applicants should contact the Ontario Universities' Application Centre (OUAC) for an application package and return it to them by May 1st, to be considered for admission. Applicants must also have their official transcripts forwarded to the McMaster B.Sc.N. Programme from their secondary school by May 1st.

Return to:
Ontario Universities' Application Centre (OUAC)
650 Woodlawn Road West, P.O. Box 1328
Guelph, Ontario, N1H 7P4

Applicants with Other Qualifications and Post Diploma Applicants

Applicants should contact the Ontario Universities' Application Centre (OUAC) for an application form and the Admissions Coordinator (Nursing) for an application package.

Ontario Universities' Application Centre
650 Woodlawn Road West
P.O. Box 1328
Guelph, Ontario
N1H 7P4

Admissions Coordinator (Nursing)
 McMaster University, HSC-2E10
1200 Main Street West
Hamilton, Ontario
L8N 3S5

Ontario Primary Health Care Nurse Practitioner Programme (C Stream)

Applicants must contact the Ontario Universities' Application Centre (OUAC) to obtain the Primary Health Care Nurse Practitioner Education Programme Application Package. (See address above.) Applicants for all studies beginning in September must be received by OUAC no later than February 1.

ADMISSION REQUIREMENTS

A student who plans to enter the Undergraduate Nursing Programme may qualify under one of the categories described below.

1. BASIC (A) STREAM

Applicants from Ontario Secondary Schools

Requirements

1. One of OAC English 1, OAC anglais 1 or OAC anglais II;
2. OAC Chemistry;
3. One of OAC Calculus, OAC Algebra and Geometry, OAC Finite Mathematics;
4. One of OAC Biology, or OAC Physics;
5. Two additional OACs to total six credits.

2. SPECIAL (A) STREAM

Applicants from Ontario Secondary Schools

Requirements

1. One of OAC English 1, OAC anglais 1 or OAC anglais II;
2. OAC Chemistry;
3. One of OAC Calculus, OAC Algebra and Geometry, OAC Finite Mathematics;
4. Two additional OACs to total six credits.

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 programme.

Applicants with Qualifications Equivalent to OAC

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

Applicants normally should:

1. a) be currently enrolled in first year of a University programme and have achieved a university admission average of at least 75%; or
2. b) 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.)

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 programme.

2. submit Form 105D to OUAC along with the $85 fee by February 15;
3. submit Form 105D to OUAC along with the $85 fee by June 30.

Applicants From Other Degree Nursing Programmes

Applicants who are currently enrolled in a Nursing degree programme at another university may apply to transfer into the B.Sc.N. programme at McMaster. Availability of space and placement in the programme will be determined by the Level Chair.

Even if space is not available, the applicant may choose to complete the admission process and be placed on a waiting list.

The applicant 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. Applications for transfer into the B.Sc.N. programme to commence studies in September must be received by the Admissions Coordinator (Nursing) by December 31.

Applicants must:

1. contact the Admissions Coordinator (Nursing) to discuss placement in the programme;
2. submit Form 105D to OUAC along with the $85 fee by June 30;
3. submit a completed original and three copies of the response to the questionnaire provided in the application package along with the $50 fee to McMaster by February 15.

II. POST DIPLOMA (B) STREAM

Applicants normally must:

1. possess a current College of Nurses of Ontario annual registration 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. submit Form 105D to OUAC along with the $85 fee no later than February 15;
4. submit a completed original and three copies of the response to the questionnaire provided in the application package, a photocopy of the current College of Nurses of Ontario annual registration payment card, transcripts, and the $50 fee 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 programme.
III. ONTARIO PRIMARY HEALTH CARE

NURSE PRACTITIONER PROGRAMME (C) STREAM

Selection is based on academic qualifications, professional experience, clinical references, and personal questionnaire scores. The response to the questionnaire is assessed by teams normally representing the faculty, the students or alumni and the community. The scores awarded by the assessors are final. Applicants will be informed of the admission decision by May.

Applicants with a Diploma in Nursing must:
1. have an Ontario Diploma in nursing or the equivalent with a minimum overall average of 70%;
2. hold a current College of Nurses of Ontario annual registration payment card;
3. have the equivalent of a minimum of two years full-time nursing practice within the past five years as evidenced by the employer-completed Verification of Employment form(s);
4. submit Form 105D to OUAC along with the $85 fee by February 1;
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 diploma nursing programme, copies of any additional professional registration, memberships or certificates listed on the relevant professional experience form (i.e. RNAO, CPR), and any official transcripts of completed university course work along with the $50 fee to McMaster by February 1.

Applicants with a Baccalaureate in Nursing must:
1. possess an Ontario baccalaureate in nursing or the equivalent with a minimum overall average of 70%. In cases where the minimum grade is not achieved, consideration may be given to university credit work completed following graduation which demonstrates equivalent academic ability;
2. hold a current College of Nurses of Ontario annual registration payment card;
3. have the equivalent of a minimum of two years full-time nursing practice within the past five years as evidenced by the employer-completed Verification of Employment form(s);
4. submit Form 105D to OUAC along with the $85 fee by February 1;
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 diploma nursing programme, copies of any additional professional registrations, memberships or certificates listed on the relevant professional experience form (i.e. RNAO, CPR) to McMaster by February 1.

Preference will be given to:
- 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 outpatient nursing
- hands on practical experience

IV. ALL OTHER APPLICANTS

Certain provisions are available for applicants who wish to pursue a Nursing Degree at McMaster but do not qualify under any of the above three categories. For information on how to qualify, applicants should contact the Office of the Registrar (Admissions), Gilmore Hall, Room 108, McMaster University, Hamilton, ON L8S 4L8.

UNSUCCESSFUL APPLICANTS

Applications are not held over from one year to another. If an unsuccessful applicant wishes to reapply by the B.Sc.N. programme, a new application, including supporting documentation, must be submitted. Unsuccessful applicants may inquire about their application for the current year. Applicants must make their requests in writing to the Chair of the Undergraduate Nursing Admissions Committee. No inquiries will be considered after August 31 of the year of application.

APPLICATION FOR DEFERRAL OF REGISTRATION

Deferred registration is granted only under exceptional circumstances, to those candidates who have been admitted and have accepted the offer. Deferred registration, if granted, 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.

Academic Regulations

In addition to meeting the General Academic Regulations of the University, students enrolled in the B.Sc.N. programme shall be subject to the following programme regulations.

Registration in the B.Sc.N. programme implies acceptance on the part of the student of the objectives of that programme 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.

It is possible to complete the B.Sc.N. programme on a part-time basis. University and programme regulations governing full-time undergraduate students will govern part-time students although there are additional guidelines for part-time study.

As enrollment is limited, it is limited to the first 50 students enrolled for part-time study 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.

B.S.C.N. PROGRAMME ACADEMIC REGULATIONS

Basic (A) and Post Diploma (B) Stream

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 Health Sciences courses with the exception that a grade of D-, D or D+ is permitted in one Level I Health Sciences course and in only one required Health Sciences course beyond Level I; and
3. achieve a Pass designation in all clinical courses and the clinical component of NURSPRAC 4F04 and 4G04.

The following courses are designated clinical courses:
- Basic (A) Stream: NURSING 2L03, 2P03, 3X04, 3Y04, 4J07, 4K07
- Diploma Registered Nurses (B) Stream: NURSING 3L02, 3M05, 3M3, 4S06, 4T06

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 grade for which credit has not been granted may be repeated only when approval is granted by the B.Sc.N. Programme Chair in consultation with the programme Reviewing Committee.

Nurse Practitioner (C) Stream and Nurse Practitioner Certificate Stream

A post-diploma 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 one Level I Health Sciences course and only once in required Health Sciences courses beyond Level I; and
3. achieve a Pass designation in the clinical component as well as a grade of B- in the theoretical component in each of NURSPRAC 4A10, 4C13, 4T10;
4. achieve a grade of B- in NURSPRAC 4P03, 4R03.

The following courses are designated clinical courses:
- NURSPRAC 4A10, 4C13, 4T10
- Under existing funding quota, Nurse Practitioner courses must be successfully completed by August, 2003.

CONTINUATION IN THE PROGRAMME

To continue in the B.Sc.N. programme a student must obtain a CA of at least 3.5. A student whose CA is at least 3.0, at the discretion of the B.Sc.N. Programme Chair in consultation with the programme Reviewing Committee, may proceed in the programme and will be placed on programme probation. A student may be placed on programme probation only once during the total programme.
FAILURE
A student whose CA is less than 3.5, and who has not been granted programme probation, may not continue at the University.
A student who fails to obtain a CA of 3.5 at the completion of the programme probation may not continue at the University.
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 Programme Chair in consultation with the programme 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 Faculty. A student may normally be allowed to repeat only one clinical and one non-clinical Nursing or Health Sciences course during the programme.
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 will be removed from the programme.

Curriculum for the B.Sc.N. Programme

BASIC (A) STREAM (6390)
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 programme. 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
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. For some courses, the amount of duplication of required content will preclude their being used for elective credit in the B.Sc.N. programme.

LEVEL I: 33 UNITS
(Units graded: 33)
13 units  HTH SCI 1A06, 1B07
8 units  NURSING 1F04, 1G04
8 units  PSYCH 1A03 and 1AA3
6 units  Electives

LEVEL II: 31 UNITS
(Units graded: 25; Units pass/fail: 6)
8 units  HTH SCI 2B08
14 units  NURSING 2L03, 2M03, 2N03, 2P03, 2Q02
9 units  Electives

LEVEL III: 32 UNITS
(Units graded: 25; Units pass/fail: 8)
7 units  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 4A02, 4E03, 4F03, 4J07, 4K07
6 units  Electives

TOTAL UNITS: 125

REGISTRATION TO PRACTISE NURSING
On receiving the B.Sc.N. degree after successful completion of the (A) stream of the B.Sc.N. programme, graduates are eligible to write the RN Licensing Examinations which are administered by the College of Nurses of Ontario. Application to write the RN Licensing Examinations is made through the Faculty of Health Sciences.

DIPLOMA RN (B) STREAM (6391)
The programme 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 two full calendar years 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 programme requirements.

Each level of the programme will consist of eight months of academic study with concurrent clinical practice.

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. For some courses, the amount of duplication of required content will preclude their being used for elective credit in the B.Sc.N. programme.

ADVANCED CREDIT: 33 UNITS
LEVEL III: 45 UNITS
(Terms graded: 40; Units pass/fail: 5)

TERMS 1 AND 2: 33 UNITS
17 units  HTH SCI 1A06, 1Z04, 3B03, 3C04
16 units  NURSING 3L02, 3M05, 3MM3, 3S03, 3T03

SPRING TERM: 6 UNITS
6 units  Electives

SUMMER TERM: 6 UNITS
6 units  Electives

LEVEL IV: 47 UNITS
(Units graded: 35; Units pass/fail: 12)

TERMS 1 AND 2: 29 UNITS
9 units  HTH SCI 2C07, 4L02
20 units  NURSING 4A02, 4E03, 4F03, 4S06, 4T06

SPRING TERM: 6 UNITS
6 units  Electives

SUMMER TERM: 6 UNITS
6 units  Electives

ADDITIONAL ELECTIVES (ANY TERM): 6 UNITS
6 units  Electives

TOTAL UNITS: 125

DIPLOMA RN/NURSE PRACTITIONER (C) STREAM
AND NURSE PRACTITIONER CERTIFICATE STREAM
This programme has been developed by a provincial consortium of ten Ontario universities offering one standardized curriculum since 1995.

The programme prepares students with a nursing diploma or a nursing baccalaureate with relevant experience to provide individuals, families and communities with the five basic components of comprehensive primary health care services (promotion, prevention, cure, rehabilitation and support) within an extended scope of nursing. Computer and Internet access is mandatory.
With existing funding, all Nurse Practitioner courses must be completed by August 2003. Full-time BScN/NP students attend classes for 24 consecutive months. Full-time certification NP students must attend classes for 12 consecutive months. Once NP core courses are started, the five courses must be completed within three calendar years.

DIPLOMA RN/NURSE PRACTITIONER (C) STREAM (6397)
ADVANCED CREDIT: 29 UNITS
LEVEL III: 50 UNITS
(Terms graded: 50)

TERMS 1 AND 2: 35 UNITS
21 units  HTH SCI 1C07, 2C07, 3B03, 3C04
8 units  NURSING 3S03, 3T03, 4A02
6 units  Electives

SUMMER TERM: 15 UNITS
15 units  Electives

LEVEL IV: 47 UNITS
(Units graded: 47)

TERMS 1 AND 2: 34 UNITS
2 units  HTH SCI 4L02
26 units  NURSPRAC 4A01, 4P03, 4R03, 4T10
6 units  Electives
The programme has been developed within the context of the existing post diploma stream. The McMaster model of Nursing and philosophy of student-centered and problem-based learning are maintained and provide the foundation for curriculum design. Key aspects of the programme include professional role development, evidence based practice, and development of assessment, communication, supportive care and collaborative practice skills.

The Adult Oncology programme is offered to nurses within the province of Ontario and will be made accessible through a distance education format.

**CURRICULUM**

<table>
<thead>
<tr>
<th>Units graded: 10; Units pass/fail: 10</th>
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<tbody>
<tr>
<td>3 units NURSING 3CC3</td>
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<tr>
<td>3 units NURSING 3DD3</td>
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<tr>
<td>5 units NURSING 3LL2, 3MM3</td>
</tr>
<tr>
<td>5 units NURSING 3HH5</td>
</tr>
<tr>
<td>4 units HTH SCI 3C04</td>
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**TOTAL UNITS: 20**

Students who are subsequently admitted to the Post Diploma (B) Stream of the B.Sc.N. programme will be granted credit for these courses (or their equivalent) in the B.Sc.N. programme.

**Paediatric Oncology Programme**

In order to accommodate the educational needs of registered nurses working in paediatric oncology, a programme has been developed within the context of the existing post-diploma stream. This programme affirms the McMaster curriculum model of student-centered, problem-based or problem-focused teaching and learning; respect for the adult learner, a curriculum cognizant of and responsive to evolving nursing practice, a commitment to interprofessional approaches and a commitment to a strong scientific component. Students enrolled in the programme will be actively linked with one of the provincial tertiary paediatric haematology-oncology sites and maintain their clinical practice at that institution. The courses themselves will emphasize the existing literature and practice modalities in paediatric haematology-oncology and incorporate these into some of the present post-diploma baccalaureate courses. Some courses are available using a distance education modality.

**CURRICULUM**

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<tr>
<th>Units graded: 10; Units pass/fail: 10</th>
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<tbody>
<tr>
<td>3 units NURSING 3P03</td>
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<td>3 units NURSING 3Q03</td>
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<td>5 units NURSING 3LL2, 3MM3</td>
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<tr>
<td>5 units NURSING 3WG5</td>
</tr>
<tr>
<td>4 units HTH SCI 3C04</td>
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**TOTAL UNITS: 20**

Students who are subsequently admitted to the Post Diploma (B) Stream of the B.Sc.N. programme will be granted credit for these courses (or their equivalent) in the B.Sc.N. programme.

**SCHOOL OF REHABILITATION SCIENCE**

**WEB ADDRESS:** http://www-fhs.mcmaster.ca/rehab

McMaster University offers two Bachelor of Health Science (B.H.Sc.) second-degree programmes in Occupational Therapy and Physiotherapy. McMaster will no longer offer the B.H.Sc. degree completion programme for those who currently hold a diploma from Mohawk College in Occupational Therapy or Physiotherapy.

**B.H.Sc. (OT/PT) Second Degree Programmes**

The two second degree programmes, offered in collaboration with Lakehead University, have been designed to graduate therapists in two calendar years. These graduates will possess the knowledge, skills and professional behaviour to practice in a complete range of settings in either urban or rural locations. The collaboration with Lakehead University will add a further dimension, that of understanding the specific health issues unique to northern Ontario, as well as an awareness of the career opportunities available in these regions.

The content of the curricula is in accordance with accreditation guidelines and the scope of practice as described by each of the professions. Students are expected to achieve a sense of the influence of family, society, and culture as they explore the mechanisms of health, disease, disability, prevention and treatment.
The aim of the Bachelor of Health Sciences programmes in Occupational Therapy and Physiotherapy is to provide students with the opportunity to build on their first degree and to acquire a professional education. Upon graduation they will be able to function as competent basic-level clinicians in a variety of hospital and/or community health settings. Competence entails the integration of knowledge, skills, and professional behaviour in order to analyze and manage health problems.

PROGRAMME GOALS

The B.H.Sc. programmes in Occupational Therapy and Physiotherapy allow graduates to practise their disciplines with the following skills:

> KNOWLEDGE
1. understand and apply the theoretical and scientific bases of Occupational Therapy or Physiotherapy;
2. understand the biological, social, cultural and environmental determinants of health, and their relationship with one another;
3. understand the basic principles and methods of scientific inquiry and critical appraisal;
4. understand the importance of disease prevention, health maintenance, health promotion and treatment;
5. understand the factors which affect health policy and the delivery of health care;
6. understand change.

> SKILLS
1. demonstrate clinical reasoning while managing health-care problems;
2. demonstrate competence in assessment and treatment techniques in Occupational Therapy or Physiotherapy;
3. demonstrate effective oral and written communication skills;
4. function as members of an interdisciplinary health-care team;
5. implement programmes for prevention, health maintenance and health promotion;
6. function in advocacy roles in order to enhance quality of life;
7. demonstrate teaching and supervisory skills in professional practice;
8. demonstrate critical thinking and critical appraisal skills;
9. assess effectiveness of professional practice;
10. adapt to and initiate change.

> PERSONAL QUALITIES
1. recognize, develop and maintain the personal qualities that are required for professional life:
   a) respect for each person's individuality;
   b) empathy in client relationships;
   c) ethical and professional behaviour;
   d) self-appraisal of personal attributes in order to build on strengths and overcome weaknesses.
2. function as self-directed, life-long learners and leaders in the profession.

Curriculum Design

The curricula of both programmes emphasize that the process of learning is equal in importance to the content. The learning methods are, therefore, based on the philosophies of self-directed and problem-based learning:

> Problem-Based Tutorials
Problem-based learning takes place in small groups in which a tutor acts as a facilitator of student learning. Students are presented with health-care problems that have been carefully designed and selected for each unit. These problems promote the exploration of the underlying biological, psychological, and behavioural determinants of health as well as the principles of therapy. Large group interactive resource sessions may be offered to enhance access to content experts and other resources.
Students learn and practice group skills, share knowledge, become comfortable with changing leadership positions, and give and receive feedback.

The size of tutorial groups may vary from five to seven students. Tutorial group membership is changed for each unit in the programme in order to maximize interaction among students and faculty.

Tutors are usually occupational therapists or physiotherapists who are knowledgeable in the content area of the unit, and expert in tutoring in a problem-based format. The same tutor meets regularly with the group throughout the unit. Tutors also serve as role models in the professional socialization process.

Clinical Skills Laboratories
Clinical skills laboratories use a variety of formats to help students learn the clinical skills of assessment, treatment and other aspects of clinical practice. Laboratory sessions are designed to complement the health-care problems used in problem-based tutorials. The clinical skills learned in the laboratory section of each unit are applied and integrated into the clinical education component of the specialty units.

The focus of clinical skills laboratories changes through the units. Unit I stresses basic clinical skills, Units II through V focus on specialty areas of practice, and Unit VI is designed to develop skills in consultation, administration, and other advanced clinical skills.

Inquiry Seminars
These seminars are designed to provide opportunities to explore and discuss major topic areas and theoretical concepts which are central to the development and practice of the professions. Presentations by content experts, small-group problem-solving, and large-group discussion are utilized to provide the means and impetus for these investigations.

Topics chosen for inquiry seminars are used to complement the major themes in each programme unit and may vary from year to year. The seminar leaders include faculty members and experts from the community.

Clinical Education
Students spend a total of 30 weeks in full-time clinical practice. Clinical education is organized in a variety of health-care facilities including teaching hospitals, community hospitals, health-care agencies, specialized centres, private clinics, and other community facilities throughout Ontario. Students integrate academic learning into practice under the supervision of qualified therapists.

The Academic Coordinator of Clinical Education (OT) or University Fieldwork Coordinator (OT) is responsible for arranging all clinical placements. No student may make her/his own arrangements with any clinical facility.

Placements are limited and subject to availability. Therefore, students will be required to complete some clinical education units in Northwestern Ontario or elsewhere outside of the Hamilton area.

The students are expected to provide their own means of transportation to each clinical facility and to cover costs of travel and parking. Travel to and from the cities where clinical placements will be offered in Northwestern Ontario will be arranged by the Northern Studies Stream, through funding made available through the Ontario Ministry of Health.

Students will be assessed an additional fee for the use of the computerized clinical placement service of the Canadian Association of Occupational Therapists. All students are required to agree to the terms and conditions of the clinical education/fieldwork placements.

Research Internship
An independent study is completed during Unit VI. It may consist of an extensive literature review on a selected topic, a simple research design/proposal, or participation in an ongoing research study or clinical project. Evaluation of the independent study is based on a learning contract which is negotiated by the student with a faculty member during Unit V.

Student Evaluation Methods
A variety of methods are used to assess student performance throughout the programmes, including written and oral evaluations, presentations, and tests of clinical skills.

Admission Policy and Procedure
Enrolment in the second-degree programmes in Occupational Therapy or Physiotherapy is limited to 60 in each programme. Final selection of applicants for admission is made by McMaster University. The admission process considers academic achievement, personal qualities and experience. Personal qualities and experience are assessed on the basis of an autobiographical submission and a personal interview. Assessors are drawn from the faculty, the community, and students.

ELIGIBILITY
Applicants must:
1. At the time of application, for September 1999, have achieved a minimum grade point average of B- or 70% (2.7 on the 4 point grade scale) over the last two years of full-time academic study or the equivalent. Effective September 2000, the minimum grade point average will be raised to a B or 75% (3.0 on the 4 point grade scale).
2. By June 30 in the year of admission, have completed an undergraduate degree at a recognized university, and have achieved/maintained a minimum overall grade point average of B- or 70% over the last two years of full-time academic study or the equivalent.

For those who have pursued their undergraduate degree on a part-time basis, eligibility assessment will be made using the courses equivalent to the last two years.

No preference will be given for any specific subject area in which the degree has been pursued.

Non-convertible grades will be assessed according to the policies and guidelines of the School of Rehabilitation Science, Faculty of Health Sciences.

APPLICATION PROCEDURE
Application packages with detailed instructions are available from:

OFFICE OF THE REGISTRAR
McMASTER UNIVERSITY
GILMOUR HALL, ROOM 108
HAMILTON, ONTARIO, L8S 4L8

or

REGISTRAR'S OFFICE, LAKEHEAD UNIVERSITY
The procedures outlined below must be followed:

a) The QUAC 1050 application form and application fee must be submitted to the Ontario Universities’ Application Centre on or before December 1. A supplementary application form, consisting of the items in b) and c) below, will be mailed upon receipt of the QUAC application.

b) The autobiographical submission, the academic record form, and the $50 assessment fee must be submitted directly to Admissions, OT/PT Building, McMaster University on or before the date in January specified in the application package.

c) Transcripts for all university degree credit courses and programmes in which the applicant has been enrolled must be submitted directly to Admissions, OT/PT Building, McMaster University on or before the date in January specified in the application package.

Academically eligible applicants are ranked on the basis of their grade point average over the last 2 years of full-time university study or the equivalent. The score on their autobiographical submission. Those ranked among the top applicants to each of the Occupational Therapy and Physiotherapy programmes are invited for a personal interview.

Interviews are conducted between April 1 and May 15 in either Hamilton or Thunder Bay, according to the applicant's preference. Applicants invited to an interview are notified approximately three weeks in advance of their interview. All applicants are responsible for their own travel costs to and from the interview.

All applicants will be notified of the admission decision by June 1.

DEFERRAL OF REGISTRATION
All applications received by the deadline are considered only for admission in the fall of the same calendar year. Applicants who cannot enter the programme as planned in September of that year may withdraw their application or decline their offer of admission at any time without penalty. Application fees cannot be refunded. Subsequent applications to the programmes will be accepted without prejudice.
Deferred registration is normally not granted. Under exceptional circumstances, candidates who have been offered admission may write a letter to the Programme Chair requesting deferral and stating their reasons. If deferral is granted, the individual must register in the following academic year i.e. the approval to defer registration is limited to one year.

**FINANCIAL INFORMATION**

In 1998-99, the academic fees (tuition and supplementary fees) for a student in the McMaster Undergraduate Occupational Therapy or Physiotherapy Second-Degree programmes were approximately $6,500 for three terms, September to August. It is estimated that books and supplies cost an additional $1,500 and in-transit placement costs approximately $2000 annually.

Financial difficulties are frequently experienced by second degree students. For these programmes difficulties are intensified by the lack of opportunity for summer employment as well as the relative scarcity of financial assistance available to second-degree students.

Financial assistance may be available from the federal and provincial governments through the Ontario Student Assistance Programme (OSAP). To be eligible, a student must be a Canadian citizen or permanent resident of Canada and fulfill certain requirements for residency in Ontario.

**Academic Regulations**

Students in the B.H.Sc.(OT) and B.H.Sc.(PT) programmes, in addition to meeting the general University academic regulations, must follow these specific programme requirements.

Registration in the B.H.Sc.(OT) and B.H.Sc.(PT) programmes implies acceptance on the part of the student of the objectives of that programme and the method by which progress towards those objectives is measured. The University reserves the right to cancel the academic privileges of any student at any time that the student's scholastic record or conduct warrants doing so. Where the performance of the student in a clinical setting may jeopardize or endanger the welfare or safety of a patient or a patient's family, the student may be removed from the clinical setting at any time during the academic year, until continuation in the course is reviewed.

**COURSE LOAD**

All courses are required. No exemptions or substitutions will be granted. All course work toward the B.H.Sc.(PT) and B.H.Sc.(OT) must be completed as McMaster University courses. A student may not take a course load consisting of a partial unit. All courses within each unit must be taken concurrently.

**DEANS' HONOUR LIST**

Students will be evaluated for standing on the Deans' Honour List only upon completion of the programme. Students will be named to the Deans' Honour List if they receive no failing or remedial course grades throughout the programme, and achieve a minimum average of 95%, calculated using the grades on all courses taken throughout the programme.

**CONTINUATION IN THE PROGRAMME**

Students are reviewed at the end of each unit, and at the end of the academic component in each of the specialty units (Units II to V). A student must achieve a grade of at least C- in every course at each review to continue in the programme. A grade of F in any course results in a student being required to withdraw from the programme.

A student who obtains a credit for a course, but achieves a grade below C-, is required to successfully complete remedial work in order to continue in the programme. Upon successful completion of the remedial work, the new grade assigned for the course is C- in that course only. The remedial work must be completed prior to the beginning of the next unit unless otherwise specified by the Programme Academic Review Committee. If the remedial work is not successfully completed, the original grade will stand, and the student will be required to withdraw from the programme.

A student is allowed to do remedial work only twice during the programme. Upon the third time that credit is obtained in a course but the grade is below C-, the student is not allowed to perform remedial work, and is required to withdraw from the programme.

The first time a student becomes ineligible for continuation in the programme or voluntarily withdraws from the programme, he/she is permitted to apply for readmission in writing to the Programme Chair. The request must be made at least three months prior to the beginning of the unit to which the student is requesting readmission. The request must be made at least three months prior to the beginning of the unit to which the student is requesting readmission. Readmission will be dependent on availability of space in the unit to which the student wishes to return and evidence of readiness to return as assessed by the Programme Academic Review Committee. Normally, a student who is readmitted to the programme must repeat all courses of the unit in which he/she became ineligible to continue. A student who voluntarily withdraws from the programme is normally required to complete Unit I before permission to re-enter the programme is given.

A student who either becomes ineligible for continuation in the programme or who voluntarily withdraws from the programme a second time, may reapply only through the regular admissions process.

The latest possible date for readmission is two years from the beginning of the unit from which the student withdrew.

**Programmes**

**B.H.Sc.(OT)**

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<th>YEAR I: 47 UNITS</th>
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<td>Unit I</td>
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**B.H.Sc.(PT)**

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**Honours Biology and Pharmacology Programme (Co-op)**

This is a joint programme 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 for admission requirements.
The Humanities at McMaster partake in a distinguished tradition. Our subjects – languages and literatures, history and philosophy, art, drama, music and women’s studies – are crucial to self-knowledge and social awareness. They also develop the intellectual skills – critical and creative thinking, oral and written communication, understanding other people – that are vital in a knowledge society. Our faculty members are dedicated scholars who are eager to share their knowledge. We welcome students and scholars who aspire to excellence in the fine and performing arts, who want deeper understanding of other cultures and mastery of their languages, or who desire to pursue classical, historical or philosophical studies.

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 Art, Drama and Music
- Department of Cultural Studies (Ancient History and Archaeology, Classical Languages and Literature)
- Department of English
- Department of French
- Department of History
- Department of Modern Languages (German, Hispanic Studies, Italian, Japanese, Russian)
- Department of Philosophy

In addition, the Faculty offers the following interdepartmental programmes:
- Combined Honours in Comparative Literature
- Honours Linguistics
- Honours Modern Languages
- Honours Modern Languages and Linguistics
- Combined Honours in Multimedia
- Combined Honours in Women’s Studies

**PROGRAMMES AND DEGREES**

**A. Level I Programmes**

**HUMANITIES I**

**PROGRAMME NOTES**

1. The Faculty offers INQUIRY 1HU3, Inquiry in the Humanities. Humanities I students may choose this course as an elective. For a course description, see Inquiry or Humanities in the Course Listings section of this Calendar.

2. Humanities I students are restricted to taking no more than six units of work in any single subject, except in the case of CLASSICS 1B06 and 1L06.

3. Students with an OAC in Greek or Latin will register for six units of Level II Greek or Latin in lieu of the 1Z06 course.

4. Humanities I students are restricted to taking no more than 12 units of introductory (1Z06) language courses.

5. **Portfolio Required: ART 1F06** The prerequisite for ART 1F06 requires permission of the School of Art, Drama and Music based on a required portfolio interview. If you intend to take ART 1F06 which is required for entrance into any Honours Art programme, you must make an appointment with the School for a portfolio interview in February/March of the calendar year in which you wish to register for the programme. The portfolio should contain a variety of original work in different media, including work which you have done on your own, including work derived from both first-hand observation and the imagination. Aptitude in art and academic ability are both considered in the selection process. In exceptional circumstances, where distance does not allow for an interview, portfolios may be submitted by email. Late applications will be considered subject to space availability and merit after the first allocations have been confirmed in June. Acceptance into ART 1F06 is contingent upon receiving a written confirmation from the School of Art, Drama and Music.

6. Students wishing to take Music courses other than MUSIC 1A06 must make arrangements with the School of Art, Drama and Music for qualifying tests.

**REQUIREMENTS:**

Students admitted to Humanities I (0700) must complete 30 units as follows:

- **18 units**
  - from ART 1F06; ART HIST 1A06; CAYUGA 1Z06; CLASSICS 1B06, 1L06; COMP LIT 1A06; DRAMA 1A06; ENGLISH 1D06; FRENCH 1A06, 1N06, 1Z06; GERMAN 1B06, 1Z06; GREEK 1Z06; HISPANIC 1A06, 1Z06; HISTORY 1A06, 1L06; ITALIAN 1A06, 1Z06, 1Z26; JAPANESE 1Z06; LATIN 1Z06; LINGUIST 1A06; MMEDIA 1A03, 1B03, 1C03; MCHAWK 1Z06; MUSIC 1A06, 1B05, 1C03, 1D03; Pop. Music.
  - Required: ART 1F06
  - Electives, which may include INQUIRY 1HU3

**MUSIC I**

**REQUIREMENTS**

Students admitted to Music I (0370) must complete 33 units of work as follows:

- **21 units** MUSIC 1B06, 1CC3, 1D03, 1E06, 1G03
- **12 units** Electives, which may include INQUIRY 1HU3

**B. Degree Programmes**

Upon successful completion of Humanities I, a student may be admitted to a programme of study leading toward a Bachelor of Arts degree. (Completion of Music I may lead to a Bachelor of Music or Bachelor of Arts degree.) There are three ways to complete a Bachelor’s degree in the Faculty of Humanities.

**SINGLE HONOURS PROGRAMME**

This involves three years of study, beyond Level I, concentrated in the work of a single discipline (e.g. History). After three years of Music study beyond Music I, students receive a B.Mus. degree.

**COMBINED HONOURS PROGRAMME**

This involves three years of study, beyond Level I, concentrated in the work of two disciplines (e.g. English and Women’s Studies). In fact, a student can combine study in any two Humanities disciplines, or one Humanities discipline and a subject from another Faculty where appropriate (e.g. History and Political Science) or one Humanities discipline with Japanese Studies.

**MINOR**

A minor is an option available to student enrolled in a four- level programme. A minor consists of at least 18 units of Level II, III, or IV courses beyond the designated Level I course(s), using elective units only, that meet the requirements set out in the programme description of that minor. A student is responsible for ensuring that the courses taken meet these requirements. When
registering for courses to be applied towards a minor, 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. Minors cannot be revoked once approved, nor applied for retroactively. 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.

B.A. PROGRAMME

This involves two years of study, beyond Level I, concentrated in the work of a single discipline.

The content and the requirements of single Honours, Combined Honours and other B.A. programmes are found after the Academic Regulations below.

There are a number of Humanities courses which may be taken as electives without prerequisites. Individual course descriptions, by Department, are given under the section entitled Course Listings.

Not only are students from other Faculties able to take individual courses which have no prerequisites, but they are also able to transfer into any of the degree programmes offered by the Faculty of Humanities. For the majority of programmes in the Faculty, admission may be gained after the successful completion of any Level I programme at the university, providing this includes the necessary programme requisites as outlined in the admission statement for each Humanities programme as described under Programmes for the B.A., B.A. (Honours) and B.Mus. Degrees.

SECOND LANGUAGE PROFICIENCY

Students embarking on Humanities programmes should be aware that most graduate schools require, for admission, proficiency in accompanying documentation. Reinstatement is not guaranteed. The content and the requirements of single Honours, Combined Honours and other B.A. programmes are found after the Academic Regulations below.

Applications should explain the reasons for the student’s inad­equate performance, corroborated by two Letters of Reference, and should include relevant 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. Reinstatement is not guaranteed.

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.

REGISTRATION AND COURSE CHANGES

It is the responsibility of the student to ensure that the programme of work undertaken meets the requirements for the degree. When registering or making changes to course selection, students must seek the written approval of the Associate Dean (Studies). Dates for final registration and course changes appear in the Sessional Dates section of this Calendar and are rigidly adhered to.

SUMMER IMMERSION PROGRAMMES IN FRENCH

Students must obtain approval from the Associate Dean (Studies) prior to participating in any language immersion programme. The government-sponsored summer language bursary programme 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 programme must: (a) petition the Associate Dean (Studies), (b) submit detailed course descriptions for assessment, and (c) obtain a Letter of Permission.

Students registered in a programme in French may take a maximum of six units of credit in this manner as elective work only. Students not registered in a programme in French may take up to 12 units of credit.

EXCHANGE PROGRAMMES WITHIN CANADA

For information on the Group of Ten Student Exchange Programme (GOTSEP), please refer to the Academic Facilities, Student Services and Organizations section of this Calendar under the heading Student Exchanges.

THIRD YEAR STUDY ELSEWHERE/HUMANITIES STUDY ABROAD

There are two ways to undertake international studies during Level III of an Honours programme: (i) a Formal Exchange Programme or (ii) a Third Year Study Elsewhere Programme.

(i) Formal Exchange Programme

During Level III of Honours Programmes

Formal Exchange Programmes 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 Programme

Qualified Level III students may undertake studies at a university abroad for one or two terms in the Third Year Study Elsewhere Programme. This programme is not available at universities with which McMaster University has a Formal Exchange Agreement.

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

Students registered in any Honours or Combined Honours programme in the Faculty of Humanities may apply to replace all or part of the work of their third year with an acceptable programme of study taken at a university or equivalent institution approved by the Faculty of Humanities.

To be eligible to take part in this programme, students must have completed at least 60 units of work with a Cumulative Average of at least 7.0. Individual programmes may have additional requirements. All requirements must be satisfied by the end of the Fall/Winter session (September-April) preceding the commencement
of study elsewhere. Students taking part in this programme do not have the option of graduating with a three-year B.A. degree on the basis of work completed in this programme, but must return to McMaster University to complete their final 30 units of work. Students may receive up to 30 units of credit for a full year of study at another institution. The awarding of all credit for work completed elsewhere may be confirmed only after departments have received transcripts and reviewed students' academic achievements following their return and after they have officially registered for Level IV. In certain cases, students may be recommended for the Deans' Honour List on the basis of work completed elsewhere.

APPLICATION
Students interested in applying for this programme should consult the Coordinator, Humanities Study Abroad, Togo Salmon Hall, Room 607, and the students' department(s) of 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 II). A plan for the completion of the academic programme, approved by the programme coordinator(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.

SPRING COUNSELLING
During the Spring Counselling period:
1. Information sessions are held by departments in the Faculty of Humanities to discuss undergraduate programmes, course offerings for the next academic session, etc.;
2. Students seeking admission to a Level II programme for the following Fall/Winter session must complete an Application for Admission to Level II available in the Humanities Faculty Office in Charles Hall, Room 112;
3. Students in Levels I, II, or IV obtain a copy of the new Undergraduate Calendar from the Office of the Registrar and updated Degree Audit Reports from the department offering the programme in which they are registered.
   The dates for the Spring Counselling period may vary somewhat from year to year; however, the specific dates and information with respect to any particular university programme will be announced in advance and will be announced in some cases. It is the student's responsibility to participate in these counselling activities.

SCHOOL OF ART, DRAMA AND MUSIC

WEB ADDRESS:
http://www.humanities.mcmaster.ca/-sadm/sadmhome.htm

The School of Art, Drama and Music offers programmes in:
- Art
- Art History
- Drama
- Multimedia
- Music
In addition, Minors are available in: Art History, Drama, Film and Music.

Programmes 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 programmes 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 programme.

Honours Art

Students wishing to enter this programme must complete an Application for Admission to Level II in mid-March in order to be considered for admission.

ADMISSION
Enrolment in Honours Art is limited. Selection is based on academic achievement but requires, as a minimum, completion of any Level I programme and:
(a) a Cumulative Average of at least 6.0, (b) a grade of at least B- in ART 1F06; and (c) the successful completion of ART HIST 1A03 and 1AA3 or 1A06.

NOTES
1. Students in Honours Art must complete ART 2A06, 2B06, 2C06, and 2F06 before registering in Level III or IV Art courses.
2. Students must achieve a minimum grade of B- in ART 3E06 or 3G06 before registering in ART 4E12.
3. Students wishing to obtain a Minor in Art History should note that six, and only six, units of Art History required in the Art programme may be counted toward the Minor of 24 units.
4. Students wishing to obtain a Minor in Film should note that 24 units of Film courses, listed under Drama courses, are required.

REQUIREMENTS
120 units total (Levels I-IV)
30 units from the Level I programme completed prior to admission into the programme
51 units ART 2A06, 2B06, 2C06, 2F06, 3C03, 3D03, 3DD3, 3E06, 4E12
6 units from ART 3A03, 3B03, 3P03, SADM 3A03 or 4A03
9 units ART HIST 2A03, 2D03, 3AA3
9 units Levels III and IV Art History
18 units Electives

Combined Honours in Art and Another Subject
Students wishing to enter this programme must complete an Application for Admission to Level II in mid-March in order to be considered for admission.

ADMISSION
Enrolment in this programme is limited. Selection is based on academic achievement but requires, as a minimum, completion of any Level I programme and:
(a) a Cumulative Average of at least 6.0, (b) a grade of at least B- in ART 1F06; and (c) the successful completion of ART HIST 1A03 and 1AA3 or 1A06.

NOTES
1. Students in Combined Honours Art must complete ART 2A06, 2B06, 2C06 and 2F06 before registering in Level III or IV Art courses.
2. Students are advised of the availability of SADM 4A03 which may be taken for programme credit.
3. Students wishing to substitute ART 4E12 for ART 4C06 must seek permission of the Studio Committee of Instruction.

REQUIREMENTS
120 units total (Levels I-IV)
30 units from the Level I programme completed prior to admission into the programme
39 units ART 2A06, 2B06, 2C06, 2F06, 3D03, 3E06, 4C06
6 units ART HIST 2D03, 3AA3
36 units Courses specified for the other subject. (Combinations with Social Sciences may require more than 36 units.)
9 units Electives

Honours Art History

Students wishing to enter this programme must complete an Application for Admission to Level II in mid-March in order to be considered for admission.

ADMISSION
Completion of any Level I programme and a Cumulative Average of at least 6.0 including a grade of at least B- in ART HIST 1A03 and 1AA3 or 1A06.

NOTES
1. Before choosing Level III courses, students should become familiar with the prerequisites for Level IV courses.
2. Art History students may wish to pursue a Minor in Film by completing 24 units of Film courses listed under Drama courses.

REQUIREMENTS
120 units total (Levels I-IV)
30 units from the Level I programme completed prior to admission into the programme
21 units ART HIST 2A03, 2B03, 2C03, 2D03, 2E03, 2I03, 3P03
9 units Level III Art History
9 units Levels III and IV Art History
6 units from ART HIST 4A03, 4B03, 4C03, 4E03, 4H03, 4V03, 4X03
45 units Electives
Combined Honours in Art History and Another Subject

Students wishing to enter this programme must complete an Application for Admission to Level II in mid-March in order to be considered for admission.

ADMISSION

Completion of any Level I programme and a Cumulative Average of at least 6.0 including a grade of at least B- in ART HIST 1A03 and 1AA3 or 1A06.

NOTE

Before choosing Level III courses, students should become familiar with the prerequisites for Level IV courses.

REQUIREMENTS

120 units total (Levels I-IV)

- 30 units from the Level I programme completed prior to admission into the programme
- 21 units ART HIST 2A03, 2B03, 2C03, 2D03, 2E03, 2103, 3P03
- 6 units Level III Art History
- 3 units from ART HIST 4AA3, 4BB3, 4C03, 4E03, 4H03, 4V03, 4X03
- 6 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

B.A. in Art History

Students wishing to enter this programme must complete an Application for Admission to Level II in mid-March in order to be considered for admission.

ADMISSION

Completion of any Level I programme and a Cumulative Average of at least 3.5 including a grade of at least C- in ART HIST 1A03 and 1AA3 or 1A06.

REQUIREMENTS

90 units total (Levels I-III)

- 30 units from the Level I programme completed prior to admission into the programme
- 15 units ART HIST 2A03, 2B03, 2C03, 2D03, 2103
- 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.

Programmes in Drama

NOTES

1. The School of Art, Drama and Music offers a broadly based programme of study in the history, theory, and critical understanding of the dramatic text. In performance, Programme 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 performance. A limited amount of student specialization within the programme is possible at this level. The Honours Seminars at Level IV focus on independent research and are restricted to Level IV Honours Drama students. 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. Students registered in Honours Drama are strongly urged to complete six units of non-introductory work in a language other than English. Students in Combined Honours are strongly urged to complete an introductory course in a language other than English (OAC level or equivalent).

Honours Drama

Students wishing to enter this programme must complete an Application for Admission to Level II in mid-March in order to be considered for admission.

ADMISSION

Completion of any Level I programme and a Cumulative Average of at least 3.5 including a grade of at least B- in DRAMA 1A06.

NOTES

1. A Minor in Film is not permitted in the Honours Drama programme.

2. A number of courses that directly pertain to the study of Drama are offered by other departments: Classics, English, French, Modern Languages, Kinesiology, and Women's Studies. These are recommended as electives listed at the end of the Drama course descriptions. Up to nine units from the list may be made available as substitutes for Drama courses, and counted toward the fulfillment of a programme in Drama. Students are advised that there may be restrictions on enrolment in these courses.

REQUIREMENTS

120 units total (Levels I-IV)

- 30 units from the Level I programme completed prior to admission into the programme
- 6 units from DRAMA 2D06 or 2M06
- 6 units Level II Drama
- 27 units Level III or IV Drama
- 6 units Level IV Drama including at least three units from DRAMA 4C03, 4CC3, 4E03, 4EE3, 4FF3
- 45 units Electives

Combined Honours in Drama and Another Subject

Students wishing to enter this programme must complete an Application for Admission to Level II in mid-March in order to be considered for admission.

ADMISSION

Completion of any Level I programme and a Cumulative Average of at least 6.0 including a grade of at least B- in DRAMA 1A06.

NOTES

1. A Minor in Film is not permitted in the Honours Drama programme.

2. A number of courses that directly pertain to the study of Drama are offered by other departments: Classics, English, French, Modern Languages, Kinesiology, and Women's Studies. These are recommended as electives listed at the end of the Drama course descriptions. Up to nine units from the list may be made available as substitutes for Drama courses, and counted toward the fulfillment of a programme in Drama. Students are advised that there may be restrictions on enrolment in these courses.

REQUIREMENTS

120 units total (Levels I-IV)

- 30 units from the Level I programme completed prior to admission into the programme
- 6 units from DRAMA 2D06 or 2M06
- 6 units Level II Drama
- 27 units Level III or IV Drama
- 6 units Level IV Drama including at least three units from DRAMA 4C03, 4CC3, 4E03, 4EE3, 4FF3
- 45 units Electives

B.A. in Drama

Students wishing to enter this programme must complete an Application for Admission to Level II in mid-March in order to be considered for admission.

ADMISSION

Completion of any Level I programme and a Cumulative Average of at least 3.5 including a grade of at least C- in DRAMA 1A06.

REQUIREMENTS

90 units total (Levels I-III)

- 30 units from the Level I programme completed prior to admission into the programme
- 15 units Level II Drama
- 12 units Level III or IV Drama
- 36 units Electives

NOTES
Minor in Drama
24 units of Drama, of which no more than six units may be from Level I.

Minor in Film
24 units of DRAMA 2X06, 3H03, 3J03, 3R03, 3RR3, 3T03, 3TT3

Multimedia Studies

WEB ADDRESS: http://www.humanities.mcmaster.ca/MMED/FA
Subject to final approval, beginning in the 1999-2000 academic year, the School of Art, Drama and Music will offer the following new programme.

Combined Honours B.A. in Multimedia and Another Subject

Students wishing to enter this programme must complete an Application for Admission to Level II in mid-March in order to be considered for admission.

ADMISSION
Enrolment in this programme is limited. Selection is based on academic achievement but requires, as a minimum, completion of any Level I programme and a Cumulative Average of at least 6.0 including a grade of at least B- in each of two courses from MMEDIA 1A03, 1B03, and 1C03 (formerly HUMAN 1A03, 2E03, and 2H03).

COURSE LIST 1
COMP SCI 1MC3, 1MD3, 1SA3, 2SC3, 3SE3; MMEDIA 2D03, 2E03, 2F03, 2G03, 2H03, 2I03, 3C03, 3D03, 3E03, 3F03, 4C03, 4D03

REQUIREMENTS
30 units from the Level I programme completed prior to admission into the programme (including two of MMEDIA 1A03, 1B03, or 1C03)
24 units MMEDIA 2A03, 2B03, 2C06, 3A03, 3B03, 4A03, 4B03
12 units from Course List 1
36 units Courses specified for the other subject
18 units Electives to total 120 units

Programmes in Music

NOTES
1. Completion of a Music degree requires considerable daytime attendance.
2. Normally, students with an undergraduate degree in Music will not be admitted to a B.Mus. degree programme as a second undergraduate degree.

MUSIC I

REQUIREMENTS
Students admitted to Music I must complete 33 units of work as follows:
21 units MUSIC 1B06, 1CC3, 1D03, 1E06, 1GG3
12 units Electives, which may include INQUIRY 1HU3

STUDENTS WHO ENTERED A MUSIC PROGRAMME PRIOR TO SEPTEMBER 1997 SHOULD CONTACT THE MUSIC COUNSELLOR FOR WAYS OF MEETING THEIR PROGRAMME REQUIREMENTS.

Honours Music (B.Mus.)

Students wishing to enter this programme must complete an Application for Admission to Level II in mid-March in order 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, 3D03, 3J03, 3L03, 3M03, 3N03, 3P03, 3V03, 4K03, 4L03, 4M03, 4N03, 4O03, 4P03, 4Q03

COURSE LIST 2
MUSIC 2B03, 2BB3, 2C03, 2H03, 2I03, 3G03, 3T03, 3U03, 4G03, 4H03, 4I03

COURSE LIST 3
SADM 3A03, 4A03, MUSIC 2AA3, 3G03, 3T03, 3U03, 4G03, 4S03, 4U03, 4X03, 4Z03

COURSE LIST 4
MUSIC 3E03, 3E06, 4E03, 4E06
(Lesson fees are charged to students taking these courses).

REQUIREMENTS
123 units total (Levels I-IV)
33 units Music I
27 units MUSIC 2B03, 2B06, 2BB3, 2C03, 2CC3, 2D03, 2E06, 2G03, 2H03
21 units from Course Lists 1 and 2
12 units from Course Lists 3 and 4
30 units Electives

Combined Honours B.A. in Music and Another Subject

Students wishing to enter this programme must complete an Application for Admission to Level II in mid-March in order to be considered for admission.

ADMISSION
Completion of Music I and a Cumulative Average of at least 6.0.

COURSE LIST 1
SADM 4A03 and all Level III and IV Music courses except MUSIC 3T03, 3U03, 4X03

COURSE LIST 2
MUSIC 2AA3, 2G03, 3T03, 3U03, 4X03, SADM 3A03

REQUIREMENTS
120 units total (Levels I to IV)
33 units Music I programme
24 units MUSIC 2B06, 2BB3, 2C03, 2CC3, 2D03, 2E06, 2H03
12 units from Course List 1
6 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.)
9 units Electives

B.A. in Music

Students wishing to enter this programme must complete an Application for Admission to Level II in mid-March in order to be considered for admission.

ADMISSION
Completion of Music I and a Cumulative Average of at least 3.5.

NOTE
Students from another Level I programme may be admitted with a Cumulative average of at least 3.5, a grade of at least C+ in MUSIC 1A06, and a successful audition.

COURSE LIST 1
SADM 3A03 and all Level II, III and IV Music courses, except MUSIC 2G03, 3G03, 4G03.

REQUIREMENTS
90 units total (Levels I-II)
33 units Music I programme
15 units MUSIC 2B03, 2B06, 2BB3, 2CC3, 2D03, 2H03
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 an Honours Music degree programme at McMaster; and
2. Students enrolled in other McMaster degree programmes, as well as musicians in the community, such as graduates from the Royal Conservatory of Music, Mohawk College, etc., who wish to receive formal recognition for their musical achievements.

The Diploma will require completion of 30 units as follows:
- 18 units of MUSIC 1E06, 1G03, 2E06, 2G03
- 12 units from MUSIC 3E06, 3G03, 4E06, 4G03

Lesson fees: Lesson fees are charged over and above tuition for MUSIC 1E06, 2E06, 3E06 and 4E06. Students registered in Honours Music will not be charged extra fees for MUSIC 1E06 and 2E06.

For those registered in a degree programme at McMaster University, the 12 units of Levels II and IV courses must be taken over and above the total number of units required for a McMaster degree.

Upon completion of the course work, students will be required to complete a recital presentation of approximately 40 minutes.

GROUP 1 - MCMASTER B.MUS. STUDENTS
Students who wish to receive a Diploma in Music Performance must have completed MUSIC 2E06 with a grade of at least A-. Students should request consideration, in writing, from the School of Art, Drama and Music by April 15 of their second year.

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);
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. Ear test appropriate to the Grade 8 performance level;
4. Written examination of rudiments of theory (Grade 2 level); and
5. Interview.

Auditions take place between January and March. Applicants must contact the School of Art, Drama and Music to arrange for an audition. Advanced credit, up to a maximum of 18 units, may be determined on an individual basis.

DEPARTMENT OF CLASSICS

WEB ADDRESS:
http://www.humanities.mcmaster.ca/~classics/classhome.htm

NOTES
1. Students in a Classics programme 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 Associate Dean of Humanities (Studies), students who have completed 60 units of work in any Honours programme 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 an approved Classical site. Consult the Department for further details.
4. Students intending to do graduate work in the field of Classics should note that most universities offering such programmes require undergraduate work in Greek and Latin for admission. These students are strongly encouraged to include Greek and Latin courses as early as possible in their programme.
5. Students intending to do graduate work in the field of Classics are strongly encouraged to include an independent study course (CLASSICS 4T03) in the final level of their programme.

Honours Classics

(PROGRAMME A: ANCIENT HISTORY AND ARCHAEOLOGY)
Students wishing to enter this programme must complete an Application for Admission to Level II in mid-March in order to be considered for admission.

ADMISSION
Completion of any Level I programme and a Cumulative Average of at least 6.0 including a grade of at least B- in one of CLASSICS 1B06 and 1L06, GREEK 1Z06 or LATIN 1Z06. (Students with OAC Ancient Greek may substitute six units of Level II Greek; students with OAC Latin may substitute six units of Level II Latin.)

REQUIREMENTS
120 units total (Levels I-IV)
- 30 units from the Level I programme completed prior to admission into the programme
- 24 units from CLASSICS 2A03, 2B03, 2C03, 2K03, 2L03, 2LL3, 2M03, 3C03, 3CC3, 3E03, 3EE3, 3G03, 3H03, 3LL3, 3M03, 3Q03, 3R03, 3S03, 3T03, 3U03, 3UV3
- 6 units from CLASSICS 4B03, 4BB3, 4D06, 4E03, 4LL6, 4T03
- 24 units Levels II, III and IV Classics, Greek, Latin
- 36 units Electives

Honours Classics

(PROGRAMME B: CLASSICAL LANGUAGES AND LITERATURE)
Students wishing to enter this programme must complete an Application for Admission to Level II in mid-March in order to be considered for admission.

ADMISSION
Completion of any Level I programme and a Cumulative Average of at least 6.0 including a grade of at least B- in one of GREEK 1Z06 or LATIN 1Z06. (Students with OAC Ancient Greek may substitute six units of Level II Greek; students with OAC Latin may substitute six units of Level II Latin.) Students are encouraged to include a Level I Classics course in their Level I programme.

REQUIREMENTS
120 units total (Levels I-IV)
- 30 units from the Level I programme completed prior to admission into the programme
- 6 units from CLASSICS 2D03, 2E03, 2H03, 3EE3, 3I03, 3I13, 3T03
- 24 units Greek (including GREEK 1Z06, if not completed in Level I)
- 24 units Latin (including LATIN 1Z06, if not completed in Level I)
- 6 units Levels II, III and IV Classics, Greek, Latin
- 36 units Electives

Combined Honours in Classics and Another Subject

(PROGRAMME A: ANCIENT HISTORY AND ARCHAEOLOGY)
Students wishing to enter this programme must complete an Application for Admission to Level II in mid-March in order to be considered for admission.

ADMISSION
Completion of any Level I programme and a Cumulative Average of at least 6.0 including a grade of at least B- in one of CLASSICS 1B06, 1L06, GREEK 1Z06 or LATIN 1Z06. (Students with OAC Ancient Greek may substitute six units of Level II Greek; students with OAC Latin may substitute six units of Level II Latin.)
REQUIRED
120 units total (Levels I-IV)
120 units total (Levels I-IV)
30 units from the Level I programme completed prior to admission into the programme
30 units from the Level I programme completed prior to admission into the programme
24 units from Classics, Greek, Latin, including at least nine units of Levels II, III and IV
24 units from Classics, Greek, Latin, including at least nine units of Levels II, III and IV
6 units from Classics 2A03, 2B03, 2C03, 2K03, 2L03, 2LL3, 2203, 3C03, 3CC3, 3E03, 3EE3, 3G03, 3H03, 3LL3, 3M03, 3G03, 3R03, 3S03, 3T03, 3U03, 3V03
6 units from Classics 2A03, 2B03, 2D03, 2E03, 2LL6, 4T03
9 units Levels II, III and IV Classics, Greek, Latin
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.)
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
18 units Electives to total 120 units

Combined Honours in Classics and Another Subject

(PROGRAMME B: CLASSICAL LANGUAGES AND LITERATURE)

Students wishing to enter this programme must complete an Application for Admission to Level II in mid-March in order to be considered for admission.

ADMISSION
Completion of any Level I programme and a Cumulative Average of at least 6.0 including a grade of at least B- in GREEK 1206 or LATIN 1206. (Students with OAC Ancient Greek may substitute six units of Level II Greek; students with OAC Latin may substitute six units of Level II Latin.)

REQUIREMENTS
120 units total (Levels I-IV)
120 units total (Levels I-IV)
30 units from the Level I programme completed prior to admission into the programme
30 units from the Level I programme completed prior to admission into the programme
6 units from Classics 2D03, 2E03, 2H03, 3EE3, 3I03, 3II3, 3II3
6 units from Classics 2D03, 2E03, 2H03, 3EE3, 3I03, 3II3, 3II3
24 units Greek or Latin
24 units Greek or Latin
6 units Levels II, III and IV Classics, Greek, Latin
6 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.)
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
18 units Electives to total 120 units

B.A. in Classics

Students wishing to enter this programme must complete an Application for Admission to Level II in mid-March in order to be considered for admission.

ADMISSION
Completion of any Level I programme and a Cumulative Average of at least 3.5 and a grade of at least C- in one of: CLASSICS 1806, 1L06, GREEK 1206, or LATIN 1206. (Students with OAC Ancient Greek may substitute six units of Level II Greek; students with OAC Latin may substitute six units of Level II Latin.)

NOTES
1. Students entering the programme with six units of Greek or Latin who have not also completed a Level I Classics course are strongly encouraged to include CLASSICS 2L03, 2LL3 in their Level II programme.
2. Students are encouraged to include at least six units of Greek or Latin in their programme. GREEK 1206 and LATIN 1206, if not completed in the Level I programme, may be taken as elective courses.

REQUIREMENTS
50 units total (Levels I-III)
50 units total (Levels I-III)
30 units from the Level I programme completed prior to admission into the programme
30 units from the Level I programme completed prior to admission into the programme
24 units Classics, Greek, Latin, including at least nine units of Levels III and IV courses
24 units Classics, Greek, Latin, including at least nine units of Levels III and IV courses
36 units Electives
36 units Electives

Minor in Classics

24 units of Classics, 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.

DEPARTMENT OF ENGLISH

WEB ADDRESS:
http://www.humanities.mcmaster.ca/-english/enghome.htm

Honours Arts & Science and English

(B.Ars Sc.; See Arts & Science Programme)

STUDENTS WHO ENTERED AN ENGLISH PROGRAMME PRIOR TO SEPTEMBER 1997 SHOULD CONTACT THE DEPARTMENTAL COUNSELLOR FOR WAYS OF MEETING THEIR PROGRAMME REQUIREMENTS.

AREAS OF STUDY

The Department has defined four areas of study. Students should consult the Programme Notes for their specific programme 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>COURSES</th>
</tr>
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<tbody>
<tr>
<td>AREA 1</td>
<td>British Literature to 1660</td>
</tr>
<tr>
<td>1660</td>
<td>3C06, 3I06, 3K06, 3L06, 3V06</td>
</tr>
<tr>
<td>AREA 2</td>
<td>British Literature 1660 to Present</td>
</tr>
<tr>
<td>1660</td>
<td>2I06, 3G06, 3M03, 3MM3</td>
</tr>
<tr>
<td>AREA 3</td>
<td>Canadian, American and Post-Colonial</td>
</tr>
<tr>
<td>2G06, 2H06, 3R06</td>
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</tr>
<tr>
<td>AREA 4</td>
<td>Theory and Genre</td>
</tr>
<tr>
<td>2B06, 2K06, 3J06, 3Q03, 3Q03, 3N06</td>
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</tbody>
</table>

Honours English

Students wishing to enter this programme must complete an Application for Admission to Level II in mid-March in order to be considered for admission.

ADMISSION
Completion of any Level I programme and a Cumulative Average of at least 6.0 including a grade of at least B- in ENGLISH 1D06.

NOTES
1. When registering, students should distribute their required English courses (see Requirements below) as follows:
   - Level II 18 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 programmes in English require proficiency in a second language. Students who plan to pursue graduate studies in English are strongly encouraged to include in their programme a second language beyond the introductory level.
PROGRAMME B: LANGUAGE, LITERATURE, TRANSLATION (2232)

Students wishing to enter this programme must complete an Application for Admission to Level II in mid-March in order to be considered for admission.

ADMISSION
Completion of any Level I programme and a Cumulative Average of at least 6.0 including a grade of at least B- in ENGLISH 1A06.

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 Associate Dean of Humanities (Studies), Level III of Honours French may be replaced by courses of study at a French-language university.

COURSE LIST 1

FRENCH 1A06, 1B06, 2A03, 2B03, 2LL3, 3LL3, 4LL3, 4M03, 4003, 4O03, 4S03, 4U03, 4X03, 4Y03

REQUIREMENTS
120 units total (Levels I-IV)
30 units from the Level I programme completed prior to admission into the programme
6 units from Area 1 French courses
6 units from Area 2 French courses
6 units from Area 3 French courses
6 units from Area 4 French courses
6 units from Areas 1-4 and ENGLISH 3B03, 3CC3, 3F03, 3HH3, 3LL3, 3P03, 3S03, 3W03, 3XX3, 3Z03
12 units Level IV French seminars
36 units Electives

Honours French

PROGRAMME A: LANGUAGE AND LITERATURE (2231)

Students wishing to enter this programme must complete an Application for Admission to Level II in mid-March in order to be considered for admission.

ADMISSION
Completion of any Level I programme 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 or 1NN6.

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 Associate Dean of Humanities (Studies), Level III of Honours French may be replaced by courses of study at a French-language university.

COURSE LIST 1

FRENCH 1A06, 1B06, 2A03, 2B03, 2LL3, 3LL3, 4LL3, 4M03, 4003, 4O03, 4S03, 4U03, 4X03, 4Y03

REQUIREMENTS
120 units total (Levels I-IV)
30 units from the Level I programme completed prior to admission into the programme
12 units from Area 1 French courses
12 units from Area 2 French courses
12 units from Area 3 French courses
12 units from Area 4 French courses
12 units from Areas 1-4 and ENGLISH 3B03, 3CC3, 3F03, 3HH3, 3LL3, 3P03, 3S03, 3W03, 3XX3, 3Z03
12 units Level IV French seminars
36 units Electives

Honours French

PROGRAMME B: LANGUAGE, LINGUISTICS AND TRANSLATION (2232)

Students wishing to enter this programme must complete an Application for Admission to Level II in mid-March in order to be considered for admission.

ADMISSION
Completion of any Level I programme 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 or 1NN6. Students who are interested in entering this programme are advised to take LINGUIST 1A06.
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 Associate Dean of Humanities (Studies), Level III of Honours French may be replaced by courses of study at a French-language university.

COURSE LIST 1
FRENCH 3A03, 3AA3, 3BB3, 3C03, 3KK3, 3Q03, 3Q03, 3SS3, 3Z03, 4F03, 4I03, 4J03, 4L03, 4M03, 4Q03, 4Q03, 4U03, 4V03

REQUIREMENTS
120 units total (Levels I-IV)
30 units from the Level I programme completed prior to admission into the programme
12 units FRENCH 2B03, 2BB3, 2G03, 2H03
12 units FRENCH 3C03, 3CC3, 3GG3, 3H03
6 units FRENCH 4A03, 4BB3
3 units from FRENCH 2J03, 2JJ3
3 units from FRENCH 2W03, 2WW3
9 units from Course List 1
9 units from FRENCH 3I03, 4E03, 4H03, 4S03, 4X03
12 units Linguistics courses beyond Level I
24 units Electives

Combined Honours in French and Another Subject
Students wishing to enter this programme must complete an Application for Admission to Level II in mid-March in order to be considered for admission.

ADMISSION
Completion of any Level I programme 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 or 1NN6.

NOTE
Upon completion of 60 units of work (including at least 12 units of required Level II French courses), and with the approval of the Department of French and the Associate Dean of Humanities (Studies), up to 15 units of Level III French may be replaced by courses of study at a French-language university.

COURSE LIST 1
FRENCH 4F03, 4I03, 4LL3, 4MM3, 4N03, 4Q03, 4Q03, 4S03, 4U03, 4X03, 4Y03

REQUIREMENTS
120 units total (Levels I-IV)
30 units from the Level I programme completed prior to admission into the programme
12 units FRENCH 2B03, 2BB3, 2Q03, 4A03
3 units from FRENCH 2J03, 2JJ3
3 units from FRENCH 2W03, 2WW3
3 units from FRENCH 2K03, 3K03, 3KK3
3 units from FRENCH 3Q03, 3QQ3
3 units from FRENCH 3AA3, 3BB3, 3Z03, 4U03
6 units from Course List 1
3 units from FRENCH 3Q03, 3SS3, 4J03
36 units Electives (Combinations with Social Sciences may require more than 36 units)
18 units Electives to total 120 units

B.A. in French {1230}

Students wishing to enter this programme must complete an Application for Admission to Level II in mid-March in order to be considered for admission.

ADMISSION
Completion of any Level I programme 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 or 1NN6.

REQUIREMENTS
90 units total (Levels I-III)
30 units from the Level I programme completed prior to admission into the programme
12 units FRENCH 2F03, 2BB3, 2C03, 3F03
3 units from FRENCH 2J03, 2JJ3

Minor in French
6 units from FRENCH 1A06/2M06, 1N06
6 units FRENCH 2B03, 2BB3, 3C03
6 units from FRENCH 3E03, 2J03, 2JJ3, 2W03, 2WW3, 3AA3
6 units FRENCH 2Z03, 3K03, 3Q03, 3QQ3, 3Z03
6 units Level II or III French, excluding FRENCH 2M06 and 2Z06

DEPARTMENT OF HISTORY
WEB ADDRESS:
http://www.humanities.mcmaster.ca/-history/histhome.htm

SUBFIELDS
The Department has defined six fields of study. Students should consult the Programme Notes for their specific programme to determine the requirements regarding these fields. Level II and III courses are allocated to the fields as follows:
- European HISTORY 2A06, 2B06, 2C06, 2I06, 3D03, 3F03, 3H06, 3I03, 3Q03, 3R03, 3Z03, 3Z23
- Ancient HISTORY 2K03, 2L03, 2LL3, 3C03, 3CC3, 3DD3, 3EE3, 3LL3, 3MM3, 3UU3, 3VV3
- Asian HISTORY 2E03, 2E33, 2GG3, 3A03, 3AA3, 3BB3, 3GG3
- Canadian HISTORY 2J06, 3K03, 3N03, 3P03, 3U03
- British HISTORY 2N06, 3J03, 3RR3, 3SS3, 3ST3, 3TT3
- The Americas HISTORY 2H06, 3BB3, 3X03, 3XX3, 3YY3

Honours Arts & Science and History
(B.Arts Sc.; See Arts & Science Programme) {2290}

Honours History

Students wishing to enter this programme must complete an Application for Admission to Level II in mid-March in order to be considered for admission.

ADMISSION
Completion of any Level I programme and a Cumulative Average of at least 6.0 including a grade of at least B- in any Level I History course.

NOTES
1. In selecting courses, students must ensure that they take a minimum of six units in each of three fields of History. For this purpose the Department has established the following six fields: European, Ancient, Asian, Canadian, British and the Americas (excluding Canada). 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 towards this requirement. Students are permitted a maximum of 24 units of work in any one of the preceding fields. Additional History courses may be taken as electives.
2. The first 36 units of History beyond Level II must include one Level IV seminar, to be taken following the completion of at least 12 units of Level II History.
3. HUMAN 2F03 (Selected Interdisciplinary Topics in Medieval Life and Culture) may be taken as a substitute for three units of Level II History.

REQUIREMENTS
120 units total (Levels I-IV)
30 units from the Level I programme completed prior to admission into the programme
18 units Level II History
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 programme must complete an Application for Admission to Level II in mid-March in order to be considered for admission.

ADMISSION

Completion of any Level I programme and a Cumulative Average of at least 6.0 including a grade of at least B- in any Level I History course.

NOTES

1. In selecting courses, students must ensure that they take a minimum of three units in each of three fields of History. For this purpose the Department has established the following six fields: European, Ancient, Asian, Canadian, British, and the Americas (excluding Canada). 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. Students are permitted a maximum of 18 units of work in any one of the preceding fields. Additional History courses may be taken as electives.
2. No Level IV seminar may be taken before completion of 12 units of History beyond Level I.
3. HUMAN 2F03 (Selected Interdisciplinary Topics in Medieval Life and Culture) may be taken as a substitute for three units of Level II History.

REQUIREMENTS

120 units total (Levels I-IV)

30 units from the Level I programme completed prior to admission into the programme

12 units Level II History

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

Students wishing to enter this programme must complete an Application for Admission to Level II in mid-March in order to be considered for admission.

ADMISSION

Completion of any Level I programme and a Cumulative Average of at least 3.5 including a grade of at least C- in any Level I History course.

NOTES

1. In selecting courses, students must ensure that they take a minimum of three units in each of three fields of History. For this purpose the Department has established the following six fields of History: European, Ancient, Asian, Canadian, British, and the Americas (excluding Canada). All Level II and III History courses from the above list may be used towards this requirement. Students are permitted a maximum of 12 units of work in any one of the preceding fields. Additional History courses may be taken as electives.
2. HUMAN 2F03 (Selected Interdisciplinary Topics in Medieval Life and Culture) may be taken as a substitute for three units of Level II History.

REQUIREMENTS

90 units total (Levels I-III)

30 units from the Level I programme completed prior to admission into the programme

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.

JAPANESE STUDIES

Students wishing to enter this programme must complete an Application for Admission to Level II in mid-March in order to be considered for admission.

Combined Honours in Japanese Studies and Another Subject

ADMISSION

Completion of any Level I programme and a Cumulative Average of at least 6.0 including a grade of at least B- in JAPANESE 1206. Students who have not fulfilled this requirement should consult the Director of the Committee of Instruction.

REQUIREMENTS

120 units total (Levels I-IV)

30 units from the Level I programme completed prior to admission into the programme

18 units JAPANESE 2206, 3ZZ6, 4L03, 4Z03

6 units JAPAN ST 2P06

12 units from JAPANESE 3B03, JAPAN ST 2C03, 3B03, 3E03, 3H03, 3J03, 3JJ3, 3P03, 3S03, 3U03, 4A06, 4B03, HISTORY 4BB6, 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

JAPANESE 1Z06 and JAPAN ST 2P06 and 12 additional units of Japanese or Japanese Studies courses.

DEPARTMENT OF MODERN LANGUAGES

WEB ADDRESS:

http://www.humanities.mcmaster.ca/~modlang/mihome.htm

The Department of Modern Languages offers B.A. Honours programmes in:

- Comparative Literature
- Linguistics
- Modern Languages and Linguistics
- Modern Languages (German, Italian, Spanish)

In addition, Minors are available, using electives only, in: Comparative Literature, German, Hispanic Studies, Italian, Linguistics, Russian.

Language courses in Japanese and Polish are also offered by the Department.

Honours Arts & Science and Comparative Literature

(B.Arts.Sc.; See Arts & Science Programme)

Combined Honours in Comparative Literature and Another Subject

This programme is designed for students who wish to combine the study of Comparative Literature (taught in English) with one of German, Italian, or Spanish from the Department of Modern Languages or with a subject offered by another department. Students wishing to enter this programme must complete an Application for Admission to Level II in mid-March in order to be considered for admission.

ADMISSION

Completion of any Level I programme and a Cumulative Average of at least 6.0 including a grade of at least B- in COMP LIT 1A06. Students are strongly advised to include a language other than English in their Level I programme.

NOTES

1. Students combining with a subject other than a language must successfully complete six units of a language other than English, if this was not completed in Level I. The Department strongly advises students to fulfill this requirement before Level III.
Combined Honours Linguistics and Another Subject

This programme is designed for students who want to study the core components, acquire practical knowledge of one language, and combine this with another subject either from the Faculty of Humanities or from another Faculty. This programme is a good preparation for careers in which linguistics is applied in other fields such as speech pathology, communications, language acquisition and computing.

Students wishing to enter this programme must complete an Application for Admission to Level II in mid-March in order to be considered for admission.

ADMISSION
Completion of any Level I programme and a Cumulative Average of at least 6.0 including a grade of at least B- in LINGUIST 1A06 and completion of at least six units of language study.

NOTES
1. Students wishing to combine Linguistics with a Modern Language (German, Italian, or Spanish) should register in the Honours Modern Languages and Linguistics programme.
2. Students who combine Linguistics with the study of Japanese should register in the Honours Modern Languages and Linguistics programme.
3. Upon completion of 60 units of work and with the approval of the Department of Modern Languages and the Associate Dean of Humanities (Studies), one or both terms of Level III may be replaced by courses of study at a university under the Humanities Study Elsewhere Programme.

REQUIREMENTS
120 units total (Levels I-IV)
30 units from Level I programme completed prior to admission into the programme
12 units from LINGUIST 2A03, 2A03, 2A03, 3F03, 3G03, 4D03, 4X03, 4XX3
6 units from LINGUIST 2A03, 3F03, 4D03, 4X03
12 units from ANTHROP 2L03, 2M03, LINGUIST 3I03, 3I03, 3M03
36 units Electives specified for the other subject. (Combinations with Social Sciences may require more than 36 units.)
18 units Electives to total 120 units (See Note 1 above.)

Honours Modern Languages

This programme combines the study of two or more modern languages (French, German, Italian, Japanese, Spanish) with a concentration in Linguistics (focusing on sociolinguistics, pragmatics, applied linguistics).

Students wishing to enter this programme must complete an Application for Admission to Level II in mid-March in order to be considered for admission.

ADMISSION
Completion of any Level I programme and a Cumulative Average of at least 6.0 including 12 units covering two different languages other than English with grades of at least B-. Students are strongly urged to complete LINGUIST 1A06 in their Level I programme. If not, LINGUIST 1A06 must be included in Level II of their programme.

NOTES
1. Students entering the programme with FRENCH 1Z06 must complete FRENCH 1N06 or 2Z06, in addition to the 18 units of French, beyond Level I.
2. Upon completion of 60 units and with the approval of the Department of Modern Languages and of the Associate Dean of Humanities (Studies), one or both terms of Level III of this programme may be replaced by courses of study at a university or universities under the Humanities Study Elsewhere Programme.
Combined Honours in Modern Languages and Another Subject

This programme is designed for students who wish to combine the study of one modern language (German, Italian or Spanish) and literature in that language with another subject.

Students wishing to enter this programme must complete an Application for Admission to Level II in mid-March in order to be considered for admission.

ADMISSION

Completion of any Level I programme and a Cumulative Average of at least 6.0 including six units from the following list with a grade of B or more in each course chosen: GERMAN 1B06, 1Z06, HISPANIC 1A06, 1Z06, ITALIAN 1A06, 1Z06, 1ZV6. In addition, students must successfully complete at least six units from COMP LIT 2A03 and LINGUIST 2A03, whichever course was not taken in Level I must be included in Level II of the programme.

NOTES

1. When selecting their courses, students must ensure that the overall total includes at least 24 units of Level III and IV Comparative Literature, Linguistics and language courses.

2. Upon completion of 60 units and with the approval of the Department of Modern Languages and the Associate Dean of Humanities (Studies), one or both terms of Level III of this programme may be replaced by courses of study at a university or universities under the Humanities Study Elsewhere Programme.

COURSE LIST 1

All Level II, III and IV courses in Comparative Literature, Linguistics, German, Italian, Spanish, Russian and Chinese.

REQUIREMENTS

120 units total (Levels I-IV)

30 units from the Level I programme completed prior to admission into the programme

3 units COMP LIT 2C03

6 units LINGUIST 2A03, 2A04

3 units from COMP LIT 2A03, 2A04

54 units 27 units above Level I in each of two languages (German, Italian or Spanish) and their literatures

6 units from Course List 1 (excluding the two languages chosen)

18 units Electives to total 120 units

NOTES

1. Upon completion of 60 units and with the approval of the Department of Modern Languages and the Associate Dean of Humanities (Studies), one or both terms of Level III of this programme may be replaced by courses of study at a university or universities under the Humanities Study Elsewhere Programme.

2. Completion of the Level III programme and the Associate Dean of Humanities (Studies), one or both terms of Level III of this programme may be replaced by courses of study at a university or universities under the Humanities Study Elsewhere Programme.

COURSE LIST 1

All Level II, III and IV courses in Comparative Literature, Linguistics, German, Italian, Spanish, Russian and Chinese.

REQUIREMENTS

120 units total (Levels I-IV)

30 units from the Level I programme completed prior to admission into the programme

3 units COMP LIT 2C03

6 units LINGUIST 2A03, 2A04

3 units from COMP LIT 2A03, 2A04

54 units 27 units above Level I in each of two languages (German, Italian or Spanish) and their literatures

6 units from Course List 1 (excluding the two languages chosen)

18 units Electives to total 120 units

NOTES

1. When selecting their courses, students must ensure that the overall total includes at least 24 units of Level III and IV Comparative Literature, Linguistics and language courses.

2. Upon completion of 60 units and with the approval of the Department of Modern Languages and the Associate Dean of Humanities (Studies), one or both terms of Level III of this programme may be replaced by courses of study at a university or universities under the Humanities Study Elsewhere Programme.

COURSE LIST 1

All Level II, III and IV courses in Comparative Literature, Linguistics, German, Italian, Spanish, Russian and Chinese.

REQUIREMENTS

120 units total (Levels I-IV)

30 units from the Level I programme completed prior to admission into the programme

3 units COMP LIT 2C03

6 units LINGUIST 2A03, 2A04

3 units from COMP LIT 2A03, 2A04

54 units 27 units above Level I in each of two languages (German, Italian or Spanish) and their literatures

6 units from Course List 1 (excluding the two languages chosen)

18 units Electives to total 120 units

NOTES

1. When selecting their courses, students must ensure that the overall total includes at least 24 units of Level III and IV Comparative Literature, Linguistics and language courses.

2. Upon completion of 60 units and with the approval of the Department of Modern Languages and the Associate Dean of Humanities (Studies), one or both terms of Level III of this programme may be replaced by courses of study at a university or universities under the Humanities Study Elsewhere Programme.

MINORS

Minor in Comparative Literature

24 units of Comparative Literature, of which no more than six units may be taken from Level I.

Minor in German

24 units of German, 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 Linguistics

24 units of Linguistics, of which no more than six units may be taken from Level I.

Minor in Russian

24 units of Russian, of which no more than six units may be taken from Level I.

MULTIMEDIA STUDIES

WEB ADDRESS: http://www.humanities.mcmaster.ca/-mmedia/

Subject to final approval, beginning in the 1999-2000 academic year, the School of Art, Drama and Music will offer the following new programme.

Combined Honours B.A. in Multimedia and Another Subject

Students wishing to enter this programme must complete an Application for Admission to Level II in mid-March in order to be considered for admission.

ADMISSION

Enrolment in this programme is limited. Selection is based on academic achievement but requires, as a minimum, completion of any Level I programme and a Cumulative Average of at least 6.0 including a grade of at least B in each of two courses from MMEDIA 1A03, 1B03, and 1C03 (formerly HUMAN 1A03, 2E03, and 2H03).
COMP SCI: 1MC3, 1MD3, 1SA3, 2SC3, 3SE3; MMEDIA 2D03, 2E03, 2F03, 2G03, 2H03, 2I03, 3C03, 3D03, 3E03, 3F03, 4C03, 4D03

REQUIREMENTS
30 units from the Level I programme completed prior to admission into this programme (including two of MMEDIA 1A03, 1B03 or 1C03)
24 units MMEDIA 2A03, 2B03, 2C06, 3A03, 3B03, 4A03, 4B03
12 units from Course List 1
36 units Courses specified for the other subject
18 units Electives to total 120 units

DEPARTMENT OF PHILOSOPHY

WEB ADDRESS:
http://www.humanities.mcmaster.ca/-philos/philhome.htm

Honours Arts & Science and Philosophy

(B.Arts Sc.; See Arts & Science Programme)

Honours Philosophy {2420}

Students wishing to enter this programme must complete an Application for Admission to Level II in mid-March in order to be considered for admission.

ADMISSION

Completion of any Level I programme and a Cumulative Average of at least 6.0 including a grade of at least B- in any Level I Philosophy course 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 Associate Dean of Humanities (Studies), 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-IV)
30 units from the Level I programme completed prior to admission into the programme
12 units PHILOS 2A06, 2C06
3 units from PHILOS 2B03, HUMAN 2C03
15 units Levels III and IV Philosophy
6 units Level IV Philosophy
36 units Courses specified for the other subject. (Combinations with Social Science may require more than 36 units.)
18 units Electives to total 120 units

Honours Philosophy and Biology (B.A.)

Students wishing to enter this programme must complete an Application for Admission to Level II in mid-March in order to be considered for admission.

ADMISSION

Completion of any Level I programme and a Cumulative Average of at least 6.0 including a grade of at least B- in any Level I Philosophy course 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 1A03 with a grade of at least B- and six units of Level I Mathematics. Students are cautioned to observe that CHEM 1AA3 is the normal prerequisite for BIOLOGY 2B03 and BIOLOGY 2C03, which are required courses in the programme. Enrolment in this programme 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 Associate Dean of Humanities (Studies), 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-IV)
30 units from the Level I programme completed prior to admission into the programme
12 units BIOLOGY 2B03, 2C03, 2E03, 2F03 (CHEM 2006 or both CHEM 20A3 and 20B3 may replace six units of Biology courses)
24 units Level III and IV Biology courses
18 units PHILOS 2A06, 2C06, 3A03, 4H03
3 units PHILOS 2B03
3 units from PHILOS 2D03, 2F03, 2G03
3 units from PHILOS 3G03, 3N03
6 units Level III or IV Philosophy
3 units Level IV Philosophy
18 units Electives to total 120 units

Honours Philosophy and Mathematics (B.A.)

Students wishing to enter this programme must complete an Application for Admission to Level II in mid-March in order to be considered for admission.

ADMISSION

Completion of any Level I programme and a Cumulative Average of at least 6.0 including a grade of at least B- in each of MATH 1A03 or 1A03 and MATH 1B03, and a grade of at least B- in any Level I Philosophy course 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 Associate Dean of Humanities (Studies), one or both terms of Level III may be replaced by courses of study at a designated university abroad.

Combined Honours in Philosophy and Another Subject

Students wishing to enter this programme must complete an Application for Admission to Level II in mid-March in order to be considered for admission.

ADMISSION

Completion of any Level I programme and a Cumulative Average of at least 6.0 including a grade of at least B- in any Level I Philosophy course 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 programme.
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 Associate Dean of Humanities (Studies), 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-IV)
30 units from the Level I programme completed prior to admission into the programme
24 units MATH 2A03, 2AB3, 2C03, 2R03, 2S03, 3A03, 3E03, 3X03
3 units from MATH 3A03, 3EE3
3 units from MATH 4B03, 4E03, 4X03
12 units from Level III and IV Mathematics, Statistics
12 units PHILOS 2A06, 2C06
3 units PHILOS 2B03
21 units Level III or Level IV Philosophy
3 units Level IV Philosophy course
9 units Electives

B.A. in Philosophy

Students wishing to enter this programme must complete an Application for Admission to Level II in mid-March in order to be considered for admission.

ADMISSION
Completion of any Level I programme and a Cumulative Average of at least 3.5 including a grade of at least C- in any Level I Philosophy course.

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-III)
30 units from the Level I programme completed prior to admission into the programme
12 units PHILOS 2A06, 2C06
3 units from PHILOS 2B03, HUMAN 2C03
3 units Levels II, III or IV Philosophy
6 units Levels III or IV Philosophy
36 units Electives

Minor in Philosophy

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 PROGRAMME

WEB ADDRESS: http://www.mcmaster.ca/womensst

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 Programme 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 Programme’s focus on research prepares students for graduate school.

ADMISSION
Completion of any Level I programme and a Cumulative Average of at least 6.0 including a grade of at least B- in WOMEN ST 1A06.

NOTES
1. Students who have not taken WOMEN ST 1A06 because they have transferred from another university may be considered for admission to the programme if they are deemed by the Admissions Committee to have fulfilled requirements equivalent to WOMEN ST 1A06.
PROGRAMMES AND DEGREES

A. Level I Programme

Level I students should select courses carefully to meet the Level II admission requirements of a specific programme (see Faculty of Science Programme Listings in this section of the Calendar for Level II programme admission requirements). A suitable choice of Level I options will allow successful students to enter Level II of any one of several programmes.

SCIENCE I: 30 UNITS

REQUIREMENTS

- 3 units: MATH 1A03
- 3 units from MATH 1AA3, STATS 1CC3
- 12 units from Level I Science Core Course List 1 (see below)
- 6 units from Level I Course List 2 (see below)
- 6 units from Level I Course Lists 2 and 3 (see below)

1 course: SCIENCE 1A00

LEVEL I COURSE LISTS:

1. SCIENCE CORE

- COURSE LIST 1: BIOLOGY 1A03
- CHEM 1A03
- COMP SCI 1MC3 (or 1SA3)
- GEO 1G03** (or 1A03 or 1B03)
- MATH 1B03
- PHYSICS 1B03
- PSYCH 1A03

2. COURSE LIST 2: ASTRON 1F03

BIOLOGY 1A03

- BIOLOGY 1AA3
- CHEM 1A03
- CHEM 1AA3
- COMP SCI 1SA3

Introduction to Astronomy and Astrophysics

Structural and Functional Relations in Living Systems

Reproduction and Adaptation in Living Systems

Introductory Chemistry I

Introductory Chemistry II

Computing Fundamentals

B. Degree Programmes

HONOURS B.SC. PROGRAMMES

There are two options available for most four level Honours B.Sc. programmes offered by each department/school in the Faculty of Science. The Specialist Option requires a concentration of studies in a specific discipline and completion of a Senior Project or Thesis in the final year. The Complementary Studies Option requires at least 15 units of complementary studies from faculties other than the Faculty of Science and completion of 6 units of Inquiry course work in the final year.

There are also four Honours Science Programmes (Complementary Studies Option) that provide a breadth of study in science. Each programme requires a concentration of studies from one of the four areas of science: geo science, life science, mathematical science or physical science. They also require the completion of at least 21 units from the remaining three areas of science, completion of 15 units from faculties other than the Faculty of Science and completion of 6 units of Inquiry course work in the final year.

Combined Honours Programmes

A number of Departments offer Combined Honours degrees which are academically more challenging than single Honours programmes. Molecular Biology, Biochemistry & Molecular Biology, Biology & Psychology, Neural Computation, and Biology & Pharmacology Co-ops are the Combined Honours B.Sc. programmes.

Honours degrees in Molecular Biology and in Biology and Pharmacology (a five-year Co-op programme) are organized by Committees of Instruction involving the Faculties of Health Sciences and Science. The Honours Neural Computation programme is organized by a Committee of Instruction involving the Faculties of Science and Engineering.

Honours Co-op Programmes

The Faculty of Science has instituted Cooperative Education programmes, beginning in Level III, in Honours Biochemistry, Honours Biology and Pharmacology, Honours Chemistry, Honours Environmental Science, and Honours Medical and Health Physics.
Honours Co-op programmes have limited enrolment and admission is by selection. Please see the admission statement for each programme in this section of the Calendar. Employment must be full-time during the work term. Students enrolled in Co-op programmes must be registered in full-time studies during the academic terms of their programme. With written permission from their work term supervisor, one three unit course may be taken during each four-month period of a work term. These units may not be used to reduce the academic term course load. A Science Co-op Fee will be charged for each academic term of a Co-op programme.

For further information, please consult the Associate Dean of Science (Studies) or Science Cooperative Education in the Faculty of Science.

Minors

Minors are available to students registered in most Honours programmes. 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 for Minors in a Science subject.

Depending on the student’s programme, there may be certain minors which are excluded. Please see the Programme Notes for individual programmes in this section of the Calendar.

Please see Minors in the General Academic Regulations section in this Calendar.

Cooperative 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 in Level II or III of an Honours B.Sc. Computer Science programme, who have at least 24 units left and are eligible to return to complete their undergraduate degree. 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 the Associate Dean of Science (Studies), Science Cooperative Education in the Faculty of Science or Engineering Career Services in the Faculty of Engineering.

International Study During Level III Of Honours Programmes

There are two ways to undertake international studies during Level III of an Honours programme; via a Formal Exchange Programme or a Third Year Study Elsewhere programme.

Formal Exchange Programme

During Level III Of Honours Programmes

See the heading International Study in the General Academic Regulations section in this Calendar.

Third Year Study Elsewhere Honours Programme

Third Year Study Elsewhere is not available at universities with which McMaster University has a Formal Exchange Agreement. Students registered in single or Combined Honours programmes in the Faculty of Science are encouraged to apply to study the whole of a third year at an appropriate university* (see below).

To be eligible to take part in this programme, students are expected to complete Level II with a Cumulative Average of at least 6.0. Students must pay all associated travel, study and living expenses. For students in need of financial assistance, OSAP (Ontario Student Aid Programme) grants and loans may be available for this programme. Furthermore, McMaster University offers some bursaries to those in need of help.

Students interested in this programme should begin discussions with the Associate Dean of Science (Studies) about one year before they plan to enrol elsewhere.

Students must propose an academic programme that must be submitted to their Department for approval. Academic approval must be completed by the end of February for registration in the following Fall.

Students must maintain links through correspondence with their departments at McMaster University while they are engaged in study elsewhere. All credit for work completed may only be confirmed after departments have reviewed the students’ academic achievement following their return and registration in their final year of study. The maximum credit available in this way is normally 30 units for the full year of study, equivalent to Level III. In certain cases, students may be recommended for the Deans’ Honours List on the basis of work undertaken in the programme.

*There are approved universities in the following areas: Rhone-Alpes (France), Baden-Wurttemberg (Germany), Lombardy (Italy) and Catalonia (Spain).

Exchange Programmes Within Canada

For information on the Group of Ten Student Exchange Programme (GOTSEP), please refer to the Academic Facilities, Student Services and Organizations section of this Calendar under the heading Student Exchanges Officer.

B. Sc. Programmes

Three-level B.Sc. programmes provide a science education which is less demanding than the Honours programmes. Three-level B.Sc. programmes are offered in Geoscience, Life Science, Mathematical Science and Physical Science.

Students are advised to seek counselling to ensure that their course selections are appropriate. Students who identify a subject area of emphasis should seek counselling from the corresponding department.

The programme requirements for B.Sc. programmes are listed under the heading Three-Level B.Sc. Programmes in this section.

ACADEMIC REGULATIONS

Students enrolled in Science programmes, in addition to meeting the General Academic Regulations of the University, shall be subject to the following Faculty Regulations:

ADMISSION TO HONOURS B. SC. PROGRAMMES

The admission criteria for the Honours B.Sc. programmes are described explicitly in the individual programmes descriptions in this section.

Limited Enrolment Programmes

Admission is limited for the following programmes:

- Honours Biochemistry (Specialist Option)
- Honours Biochemistry & Molecular Biology
- Honours Biology (Specialist Option)
- Honours Biology and Psychology
- Honours Kinesiology
- Honours Molecular Biology
- Honours Psychology (Specialist Option)

Each of these programmes, except Honours Kinesiology, requires a thesis or project in Level IV. Resource limitations in providing a thesis or project supervisor for each student dictates that the number of students admitted must be limited. Admission is by selection based on academic achievement. Admission is limited at Level I for Honours Kinesiology.

For further information please see Admission to Level II Programmes in this section of the Calendar.

ADMISSION TO B. SC. PROGRAMMES

The admission criteria for the B.Sc. programmes, in each of the areas Geoscience, Life Science, Mathematical Science and Physical Science, are listed under the heading Three-Level B.Sc. Programmes in this section. For further information please see Admission to Level II Programmes in this section of the Calendar.

CONTINUATION IN HONOURS B. SC.

AND B. SC. PROGRAMMES

For information regarding requirements for continuing in Faculty for Science programmes, please see the General Academic Regulations section in this Calendar.

PROGRAMME PROBATION

Please refer to the General Academic Regulations section in this Calendar for changes to regulations concerning Programme Probation in the Faculty of Science.

REINSTATEMENT TO THE FACULTY OF SCIENCE

A student who is ineligible to continue in the Faculty of Science or who is May not continue at the University may normally not apply for reinstatement for one full academic year. Exceptions may be made only when there are extenuating circumstances which are supported by documentation.
Students seeking reinstatement must complete the Returning Student Application available at the Office of the Registrar or the Office of the Associate Dean of Science (Studies). The completed application and the $50 application fee must be submitted to the Office of the Registrar by June 30. Applications must be accompanied by a written explanation of the student’s previous academic performance, reasons why the student would expect to succeed in the desired programme if reinstated, and activities since last registered at McMaster including all academic work. Reference letters are also recommended.

Reinstatement is not guaranteed.

FORMER SCIENCE STUDENTS AND READMISSION

Students who were previously registered in a Science programme and in good standing but did not register during the last academic year (Fall/Winter or Summer session) must write to the Office of the Associate Dean of Science (Studies) to seek permission to continue their studies. The letter should explain academic activities since the last registration.

If five years have passed since the last registration at McMaster, students must apply for Readmission through the Office of the Registrar. Please see the Application Procedures section of this Calendar.

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 sections, unless documentation showing good cause is submitted to the Associate Dean of Science (Studies).

SEQUENCE OF COURSES

Students in the Faculty of Science must have completed or be registered in the courses required for Level I before they may register for courses beyond Level I.

COURSE SELECTION

It is the responsibility of the student to ensure that the selection of courses meets the degree requirements for the programme in which the student is registered and that the stated prerequisite courses were completed with a grade of at least D-.

COURSE CHANGES

All course changes must be made through the Office of the Associate Dean of Science (Studies) and are subject to the deadlines for adding and withdrawing established by the University. (See Sessional Dates section of this Calendar.)

Beyond the September deadline date, first-term three-unit courses may be cancelled up to the November deadline. A cancelled three-unit first-term course may not be replaced by a second-term course for students who were registered for a full academic load in September. Beyond the January deadline date, second-term courses may not be added or cancelled by a student registered in a programme by the January deadline date may add a three-unit second-term course.

To add a limited enrolment course or a course requiring permission, a signed permission slip must be attached to the Application for Change of Student Record.

WORKLOAD

All programmes in the Faculty of Science may be taken by full-time and part-time students, with the exception of the Honours Co-op programmes. Students enrolled in Co-op programmes must be registered in full-time studies during the academic terms of their programme.

Students must maintain a full academic load during the Fall/Winter session to be eligible for scholarships available to full-time students. To be eligible for the Deans’ Honour List, an academic load in the Fall/Winter session of at least 30 units is necessary. 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 programme 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 programme are permitted to overload by up to six additional units in order to become eligible to graduate.

LETTERS OF PERMISSION

Students enrolled in science programmes may apply to the Office of the Associate Dean of Science (Studies) to take courses at another university on Letter of Permission. A fee must be paid to the Office of the Registrar. Students must achieve a grade of at least C for transfer credit. The transcript designation reads COM, indicating complete, when a grade of C- or better is attained, or NC, indicating incomplete, when a grade of less than C- is attained.

Required courses given by the department offering the programme may not be taken elsewhere unless departmental approval is given. Courses required by the programme but not given by the department offering the programme may be taken elsewhere. For example, for a student registered in a Biology programme, all Biology courses must be taken at McMaster, however, the required Chemistry course may be taken elsewhere. 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.

Students must be in good standing to be eligible to take courses on a Letter of Permission.

PROGRAMME TRANSFERS

Up to the end of Level III, students may be permitted to transfer between Faculty of Science programmes on the recommendation of the Department concerned and with the approval of the Associate Dean of Science (Studies).

Students are eligible to apply for transfer from a B.Sc. programme to a related Honours Programme or between Honours programmes provided that they have:

1. attained a Cumulative Average of at least 6.0, and
2. completed the courses required for admission to the programme.

Permission to transfer to a programme is subject to any exceptions or special restrictions outlined in the Admission statement or the Programme Notes for that programme. Note: The minimum Cumulative Average required to transfer to an Honours programme in the Faculty of Science is 6.0.

Students entering Level III of a three-level B.Sc. programme should note that if they have completed 60 units with a Cumulative Average of 5.5, they must attain a Sessional Average of at least 7.0 on 30 units of course work to raise their Cumulative Average to 6.0. Students with a Cumulative Average of less than 5.5, who wish to transfer to an Honours programme, are advised to satisfy graduation requirements for their current three-level programme.

For further information please see Transfer Procedures and Transferring to Graduate with a three-level B.Sc. degree from an Honours B.Sc. programme in this section of the Calendar.

GRADUATION

From Honours B.Sc. and B.Sc. Programmes

To graduate from a programme, students must meet the course requirements stated in the Calendar in force when they enter that programme, with the exception that a later Calendar may explicitly modify such requirements.

The requirements for graduation from these programmes are described under the heading Graduation in the General Academic Regulations section in this Calendar.

Transferring to Graduate with a Three-Level B.Sc. Degree from an Honours B.Sc. Programme

Students who successfully complete the first three levels of any Honours B.Sc. degree may request permission from the Associate Dean of Science (Studies) Office for transfer to graduate with a three-level B.Sc. Science degree.
SECOND BACHELOR'S DEGREE PROGRAMMES

In addition to the regulations in the General Academic Regulations section in this Calendar, the following Faculty regulations apply.

For many of the four-level Honours degrees in science, a Cumulative Average of at least 7.0 (overall average of B+) will be required for admission. For three-level degrees, a Cumulative Average of at least 5.0 (overall average of C) will be required for admission.

Students will be admitted to Second Degree studies only if their studies involve a significant additional component of work in the subject of concentration of a programme. Certain subject combinations are not permitted for Second Degrees. Students interested in applying for a Second Degree programme should consult the Office of the Associate Dean of Science (Studies) for further details.

Please see the Application Procedures section of this Calendar.

Special Course Requirements

SCIENCE INQUIRY COURSE LIST

Note: No more than six units of Science Inquiry may be taken unless permission for a nine unit Senior Project or Thesis is obtained.

The following are restricted to students in an Honours (Complementary Studies Option) programme:

- CHEM 4I03 Inquiry in Chemistry
- COMP SCI 4Z13 Inquiry in Computer Science
- MATH 4Z13 Inquiry in Mathematics
- PHYSICS 4Z13 Inquiry: Energy, Physics and the Environment
- PHYSICS 4Z13 Inquiry: Relativity and Gravitation

The following are restricted to students in specified programmes:

- BIOCHEM 4A03 Presentations and Critical Evaluation
- BIOCHEM 4C03 Inquiry in Biochemistry
- BIOCHEM 4P03 Research Project
- BIOLOGY 4C09 Senior Thesis
- BIOLOGY 4F06 Senior Project
- BIOLOGY 4FF3 Inquiry in Biology
- CHEM 4G06 Senior Thesis
- COMP SCI 4MP6 Project for Combined Programmes
- COMP SCI 4ZP6 Project
- GEO 4C3 Review Paper
- GEO 4P06 Senior Thesis
- PHYSICS 4A03 Inquiry in Physics
- PSYCH 4D06 Psychology Thesis
- PSYCH 4I03 Inquiry in Psychology I
- PSYCH 4K03 Inquiry in Psychology II

The following are restricted to students with the specified course prerequisites:

- GEO 4X03 Inquiry: Climate Change: A Geographic Perspective
- GEO 4P03 Inquiry: Ecology and Geology of Coral Reefs
- GEO 4K03 Inquiry: Minerals and Society
- MATH 3Z03 Inquiry: History of Mathematics

FIELD COURSES

Field courses are offered through the Department of Biology and the School of Geography and Geology. Some of these courses are taken outside the Fall/Winter session, during the spring or summer.

Students who enrol in field courses must pay both:

- a fee to the department to cover travel expenses, room and board
- 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.

March Counselling and Important Procedures

Counselling is available throughout the year from the Office of the Associate Dean of Science (Studies) and the academic departments in the Faculty of Science. In addition, it is highly recommended that all students in the Faculty of Science make a counselling appointment with a Departmental Undergraduate Advisor during the March Counselling period.

During the March Counselling period:

1. Information sessions are held by the departments in the Faculty of Science to discuss undergraduate programmes, graduate study opportunities, career options, etc.;
2. Students obtain a copy of the new Undergraduate Calendar;
3. All Level I students seeking admission to a Level II programme for the following Fall/Winter session must complete an application form. See Admission to Level II Programmes;
4. Students in Levels II or III who wish to transfer to another programme for the following Fall/Winter session must complete an application form. See Transfer Procedures;
5. Students wishing to take courses requiring permission for the Fall/Winter session, including limited enrolment courses and Science Inquiry courses, apply to the appropriate department for permission. See Limited Enrolment Courses.

The dates for the March Counselling period may vary somewhat from year to year. The dates and information will be posted on campus, on the Web, outlined in the campus newspaper, and will be announced during classes. Application forms mentioned above will be available in the General Sciences Building, Room 116. It is the student's responsibility to participate in March Counselling activities.

ADMISSION TO LEVEL II PROGRAMMES

Any student seeking admission to a Level II programme in the Faculty of Science for the following Fall/Winter session must complete an Application for Admission to Level II during the March Counselling period. This form, which allows students to rank four programme choices, must be completed and returned to the Office of the Associate Dean of Science (Studies) by the end of March.

Admission to limited enrolment programmes is also based on Cumulative Average achieved; students will be admitted by a selection committee. See Limited Enrolment Programmes in this section of the Calendar.

Level I students must meet the admission criteria for a Level II programme according to the Calendar in effect when they registered for Level I. Students must follow the programme requirements of the Calendar in force when they enter Level II, except when a later Calendar explicitly modifies such requirements.

Students will receive an admission decision on their grade reports in June. The Office of the Associate Dean of Science (Studies) will approve registrations only for the programme to which a student was granted admission.

Students who have a Result of Session of May Continue at the University but who do not achieve the admission requirements for any Level II programme must return to Science I, or apply to transfer to another Faculty. Students may repeat or upgrade any of the previous Level I courses but are advised to take only twelve units of additional Level I courses. Only forty-two units of Level I courses may be used as credit towards a three-level programme.

TRANSFER PROCEDURES

To be eligible to transfer between programmes in the Faculty of Science, students must meet the criteria as described under the heading Programme Transfers in this section of the Calendar.

Students in Levels II or III who wish to transfer to another programme in the Faculty of Science for the following Fall/Winter session must complete an Application to Transfer to Another Programme during the March Counselling period. This form must be completed and returned to the Office of the Associate Dean of Science (Studies) by the end of March. Students will be notified of the results of their applications on their grade reports in early June. Programme transfers are not normally permitted during the Fall/Winter academic session.
LIMITED ENROLMENT COURSES
There are two types of limited enrolment courses as follows:

1. Limited enrolment courses requiring permission:
   These courses have a prerequisite stating as a requirement: Permission of the instructor, department, coordinator, chair, etc. During the March Counselling period and before March 31st, it is the student’s responsibility to apply to the corresponding departmental office for permission for courses in which they wish to register for the following Fall/Winter session. Students will be informed by a sentence on their grade report if permission has been given or denied. If permission is given, the student may list the course on their registration form. However, if permission has not been given, registration for the course will not be approved.

   If a limited enrolment course is an absolute requirement for a programme, then students in that programme have a guaranteed place in the course. This will be noted in the course prerequisite.

2. Limited enrolment courses:
   These courses do not have a prerequisite stating as a requirement: Permission of the instructor, department, coordinator, chair, etc. Enrolment in these courses is handled on a first-come, first-served basis until the end of August. Students must state an alternate course on their registrations for each limited enrolment course they list. Students should check MUGSI in the first week of September, before classes begin, to determine if they are registered for their limited enrolment course(s) or their alternate course(s).

   Note: During the September and January Drop and Add Periods, students must obtain a signed permission slip for both types of limited enrolment courses as mentioned above. Students are encouraged to obtain permission as soon as possible. They must attach the signed permission slip to their Application for Change of Student Record form to be permitted to enter their desired limited enrolment course(s).

DEPARTMENT OF BIOCHEMISTRY

WEB ADDRESS: http://www.science.mcmaster.ca/biochem/

Honours Arts & Science and Biochemistry
(B.Arts.Sc; See Arts & Science programme)

Honours Biochemistry (Specialist Option) [2042]

ADMISSION
Completion of the Science I requirements, including:
6 units MATH 1A03, 1B04, 1C03
6 units BIOLOGY 1A03, 1AA3
6 units CHEM 1A03, 1AA3
3 units PHYSICS 1B03
3 units from Level I Science Core Course List 1
6 units from Level I Course Lists 2, 3
1 course SCIENCE 1A00

While STATS 1C03 is strongly recommended, students will also be considered for admission if they have completed MATH 1A03 instead of STATS 1C03. Students wishing to take CHEM 2PA3 and 2PB3 in Level II must complete MATH 1AA3.

MINIMUM AVERAGES/GRADUES:
A Cumulative Average of 5.0 and a grade of C+ in each of four of BIOLOGY 1A03, 1AA3, CHEM 1A03, 1AA3, and MATH 1A03.

OFFERS
1. 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.
2. Students planning to apply for admission to a Biochemistry Co-op programme must take BIOLOGY 2B03 in Level II.
3. A minor in Biology or Chemistry is not permitted in the Honours Biochemistry (Specialty Studies Option) programme.

REQUIREMENTS
120 units total (Levels I to IV), of which no more than 48 units may be Level I courses.

LEVEL I
30 units (See Admission above.)

LEVEL II: 30 UNITS
18 units BIOCHEM 2A06, BIOLOGY 2C03, CHEM 2A03, 2B03, 2R03
6 units from the Faculty of Humanities and/or the Department of Religious Studies
6 units Electives, excluding Biochemistry

LEVEL III: 30 UNITS
15 units BIOCHEM 3B03, 3BB3, 3L03, BIOLOGY 2B03, CHEM 2N03
3 units HUMAN 2C03
6 units from the Faculties of Business, Humanities, Social Sciences
6 units Electives, excluding Biochemistry

LEVEL IV: 30 UNITS
3 units from BIOCHEM 4G03, 4A03
3 units from the Science Inquiry Course List
3 units from BIOCHEM 3H03, 3N03, 4Q03, 4P03
3 units from BIOCHEM 4D03, 4E03
3 units from BIOCHEM 4I03, 4M03
3 units from Level III, IV Biochemistry, BIOLOGY 3O03, 3X03, 4P03
6 units from Level III, IV courses, excluding Biochemistry
6 units Electives

Honours Biochemistry (Specialist Option) [2040]

ADMISSION
Enrolment in this programme is limited. Selection is based on academic achievement but requires, as a minimum, completion of the Science I requirements, including:
6 units MATH 1A03, STAT 1C03
6 units BIOLOGY 1A03, 1AA3
6 units CHEM 1A03, 1AA3
3 units PHYSICS 1B03
3 units from Level I Course List 1
6 units from Level I Course Lists 2, 3
1 course SCIENCE 1A00

While STATS 1C03 is strongly recommended, students will also be considered for admission if they have completed MATH 1A03 instead of STATS 1C03. Students wishing to take CHEM 2P03 and 2PB3 in Level II must complete MATH 1AA3.

MINIMUM AVERAGES/GRADUES:
A Cumulative Average of 5.0 and a grade of C+ in each of four of BIOLOGY 1A03, 1AA3, CHEM 1A03, 1AA3, and MATH 1A03.

NOTES
1. This programme fulfills the academic requirements for membership in the Chemical Society of Canada
2. A minor in Biology or Chemistry is not permitted in the Honours Biochemistry (Specialty Option) programme.

REQUIREMENTS
120 units total (Levels I to IV), of which no more than 48 units may be Level I courses.

LEVEL I
30 units (See Admission above.)

LEVEL II: 30 UNITS
21 units BIOCHEM 2A06, BIOLOGY 2B03, 2C03, CHEM 2N03, 2A03, 2B03
3-6 units from either CHEM 2R03 or both CHEM 2PA3 and 2PB3
3-6 units Electives. CHEM 2N03, COMP SCI 1S03 (or 1MC3) and STATS 2MA3 are suggested

LEVEL III: 30 UNITS (BIOCHEMISTRY OPTION) [2040]
12 units BIOCHEM 3B03, 3BB3, 3L03, 3P03
6 units BIOLOGY 3O03, CHEM 3P03
6 units from Level III, IV Biochemistry, Biology, Chemistry
6 units Electives, excluding Biochemistry
LEVEL IV: 30 UNITS (BIOCHEMISTRY OPTION)

9 units BIOCHEM 4E03, 4I03, 4M03
12 units from Level III, IV Biochemistry courses which must include one of BIOCHEM 4B06, 4F09, 4L03, 4P03
3 units from Level III, IV Science courses, excluding Biochemistry
6 units Electives

LEVEL III: 30 UNITS (BIOTECHNOLOGY AND GENETIC ENGINEERING OPTION)

12 units BIOCHEM 3B03, 3BB3, 3L03, 3P03
9 units BIOLOGY 3003, 3E03, CHEM 3F03
3 units from Level III, IV Biochemistry, Biology, Chemistry
6 units Electives, excluding Biochemistry

LEVEL IV: 30 UNITS (BIOTECHNOLOGY AND GENETIC ENGINEERING OPTION)

9 units BIOCHEM 4D03, 4DD3, 4E03
15 units including:
3-9 units from BIOCHEM 4BB6, 4F09, 4G03
3-6 units from BIOCHEM 4103, 4M03
3-6 units from Level III, IV Biochemistry, Biology, Chemistry (BIOLOGY 3X03 or 4V03 is recommended)
6 units Electives

Honours Biochemistry Co-op

ADMISSION

Enrolment in this programme is limited to a maximum of 25 students per year. Selection is based on academic and other achievements (see below) but requires, as a minimum, a cumulative Average of at least 7.0 and completion of either Level II Honours Biochemistry, Honours Biochemistry and Molecular Biology, or Honours Molecular Biology.

Information about the programme and the selection procedure may be obtained from the Chair and will be explained in the month of February in an Information Session.

NOTES

1. This is a five-year co-op programme which includes two eight-month work terms which require them to be spent in Biochemistry related placements.
2. Students must register for a full-time workload.
3. Students are required to complete a Work Orientation Course before beginning work placement.
4. Students who are entering Level III Honours Biochemistry Co-op have two choices:
   (i) Honours Biochemistry Co-op;
   (ii) Honours Biochemistry Co-op (Biotechnology and Genetic Engineering Option)
5. 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.
6. No minors or Theme Schools are permitted in the Honours Biochemistry (Co-op) programme.

REQUIREMENTS

120 units total (Levels I to IV), of which no more than 48 units may be Level I courses.

LEVEL I
30 units from the Science I requirements

LEVEL II
30 units from Honours Biochemistry (BIOLOGY 2B03 must be completed), Honours Biochemistry and Molecular Biology, or Honours Molecular Biology

(Biochemistry Option)

YEAR 3

FALL/WINTER, TERM 1
9 units BIOCHEM 3G03, 3L03, BIOLOGY 3003
3 units from Level III, IV Biochemistry, Biology, Chemistry, or CHEM 2N03 if not completed
3 units Electives
→ Work Orientation Course

FALL/WINTER, TERM 2
9 units BIOCHEM 3BB3, 3P03, CHEM 3F03; (Students who have obtained appropriate experience during the previous work term may request permission from the Department to take 3 units of Level III, IV Biochemistry instead of BIOCHEM 3P03)
3 units from Level III, IV Biochemistry, Biology, Chemistry
3 units Electives

SUMMER AND FALL/WINTER, TERM 1
Second eight month Work Term

YEAR 4

FALL/WINTER, TERM 1
6 units BIOCHEM 4E03, 4M03
6 units from Level III, IV Biochemistry, Biology, Chemistry
3 units Electives

FALL/WINTER, TERM 2
9 units BIOCHEM 3BB3, 3P03, CHEM 3F03; (Students who have obtained appropriate experience during the previous work term may request permission from the Department to take 3 units of Level III, IV Biochemistry instead of BIOCHEM 3P03)
3 units from Level III, IV Biochemistry, Biology, Chemistry
3 units Electives

YEAR 5

FALL/WINTER, TERM 1
Work Term

FALL/WINTER, TERM 2
3 units BIOCHEM 4103
3 units from BIOCHEM 4L03, 4P03
3 units Level III, IV Biochemistry
3 units from Level III, IV Science courses
3 units Electives

(Biochemistry and Genetic Engineering Option)

YEAR 3

FALL/WINTER, TERM 1
12 units BIOCHEM 3B03, 3L03, BIOLOGY 3003, 3E03
3 units Electives or CHEM 2N03 if not completed
→ Work Orientation Course

FALL/WINTER, TERM 2
9 units BIOCHEM 3B03, 3P03, CHEM 3F03; (Students who have obtained appropriate experience during the previous work term may request permission from the Department to take 3 units of Level III, IV Biochemistry instead of BIOCHEM 3P03)
3 units from Level III, IV Biochemistry, Biology, Chemistry
3 units Electives

SUMMER AND FALL/WINTER, TERM 1
Second eight month Work Term

YEAR 4

FALL/WINTER, TERM 1
9 units BIOCHEM 4D03, 4E03, 4M03
3 units from Level III, IV Biochemistry, Biology, Chemistry
3 units Electives

FALL/WINTER, TERM 2
9 units BIOCHEM 4D03, 4E03, 4M03
3 units from BIOCHEM 4G03, 4P03
3 units from Level III, IV Science courses
3 units Electives

YEAR 5
Honours Biochemistry and Molecular Biology

ADMISSION
Enrolment in this programme is limited. Selection is based on academic achievement but requires, as a minimum, completion of the Science I requirements, including:
- 6 units in MATH 1A03, 1AA3
- 6 units in CHEM 1A03, 1A3
- 6 units in PHYSICS 1B03
- 3 units in CHEM 1A03 or 1AA3
- 3 units from Level I Science Core Course List
- 6 units from Level I Course Lists 2, 3, or 4 (Complementary Studies Option)
- 1 course in SCIENCE 1A00

While STATS 1C03 is strongly recommended, students will also be considered for admission if they have completed MATH 1A03 instead of STATS 1C03. Students wishing to take CHEM 2PA3 and 2PB3 in Level II must complete MATH 1A03.

MINIMUM AVERAGES/GRADES:
A Cumulative Average of 5.0 and an average of C+ in each of four of BIOLOGY 1A03, 1A3, CHEM 1A03, 1AA3 and MATH 1A03.

NOTE
A minor in Biology or Chemistry is not permitted in the Honours Biochemistry and Molecular Biology programme.

REQUIREMENTS
120 units total (Levels I to IV), of which no more than 48 units may be Level I courses

LEVEL I
- 30 units (See Admission above.)

LEVEL II: 30 UNITS
- 21 units in BIOCHEM 2A06, BIOLOGY 2B03, 2C03, CHEM 2N03, 2A03, 2B03
- 3-6 units from either CHEM 2R03 or both CHEM 2PA3 and 2PB3
- 3-6 units in Electives. CHEM 2I03, COMP SCI 1S03 (or 1MC3) and STATS 2MA3 are suggested

LEVEL III: 30 UNITS
- 15 units in BIOCHEM 3B03, 3B3, 3C03, 3L03, 3P03
- 6 units in BIOLOGY 3C03, CHEM 3F03
- 3 units from Level III, IV Biochemistry or Molecular Biology courses
- 6 units in Electives, excluding Biochemistry

LEVEL IV: 30 UNITS
- 9 units in BIOCHEM 4D03, 4E03, 4EE3
- 3 units from BIOCHEM 4I03, 4M03
- 9 units from Level III, IV Biochemistry or Molecular Biology courses which must include one of BIOCHEM 4BB6, 4F09, 4G03
- 3 units in Level III, IV Biochemistry, Biology, Chemistry
- 6 units in Electives

Minor in Biochemistry
- 6 units from CHEM 1A06, 1A03, 1AA3
- 6 units from either CHEM 2006 or 2B06 or both 20A3 and 20B3 or both CHEM 28A3 and 2BB3
- 6 units from BIOCHEM 3G03 and one of 2E03, 3G03, or 3A03 and 3AA3, or 3B03 and 3BB3
- 6 units from Level III, IV Biochemistry

DEPARTMENT OF BIOLOGY

WEB ADDRESS:
http://www.science.mcmaster.ca/biology/dept.html

Honours Philosophy and Biology
(B.A.; See Faculty of Humanities, Department of Philosophy)

Honours Arts & Science and Biology
(B.Arts Sc; See Arts & Science programme)

Honours Molecular Biology
(See Molecular Biology)

Honours Biology
(Complementary Studies Option)

ADMISSION
Completion of Science I requirements, including:
- 8 units in MATH 1A03, 1AA3
- 6 units in CHEM 1A03, 1AA3
- 8 units in PHYSICS 1B03
- 3 units from Level I Science Core Course List
- 6 units from Level I Course Lists 2, 3, or 4
- 1 course in SCIENCE 1A00

MINIMUM AVERAGES/GRADES:
A Cumulative Average of 5.0 and an average of 8.0 in BIOLOGY 1A03, 1A3, and a grade of C+ in each of three of MATH 1A03, CHEM 1A03, 1AA3, PHYSICS 1B03, STATS 1C03.

NOTES
1. Students in Levels III and IV of this programme should select courses in consultation with the Chair of the Department of Biology.
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 (III) courses.

COURSE LIST
All Level III and IV Biology courses, except BIOLOGY 4C09 and 4G03, BIOCHEM 2E03, 3B03, 3B3, 3C03, 3G03, 3H03, 3N03, 4D03, 4DD3, 4E03, 4EE3, 4I03, 4M03, GEO 2P03, 3B03, 3C03, 3P03, 4B03; MOL BIOL 4F03, 4H03, 4J03; PHARMAC 4B03; PSYCH 2F03, 3F03, 3R03, 3S03, 3T03

REQUIREMENTS
120 units total (Levels I to IV), of which no more than 48 units may be Level I courses

LEVEL I
- 30 units (See Admission above.)

LEVEL II: 30 UNITS
- 15 units in BIOLOGY 2B03, 2C03, 2D03, 2E03, 2F03, BIOCHEM 2E03
- 3-6 units from either CHEM 2E03, or both CHEM 2A03 and 2B03
- 6 units from the Faculty of Humanities and/or the Department of Religious Studies
- 3-6 units in Electives

LEVEL III: 30 UNITS
- 3 units from BIOLOGY 2B03, 2C03, 2D03, 2E03, 2F03, BIOCHEM 2E03 (whichever is not completed)
- 6 units from Level III, IV Biology
- 6 units from the Course List (see above)
Honours Biology (Specialist Option) {2050}

ADMISSION
Enrolment in this programme is limited. Selection is based on academic achievement but requires, as a minimum, completion of the Science I requirements, including:
- 6 units MATH 1A03, 1AA3
- 6 units BIOL 1A03, 1AA3
- 6 units CHEM 1A03, 1AA3
- 3 units PHYSICS 1B03
- 3 units from Level I Science Core Course List 1
- 6 units from Level I Course Lists 2, 3
- 1 course SCIENCE 1A00

MINIMUM AVERAGES/GRADS:
A Cumulative Average of 5.0 and an average of 6.0 in BIOLOGY 1A03, 1AA3 and an average of 5.0 in MATH 1A03, 1AA3, 1B03.

NOTES
1. Students are advised to note carefully the prerequisites for all Level III and IV courses listed in the following programme, particularly BIOCHEM 2E03, 3B03.
2. The Department of Biology has the following areas of specialization:
   a) Animal Physiology
   b) Molecular, Cellular and Developmental Biology
   c) Ecology and Environmental Science
   d) Genetics and Evolution
   e) Microbiology
   f) Plant Biology
3. Admission to Honours Biology and Pharmacology (Co-op) requires CHEM 2A03 and 2B03 or 2006.

COURSE LIST
All Level III and IV Biology courses: BIOCHEM 2E03, 3B03, 3BB3, 3C03, 3G03, 3H03, 3K03, 4D03, 4D3, 4E03, 4E3, 4I03, 4M03; GEO 2P03, 3B03, 3C03, 3P03, 4B03; MOL BIOL 4F03, 4H03, 4J03; PHARMAC 4B03; PSYCH 2F03, 3F03, 3R03, 3S03, 3T03

REQUIREMENTS
120 units total (Levels I to IV), of which no more than 48 units may be Level I courses.

LEVEL I
30 units (See Admission above.)

LEVEL II: 30 UNITS
18 units BIOLOGY 2B03, 2C03, 2D03, 2E03, 2F03; BIOCHEM 2E03
6-6 units from either CHEM 2E03 or both CHEM 2A03 and 2B03 (See Note 3 above.)
3 units STAT 2MA3
6-6 units Electives, including Biochemistry and Biology

LEVEL III: 30 UNITS
18 units from Levels III, IV Biology
6 units from the Course List (see above)
3 units Electives, excluding Biochemistry and Biology
6 units Electives

LEVEL IV: 30 UNITS
18 units from Levels III, IV Biology (which must include either BIOLOGY 4F06 or 4C09)
6 units from the Course List (see above)
6 units Electives
BIOLOGY 4C09 is highly recommended

Honours Biology and Mathematics (2050320)

ADMISSION
Completion of the Science I requirements, including:
- 6 units MATH 1A03, 1AA3
- 6 units BIOLOGY 1A03, 1AA3
- 6 units CHEM 1A03, 1AA3
- 3 units MATH 1B03
- 3 units from Level I Science Core Course List 1
- 6 units from Level I Course Lists 2, 3
- 1 course SCIENCE 1A00

MINIMUM AVERAGES/GRADS:
A Cumulative Average of 5.0 and an average of 6.0 in BIOLOGY 1A03, 1AA3 and an average of 5.0 in PHYSICS 1B03, 1AA3.

NOTES
1. Students should seek counselling for this programme in either the Department of Mathematics and Statistics or the Department of Biology.
2. Students are advised to note carefully graduate programme requirements.
3. Students considering graduate studies in Biology are recommended to complete BIOLOGY 4C09 or BIOLOGY 4F06.
4. Students considering graduate studies in Mathematics, are recommended to complete MATH 2AB3, 2R03 and either 2S03 or 2T03 in Level II, MATH 3A03 and 3X03 or 3X03 in Level III, and MATH 3AA3 and 4X03 in Level IV. MATH 3E03 is recommended.
5. Students must complete at least nine units from Level IV Biology courses.

REQUIREMENTS
120 units total (Levels I to IV), of which no more than 48 units may be Level I courses and with at least 9 units from Level IV courses.

LEVEL I
30 units (See Admission above.)

LEVEL II: 30 UNITS
12 units BIOLOGY 2B03, 2C03, 2E03, 2F03
15 units MATH 2AC3, 2AB3, 2C03, 2E03, 2R03
3 units Electives
If not completed: MATH 1B03

LEVEL III: 30 UNITS
12 units from Level III, IV Biology (See Note 5 above.)
6 units MATH 3A03, 3N03
3 units from MATH 2S03, 2T03, 3A03
3-6 units STAT 2D03, 2MB3
3-6 units Electives

LEVEL IV: 30 UNITS
18 units from Level III, IV Biology, Mathematics, Statistics, PSYCH 4I03 which must include at least 9 units of Level IV Biology (See Note 5 above.)
3-6 units from MATH 3A03, 3E03, 3FF3, 3X03, STAT 3S06, 3S03, 3U03
6-9 units Electives

Honours Biology and Pharmacology (Co-op) {2050419}

ADMISSION
Enrolment in this programme is limited to a maximum of 25 students per year. Selection is based on academic and other achievement (see below) but requires, as a minimum, completion of Level I of an Honours Biology or Molecular Biology programme (including CHEM 2A03 and 2B03 or 2006) with a Cumulative Average of at least 5.0.

Information about this programme and the selection procedure can be obtained from the Chair of the Committee of Instruction and will also be explained in the month of February in an Information Session. It is strongly recommended that students interested in enrolling in the programme attend the Information Session. Students
wishing to apply must submit a formal written application to the Office of the Dean of Science Studies in the first week of March. The selection will be based on interviews and/or tutorial sessions to be held the first weekend in March, as well as on academic performance. Successful candidates will be notified in writing.

NOTES
1. This is a five-year co-op programme, three terms of which must be spent off-campus in work related to pharmacology, toxicology or pharmaceutics. These three terms will include the summer term following the completion of Level III, the second term of Level IV and the first term of the fifth year. Level IV continues through the fourth and fifth year of the programme. A senior thesis will be completed during the summer of the fourth year. PHARMAC 3A06, 3B06, 4A03, 4A3A, 4C03, 4D03 and 4E03 will use a self-directed problem-based learning approach. PHARMAC 4B03 may be taught in a lecture format in some years.
2. Students must be registered full-time and take a full academic workload.
3. Students are required to complete a Work Orientation Course before the first work placement.
4. Students should seek academic counselling for this programme in the Department of Biology.
5. No minors or Theme Schools are permitted in the Honours Biology and Pharmacology Co-op programme.

COURSE LIST
BIOCHEM 3B03, 3B03, 3C03, 3D03, 3E03, 3F03, 3N03; All Level III and IV Biology courses; CHEM 3F03, 4D33; GEO 3B03, 4A03, 4B03; MOL BIOL 4F03, 4H03, 4J03

REQUIREMENTS
129 units total (Levels I to IV), of which no more than 48 units may be Level I courses

LEVEL I
30 units from the Science I requirements

LEVEL II: 30 UNITS
6 units BIOLOGY 2B03, 2C03
3-6 units BIOCHEM 2A06 or 2E3E
6 units BIOLOGY 2D03, 2E03, 2F03
6 units CHEM 2OA3, 2OB3
3 units STATS 2MA3
3-6 units Electives, excluding Biochemistry and Biology. CHEM 2R03 is recommended.

YEAR 3
30 units from Academic Level III, Terms 1 and 2, plus Work Orientation course, and completion of first four-month work term, Summer Term

TERM 1 AND 2
6 units from the Course List (see above). Must include BIOCHEM 3G03 if BIOCHEM 2A06 is not completed.
9 units BIOLOGY 3P03, 3U03, 3U33
12 units PHARMAC 3A08, 3B06
3 units Electives

SUMMER
Work Term

YEAR 4
15 units from Academic Level IV, Term 1, completion of second four-month work term, Term 2, completion of senior thesis, Summer Term.

TERM 1
6 units BIOLOGY 3X03; PHARMAC 4A03
3 units from PHARMAC 4B03, 4C03
6 units from the Course List (see above)

TERM 2
Work Term

SUMMER
9 units PHARMAC 4F09

YEAR 5
15 units from Academic Level IV, Term 2, and completion of third four-month work term, Term 1.

TERM 1
Work Term

TERM 2
6 units from PHARMAC 4AA3, 4D03, 4E03
3 units from the Course List (see above)
6 units Electives

YEAR 3
15 units from Academic Level III + Work Orientation Course

TERM 1
15 units from Academic Level III

TERM 2
Senior Thesis

YEAR 4
15 units from Academic Level IV

TERM 1

TERM 2

SUMMER

Honours Biology and Psychology (2050460)

ADMISSION
Enrolment in this programme is limited. Selection is based on achievement but requires, as a minimum, completion of the Science I requirements, including:
6 units MATH 1A03, 1C03
6 units BIOLOGY 1A03, 1A3A
6 units CHEM 1A03, 1A3A
3 units PHYSICS 1B03
3 units PSYCH 1A03
6 units from Level I Course Lists 2, 3
1 course SCIENCE 1A00

PSYCH 1A3A must be completed by the end of Level II and is strongly recommended in Level I.

MINIMUM AVERAGES/GRDES:
A Cumulative Average of 5.0 and an average of 6.0 in BIOLOGY 1A03, 1A3A, a grade of C+ in PSYCH 1A03, and an average of 6.0 in CHEM 1A03, 1A3A.

NOTES
1. Counselling for this programme is shared by the Departments of Biology and Psychology and alternates each year.
2. MATH 1B03 and PHYSICS 1B33 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 Course List 3). Enrolment is limited for the Psychology laboratory courses.
4. Students who hope 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 programme.

COURSE LIST 1
BIOLOGY 2D03, 2E03, 2F03, All Level III and IV Biology courses; BIOCHEM 3H03, 3N03, 4D03, 4D33, 4E03, 4E33, 4I03, 4M03; MOL BIOL 4F03, 4H03; PHARMAC 4B03

COURSE LIST 2
PSYCH 2E03, 2F03, 2H03, 2T03. All Level III and IV Psychology courses (PSYCH 2AA3, 2B03 and 2C03 may only be used as elective credit)

COURSE LIST 3
PSYCH 3L03, 3L33, 3Q03, 3S03, 3V03, 4G03, 4QQ3 (All Psychology lab courses, except PSYCH 3LL3, are Limited Enrolment courses)
REQUIREMENTS
120 units total (Levels I to IV), of which no more than 48 units may be Level I courses

LEVEL I
30 units
(See Admission above.)

LEVEL II: 30 UNITS
15 units BIOLOGY 2B03, 2C03, CHEM 2OA3, 2OB3, BIOCHEM 2EE3
6 units from PSYCH 2E03, 2F03, 2H03, 2T03
3 units from PSYCH 2PR3
6 units Electives, CHEM 2R03 is recommended.
If not completed: PSYCH 1AA3

LEVEL III: 30 UNITS
3 units BIOCHEM 3G03
9 units from Course List 1 (see above) which may not include more than 3 units of Level II Biology
6 units from Course List 2 (see above) which must include at least 3 units of Level III or IV Psychology
3 units from Level III or IV courses from Course List 1 or 2 (see above)
3 units from Course List 3 (see Note 2 above.)
6 units Electives, BIOCHEM 2EE3 if not completed

LEVEL IV: 30 UNITS
24 units from Level III or IV courses from Course List 1 and 2 (see above), including at least nine units from Course List 1 and nine units from Course List 2. One of BIOLOGY 4C09, 4F06 or PSYCH 4D06 must be included.
6 units Electives

B.Sc. Three-Level Degree
A three-level programme with a Biology Orientation is available through the B.Sc. in Life Science programme which is listed under the heading Three-Level B.Sc. Programmes in this section.

Minor in Biology
6 units from BIOLOGY 1A06, 1A03, 1AA3
18 units from Level II, III, IV Biology courses, including at least six units from Level III, IV Biology courses

DEPARTMENT OF CHEMISTRY
WEB ADDRESS: http://www.chemistry.mcmaster.ca

NOTES
1. Students in all Chemistry programmes 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.
2. Students are encouraged to seek academic counselling from the Undergraduate Advisor for Chemistry programmes.
3. Students who wish to transfer from Level II or III to an Honours Chemistry programme must have a C.A. of at least 6.0 and must have completed the equivalent of Science I including all the courses required for Admission to an Honours Chemistry programme.

Honours Arts & Science and Chemistry (B.Arts.Sc.; See Arts & Science programme)

Honours Chemistry {2072}
(Complementary Studies Option)

ADMISSION
Completion of the Science I requirements, including:
6 units MATH 1A03, 1AA3
6 units CHEM 1A03, 1AA3
6 units from PHYSICS 1B03, 1BA3 (or 1BB3)
3 units MATH 1B03
3 units from Level I Science Core Course List 1
6 units from Level I Course Lists 2, 3
1 course SCIENCE 1A00

MINIMUM AVERAGES/GRADES:
A Cumulative Average of 5.0 and an average of 6.0 in CHEM 1A03, 1AA3.

NOTES
1. This programme fulfills the academic requirements for membership in the Chemical Society of Canada.
2. COMP SCI 2MF3, MATH 2C03, and PHYSICS 2A03 or 2B06 are recommended electives.
3. For those considering postgraduate studies in Chemistry, it should be noted that 18 units of Level IV Chemistry are required for consideration for admission at McMaster.
4. 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.

REQUIREMENTS
120 units total (Levels I to IV), of which no more than 48 units may be Level I courses

LEVEL I
30 units
(See Admission above.)

LEVEL II: 30 UNITS
21 units CHEM 2A03, 2BA3, 2BB3, 2I03, 2L03, 2PA3, 2PB3
3 units MATH 2A03
6 units from Course List 2, 3
0-3 units Electives, excluding Chemistry
If not completed: PHYSICS 1BA3 (or 1BB3)

LEVEL III: 30 UNITS
15 units CHEM 3A03, 3BA3, 3BB3, 3D03, 3G03
3 units HUMAN 2C03
6 units from the Faculties of Business, Humanities, Social Sciences
6 units Electives, excluding Chemistry

LEVEL IV: 30 UNITS
6 units from the Science Inquiry Course List
3 units CHEM 4TA3
3 units from Level III, IV Chemistry
6 units from Level IV Chemistry
6 units Electives from Level III, IV, excluding Chemistry
6 units Electives

Honours Chemistry (Specialist Option) {2070}

ADMISSION
Completion of the Science I requirements, including:
6 units MATH 1A03, 1AA3
6 units CHEM 1A03, 1AA3
6 units from PHYSICS 1B03, 1BA3 (or 1BB3)
3 units MATH 1B03
3 units from Level I Course List 1
6 units from Level I Course Lists 2, 3
1 course SCIENCE 1A00

MINIMUM AVERAGES/GRADES:
A Cumulative Average of 5.0 and an average of 6.0 in CHEM 1A03, 1AA3.

NOTES
1. This programme fulfills the academic requirements for membership in the Chemical Society of Canada.
2. For students interested in physical chemistry recommended electives throughout the programme include MATH 2C03, STATS 1CC3 and 2MA3.

REQUIREMENTS
120 units total (Levels I to IV), of which no more than 48 units may be Level I courses

LEVEL I
30 units
(See Admission above.)

LEVEL II: 30 UNITS
21 units CHEM 2A03, 2BA3, 2BB3, 2I03, 2L03, 2PA3, 2PB3
3 units MATH 2A03
3-6 units from PHYSICS 2A03, 2B06
0-3 units Electives, excluding Chemistry
If not completed: PHYSICS 1BA3 (or 1BB3)
LEVEL III: 30 UNITS
21 units CHEM 3A03, 3BA3, 3BB3, 3D03, 3P03, 3Q03, 3Z03
6 units Electives

LEVEL IV: 30 UNITS
6 units from CHEM 4G06, or both CHEM 4TA3 and 3 units from Level III, IV Chemistry
12 units from Level IV Chemistry
6 units from Level III, IV Science, Engineering
6 units Electives

Honours Chemistry Co-op (2073)

ADMISSION
Enrolment in this programme is limited to a maximum of 10 students per year. Selection is based on academic and other achievement (see below) but requires, as a minimum, completion of Level II Honours Chemistry (Complementary Studies Option) or Honours Chemistry (Specialist Option) or Honours Biological Chemistry or Honours Biochemistry and Chemistry with a Cumulative Average of at least 6.0.

Information about the programme and the selection procedure may be obtained from Science Cooperative Education and will be explained in the month of February in an Information Session.

NOTES
1. This is a five-year co-op programme 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.
3. Students are required to complete a Work Orientation Course before the first work placement.
4. No minors or Theme Schools are permitted in the Honours Chemistry (Co-op) programme.
5. 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.
6. This programme is based on the requirements of the Honours Chemistry (Complementary Studies Option) programme.
7. Students considering postgraduate studies in Chemistry should note that 18 units of Level IV Chemistry are required for consideration for admission at McMaster.
8. This programme fulfills the academic requirements for membership in the Chemical Society of Canada.

REQUIREMENTS
120 units total (Levels I to IV), of which no more than 48 units may be Level I courses

LEVEL I
30 units from the Science I requirements

LEVEL II
30 units from Level II of Honours Chemistry (Complementary Studies Option), Honours Chemistry (Specialist Option), Honours Biological Chemistry, or Honours Biochemistry and Chemistry

Year 3
15 units from Academic Level III, Term 1, plus Work Orientation course, and first work term of eight months duration, Term 2 and Summer term.

TERM I
6 units CHEM 3A03, 3Q03
3 units HUMAN 2033
6 units Electives. Students who wish to take CHEM 4G06 in Year 4 must complete CHEM 3BA3 and 3I03 in Year 3. Work Orientation Course

TERM 2 AND SUMMER
Work Term

Year 4
30 units from Academic Level IV, Term 1, and Academic Level II, Term 2, plus beginning of second eight-month work term, Summer term.

TERMS 1 AND 2
15 units CHEM 3BA3, 3BB3, 3D03, 3I03, 4TA3
3 units from the Science Inquiry Course List
6 units from the Faculties of Business, Humanities, Social Sciences
6 units from Level III, IV courses, excluding Chemistry

SUMMER
Work Term

Year 5
15 units from Academic Level IV, Term 2, plus completion of second eight-month work term, Term 1.

TERM 1
Work Term

TERM 2
3 units from Level III, IV Chemistry
3 units from Level IV Chemistry
3 units from the Science Inquiry List
6 units Electives

Honours Biological Chemistry (2048)

ADMISSION
Completion of the Science I requirements, including:
6 units MATH 1A03, 1A3
6 units BIOLOGY 1A03, 1A3
6 units CHEM 1A03, 1A3
3 units PHYSICS 1B03
3 units MATH 1B03
6 units from Level I Course Lists 2, 3
1 course SCIENCE 1A00
PHYSICS 1B03 (or 1BB3) must be completed by the end of Level II and is very strongly recommended in Level I, because Physics labs are very difficult to schedule in the Level II programme.

MINIMUM AVERAGES/GRADERS:
A Cumulative Average of 5.0 and an average of 6.0 in CHEM 1A03, 1A3.

NOTES
1. This programme fulfills the academic requirements for membership in the Chemical Society of Canada.
2. A minor in Biochemistry is not permitted in the Honours Biological Chemistry programme.
3. Students considering BIOCHEM 3L03 in Level IV should select BIOCHEM 2E03 in Level III, students considering BIOCHEM 4I03 in Level IV should select BIOCHEM 3BB3 in Level III.

REQUIREMENTS
120 units total (Levels I to IV), of which no more than 48 units may be Level I courses

LEVEL I
30 units (See Admission above.)
B.Sc. Three-Level Degree

A three-level programme with a Chemistry orientation is available through the B.Sc. in Physical Science which is listed under the heading Three-Level B.Sc. Programmes in this section.

Minor in Chemistry

6 units from CHEM 1A06, 1A03, 1AA3
18 units Level II, III, IV Chemistry courses, including at least 6 units from Level III, IV Chemistry courses

DEPARTMENT OF COMPUTING AND SOFTWARE

WEB ADDRESS: http://www.cas.mcmaster.ca

NOTES
1. It is possible to take COMP SCI 1MD3 after COMP SCI 1SA3 with a grade of B+ or better. In that case COMP SCI 1SA3 can be used as a substitute for COMP SCI 1MC3. Nevertheless, students who intend to enter a Comp. Sci. programme are recommended to take COMP SCI 1MC3.
2. For students transferring from Engineering to Science, ENGINEER 1D04 can be used as a substitute for COMP SCI 1MC3.

Honours Economics and Computer Science

(B.A.; See Faculty of Social Sciences, Department of Economics)

Honours Arts & Science and Computer Science

(B.Ars Sc.; See Arts & Science programme)

Honours Computer Science (Specialist Option)

ADMISSION
Completion of any Level I programme, including:
6 units MATH 1A03, 1AA3
3 units MATH 1B03
6 units COMP SCI 1MC3, 1MD3
15 units Level I courses to complete a Level I programme

MINIMUM AVERAGES/GRADERS:
A Cumulative Average of 5.0 and a grade of C+ in each of COMP SCI 1MC3, 1MD3.

NOTES
1. COMP SCI 3E3A3 is listed as required in Level III but may be taken in 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 (III) courses.

3. A minor in Mathematics or Mathematics and Statistics is not permitted in the Honours Computer Science (Complementary Studies) programme.

REQUIREMENTS
120 units total (Levels I to IV), of which no more than 48 units may be Level I courses

LEVEL I
30 units (See Admission above.)

LEVEL II: 30 UNITS
12 units COMP SCI 2MD3, 2MF3, 2MJ3, 2SC3
6 units MATH 2F03, 2T03
6 units from the Faculty of Humanities and/or the Department of Religious Studies
6 units Electives, excluding Computer Science

LEVEL III: 30 UNITS
6 units COMP SCI 3MC3, 3MH3
6 units from COMP SCI 3CB3, 3GA3, 3IA3, 3TA3
3 units COMP SCI 2ME3
3 units HUMAN 2C03
6 units from the Faculties of Business, Humanities, Social Sciences

LEVEL IV: 30 UNITS
6 units COMP SCI 3EA3, 3M13
6 units from COMP SCI 4ZP6 or the Science Inquiry Course List
6 units from Level IV Computer Science, (excluding COMP SCI 4MP6, 4ZP6, NEURCOMP 3W03
6 units Electives from Level III, IV, excluding Computer Science
6 units Electives

Honours Computer Science (Specialist Option)
Honours Computer Science {2145320} and Mathematics

ADMISSION
Completion of any Level I programme, including:
- 6 units MATH 1A03, 1AA3,
- 6 units COMP SCI 1MC3, 1MD3
- 3 units MATH 1B03
- 15 units Level I courses to complete a Level I programme

MINIMUM AVERAGES/GRADERS:
A Cumulative Average of 5.0 and a grade of C+ in each of COMP SCI 1MC3, 1MD3, MATH 1AA3, 1B03.

NOTE
A minor in Statistics or Mathematics and Statistics is not permitted in the Honours Computer Science and Mathematics programme.

COURSE LIST
All Level III and IV Computer Science, Mathematics and Statistics courses; MATH 2E03; NEURCOMP 3W03; PHYSICS 2C03, 2D03, 2K03, 2L03; STATS 2D03, 2MA3, 2MB3

REQUIREMENTS
120 units total (Levels I to IV), of which no more than 48 units may be Level I courses

LEVEL I
30 units (See Admission above.)

LEVEL II: 30 UNITS
9 units COMP SCI 2MD3, 2MF3, 2SC3
12 units MATH 2A03, 2AB3, 2C03, 2R03
3 units from MATH 2503, 2T03
6 units Electives
If not completed: SCIENCE 1A00

LEVEL III: 30 UNITS
12 units COMP SCI 2ME3, 3MG3, 3MH3, 3MI3
3 units from COMP SCI 3CB3, 3EA3, 3GA3, 3IA3, 3TA3
6 units MATH 3A03, 3X03
3 units from Level III, IV Mathematics, Statistics
6 units Electives

LEVEL IV: 30 UNITS
6 units COMP SCI 4MP6
3 units from MATH 3AA3, 4C03, 4J03, 4Q03 4S03, 4X03
6 units from Level III, IV Mathematics, Statistics
3 units from the Course List (see above)
6 units Electives, including Computer Science, Mathematics, Statistics
6 units Electives

Honours Computer Science {2145542} and Statistics

ADMISSION
Completion of any Level I programme, including:
- 6 units MATH 1A03, 1AA3
- 6 units COMP SCI 1MC3, 1MD3
- 3 units MATH 1B03
- 15 units Level I courses to complete a Level I programme

MINIMUM AVERAGES/GRADERS:
A Cumulative Average of 5.0 and a grade of C+ in each of COMP SCI 1MC3, 1MD3, MATH 1AA3, 1B03.

NOTE
A minor in Mathematics or Mathematics and Statistics is not permitted in the Honours Computer Science and Statistics programme.

REQUIREMENTS
120 units total (Levels I to IV), of which no more than 48 units may be Level I courses

LEVEL I
30 units (See Admission above.)

LEVEL II: 30 UNITS
9 units COMP SCI 2MD3, 2MF3, 2SC3
15 units MATH 2A03, 2AB3, 2R03, 2503, 2S03, STATS 2D03
6 units Electives
If not completed: SCIENCE 1A00

LEVEL III: 30 UNITS
12 units COMP SCI 2ME3, 3MG3, 3MH3, 3MI3
9 units MATH 2C03
9 units STATS 2MB3, 3DO6
3 units Electives, excluding Computer Science, Mathematics, Statistics
3 units Electives

LEVEL IV: 30 UNITS
3 units from COMP SCI 3CB3, 3EA3, 3GA3, 3IA3, 3TA3
9 units COMP SCI 3MP6
6 units from Level III, IV Mathematics
9 units from Level III, IV Statistics
3 units from Level III, IV Computer Science (excluding COMP SCI 4Z13); Mathematics, Statistics, NEURCOMP 3W03
3 units Electives, excluding Computer Science, Mathematics, Statistics, NEURCOMP 3W03

Honours Computer Science B.Sc. {2149}
as a Second Degree

ADMISSION
Completion of a Bachelor's degree in a discipline other than computer science with a Cumulative Average of least 7.0 from a recognized university; completion of MATH 1A03, 1AA3, 1B03, and COMP SCI 1MC3, 1MD3 or equivalent.

As Second Degree candidates, applicants must first apply for admission to the University, through the Office of the Registrar (Admissions) indicating they wish to apply for the Honours Computer Science B.Sc. as a Second Degree programme.

NOTE
If a student in the programme has previously taken a required course (or its equivalent), he/she does not have to re-take the course. However, if the credit from that course has been used for a previous degree, the student will be required to take another course with the required number of units.

COURSE LIST
All Level III, IV Computer Science courses (excluding COMP SCI 4MP6, 4Z13, 4ZP6); Mathematics and Statistics courses; NEURCOMP 3W03; PHYSICS 3D03, 3EA3, 3EB3, 4D06, 4DA3, 4DB3

REQUIREMENTS:
80 units total
15 units COMP SCI 2MD3, 2ME3, 2MF3, 2MJ3, 2SC3
9 units MATH 2A03, 2R03, 2T03
12 units COMP SCI 3EA3, 3MG3, 3MH3, 3MI3
15 units from the Course List, which must include at least nine units of Level IV Computer Science
6 units from COMP SCI 4ZP6, Level IV Computer Science
3 units from COMP SCI 3CB3, 3GA3, 3IA3, 3TA3, Level IV Computer Science
1 course SCIENCE 1A00

B.Sc. Three-Level Degree
A three-level programme with a Computer Science orientation is available through the B.Sc. in Mathematical Science which is listed under the heading Three-Level B.Sc. Programmes in this section.
Minor in Computer Science

NOTE
24 units of Computer Science courses in total are required.
6 units COMP SCI 1MC3, 1MD3
3 units COMP SCI 2SC3
15 units from Level II, III, IV, Computer Science, including at least six units from Level III, IV, Computer Science

SCHOOL OF GEOGRAPHY AND GEOLOGY

WEB ADDRESS: http://www.science.mcmaster.ca/geo/geomain.html

Honours Geography (B.A.) and B.A. in Geography and Honours Geography and Environmental Studies (B.A.)
(See B.A. programmes, Faculty of Social Sciences, School of Geography and Geology)

Honours Arts & Science and Geography (B.A.Sc.; See Arts & Science programme)

PROGRAMMES FOR STUDENTS ENTERING IN SEPTEMBER 1999

Honours Geography (B.Sc.) (2241)

ADMISSION
Completion of the Science I requirements, including:
6 units MATH 1A03, STAT 1CC3
3 units BIOLOGY 1A03
6 units CHEM 1A03, 1A03
3 units GEO 1G03
3 units PHYSICS 1B03
3 units from GEO 1A03, 1B03
6 units from Level I Course Lists 2, 3
1 course SCIENCE 1A00

Both GEO 1A03 and GEO 1B03 must be completed by the end of Level II and are recommended in Level I.

MINIMUM AVERAGES/ GRADES:
A Cumulative Average of 5.0 and a grade of C+ in GEO 1G03 and in either GEO 1A03 or 1B03.

NOTES
1. There are Level II (and III) prerequisites for many Level III (and IV) courses. The prerequisites should be considered when choosing your Level II courses.
2. Students in this programme may select a Geographic Information Systems (GIS) specialist stream in Levels III and IV.
3. While registered in Level II students may apply to the School of Geography and Geology by March 31st to be admitted to the GIS specialist stream. Students are required to have a minimum grade of C+ in GEO 2B03 to be admitted to the GIS stream. Students will be notified of the stream to which they are admitted on their June grade report and will register for the appropriate stream courses beginning in Level III. It is highly recommended that students make a counselling appointment with the Academic Advisor in the School of Geography and Geology during the March Counselling Period. Students may request that the School of Geography and Geology authorizes a transcript notation attesting that they have followed and/or completed their chosen stream.
4. It is highly recommended that students make a counselling appointment with the Academic Advisor in the School of Geography and Geology during the March Counselling Period.
5. The field component of GEO 3FE3 is normally taken in the two weeks before the start of the fall term in Level III.

COURSE LIST
GEO 3A03, 3B03, 3C03, 3E03, 3FG3, 3G03, 3I03, 3S03, 3W03, 3Y03, 4A03, 4B03, 4C03, 4D03, 4FE3, 4G03, 4I03, 4S03, 4W03

REQUIREMENTS
120 units total (Levels I to IV), of which no more than 48 units may be Level I courses

LEVEL I
30 units (See Admission above.)

LEVEL II: 30 UNITS
6 units GEO 2I03, 2S03
9 units from GEO 2B03, 2C03, 2G03, 2W03
15 units Electives

If not completed: GEO 1A03 and 1B03

LEVEL III: 30 UNITS
6 units GEO 3F03, 3FE3
6 units from GEO 3B03, 3C03, 3G03, 3W03
6 units from the Course List (students who have been admitted to the GIS specialist stream must complete GEO 3I03, 3Y03; See Notes 2 and 3 above.)
12 units Electives

LEVEL IV: 30 UNITS
6 units from GEO 4B03, 4C03, 4G03, 4W03
1 course from GEO 4C03, 4R06 (students admitted to the GIS specialist stream must complete GEO 4R06)
6 -9 units from the Course List (students admitted to the GIS specialist stream must complete GEO 4I03, 4S03)
12 units Electives

Honours Environmental Science (B.Sc.) (2211)

ADMISSION
Completion of the Science I requirements, including:
6 units MATH 1A03, STAT 1CC3
3 units BIOLOGY 1A03
6 units CHEM 1A03, 1A03
3 units GEO 1G03
3 units PHYSICS 1B03
3 units from GEO 1A03, 1B03
6 units from Level I Course Lists 2, 3
1 course SCIENCE 1A00

Both GEO 1A03 and GEO 1B03 must be completed by the end of Level II and are recommended in Level I.

MINIMUM AVERAGES/ GRADES:
A Cumulative Average of 5.0 and a grade of C+ in GEO 1G03 and in either GEO 1A03 or 1B03.

NOTES
1. There are Level II (and III) prerequisites for many Level III (and IV) courses. The prerequisites should be considered when choosing your Level II courses. Students should take the Level II Required Specialist course required for the Specialist Stream they wish to follow in Levels III and IV.
2. Students in this programme may choose a specialist stream at the end of Level II and may follow this stream through completion of the programme. The five possible Specialist Streams are as follows:
   • Geochemistry Stream:
     Required Specialist courses: GEO 2E03, 3Q03, 4Q03
     Specialist Course List: GEO 2K03, 2N03, 3E03, 3FG3, 3K03, 3Y03, CHEM 3A03
   • Surficial Geoscience Stream:
     Required Specialist courses: GEO 2G03, 3G03, 4G03
     Specialist Course List: GEO 2E03, 3E03, 3FG3, 3W03, 3Y03, 3Z03, 3Z03, 4E03, 4Z03, 4Z03
   • Biogeochemistry Stream:
     Required Specialist courses: GEO 2B03, 3B03, 4B03
     Specialist Course List: BIOLOGY 2D03, 3SS3, 3TT3, 4A03, 4Y03, BIOCHEM 3E03
   • Hydrology Stream:
     Required Specialist courses: GEO 2W03, 3W03, 4W03
     Specialist Course List: GEO 2C03, 2W03, 3G03, 3Q03, 3Y03, 4W03, 4Z03, ECON 3W03
   • Climatology Stream:
     Required Specialist courses: GEO 2C03, 3C03, 4C03
     Specialist Course List: GEO 2W03, 3W03, 3Y03, 4F03, 4W03, BIOLOGY 3TT3, ECON 3W03

Biogeochemistry Stream: GEO 3G03, 3Z03, 4E03
Specialist Course List: BIOLOGY 2D03, 3SS3, 3TT3, 4A03, 4Y03, BIOCHEM 3E03

Hydrology Stream: GEO 2W03, 3W03, 4W03
Specialist Course List: GEO 2C03, 2W03, 3G03, 3Q03, 3Y03, 4W03, 4Z03, ECON 3W03

Climatology Stream: GEO 2C03, 3C03, 4C03
Specialist Course List: GEO 2W03, 3W03, 3Y03, 4F03, 4W03, BIOLOGY 3TT3, ECON 3W03
To qualify for specialisation in a particular field (stream) a student must complete 9 units of the required specialist courses and 12 units from the corresponding specialist course list.

While registered in Level II, students must apply to the School of Geography and Geology by March 31st to be admitted to a specific stream. Students will be notified of the stream to which they are admitted on their June grade report and will register for the appropriate stream courses beginning in Level III. It is highly recommended that students make a counselling appointment with the Academic Advisor in the School of Geography and Geology during the March Counselling Period. Students may request that the School of Geography and Geology authorizes a transcript notation attesting that they have followed and/or completed their chosen stream.

The field component of GEO 3FE3 is normally taken in the two weeks before the start of the fall term in Level III.

A minor in Geography or Geology is not permitted in the Honours Environmental Science programme.

COURSE LIST BIOCHEM 3E03; BIOLOGY 2D03, 3SS3, 3TT3, 4A03, 4Y03; CHEM 3A03; ECON 3W03; GEO 2C03, 2E03, 2K03, 2KK3, 2W03, 3C03, 3E03, 3FG3, 3G03, 3K03, 3Q03, 3W03, 3Y03, 3Z03, 3Z23, 4E03, 4FE3, 4Q03, 4W03, 4WW3, 4Z03, 4Z23

REQUIREMENTS
120 units total (Levels I to IV), of which no more than 48 units may be Level I courses

LEVEL I
30 units (See Admission above.)

LEVEL II: 30 UNITS
9 units CHEM 2R03, GEO 2I03, 2S03
6 units from BIOCHEM 2EE3, BIOLOGY 2FC03, CHEM 2E03, 2IA03 (or 2V03)
9 units from GEO 2B03, 2C03, 2E03, 2G03, 2W03
6 units Electives
If not completed: GEO 1A03, 1B03

LEVEL III: 30 UNITS
12 units GEO 3A03, 3FE3, 3R03, 3U03
6 units from GEO 3B03, 3C03, 3G03, 3Q03, 3W03
6 units from the Course List (see above and Note 2.)
6 units Electives

LEVEL IV: 30 UNITS
3 units GEO 4A03
3-6 units GEO 4R05, 4CC3
6 units from GEO 4B03, 4C03, 4G03, 4Q03, 4W03
6-9 units from the Course List (see above and Note 2.)
9 units Electives

Honours Environmental Science [2212]

Co-op (B.Sc.)

ADMISSION
Enrolment in this programme is limited to a maximum of 10 students per year. Selection is based on academic and other achievements (see below) and requires, as a minimum, completion of Level II Honours Geography and Environmental Science with a Cumulative Average of at least 6.0.

Information about the programme and the selection procedure may be obtained from the Co-ordinator of the Co-op programme in the School of Geography and Geology and will be explained in the month of February in an Information Session.

NOTES
1. This is a five-year co-op programme which includes two eight-month work terms which must be spent in placements related to Environmental Science.
2. Students must be registered full-time and take a full academic programme.
3. Students are required to complete 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 courses. Students should take the Level II Required Specialist course required for the Specialist Stream they wish to follow in Levels III and IV.

5. Students in this programme may choose a specialist stream in Level III and may follow this stream through completion of the programme. The five possible Specialist Streams are as follows:

- Geochemistry Stream:
  Required Specialist courses: GEO 2E03, 3Q03, 4Q03
  Specialist Course List: GEO 2K03, 2KK3, 3E03, 3FG3, 3K03, 3Y03, 3Y03, 3Z03, 3Z23, 4E03, 4Z23

- Surficial Geoscience Stream:
  Required Specialist courses: GEO 2G03, 3G03, 4G03
  Specialist Course List: GEO 2E03, 3E03, 3FG3, 3W03, 3Y03, 3Z03, 3Z23, 4E03, 4Z23

- Biogeochemistry Stream:
  Required Specialist courses: GEO 2B03, 3B03, 4BC03
  Specialist Course List: BIOLOGY 2D03, 3SS3, 3TT3, 4A03, 4Y03, BIOCHEM 3E03

- Hydrology Stream:
  Required Specialist courses: GEO 2W03, 3W03, 4W03
  Specialist Course List: GEO 2C03, 2WW3, 3G03, 3Q03, 3W03, 4W03, 4Z23, ECON 3W03

- Climatology Stream:
  Required Specialist courses: GEO 2C03, 3C03, 4C03
  Specialist Course List: GEO 2W03, 3W03, 3Y03, 4FE3, 4W03, BIOLOGY 3TT3, ECON 3W03

To qualify for specialisation in a particular field (stream) a student must complete 9 units of the required specialist courses and 12 units from the corresponding specialist course list.

6. While registered in Level II, students must apply to the School of Geography and Geology by March 31st to be admitted to a specific stream. Students will be notified of the stream to which they are admitted on their June grade report and will register for the appropriate stream courses beginning in Level III. Students may request that the School of Geography and Geology authorizes a transcript notation attesting that they have followed and/or completed their chosen stream.

7. It is highly recommended that students make a counselling appointment with the Academic Advisor in the School of Geography and Geology during the March Counselling Period.

8. The field component of GEO 3FE3 is normally taken in the two weeks before the start of the fall term in Level III.

9. A minor in Geography or Geology is not permitted in the Honours Environmental Science Co-op programme.

COURSE LIST BIOCHEM 3E03; BIOLOGY 2D03, 3SS3, 3TT3, 4A03, 4Y03; CHEM 3A03; GEO 2C03, 2E03, 2K03, 2KK3, 2W03, 3C03, 3E03, 3FG3, 3G03, 3K03, 3Q03, 3W03, 3Y03, 3Z03, 3Z23, 4E03, 4FE3, 4Q03, 4W03, 4WW3, 4Z23, 4Z23, ECON 3W03

REQUIREMENTS
120 units total (Levels I to IV), of which no more than 48 units may be Level I courses

LEVEL I
30 units (See Admission above.)

LEVEL II: 30 UNITS
30 units from Level II Honours Environmental Science (B.Sc.)

YEAR 3
15 units from Academic Level III, Term 1, plus Work Orientation course, and completion of first work term of eight-months duration, Term 2 and Summer Term.

TERM 1
6 units GEO 3FE3, 3R03
3 units from GEO 3B03, 3C03, 3G03, 3Q03, 3W03
3 units from the Course List (see Note 5 above.)
3 units Electives
→ Work Orientation Course

TERM 2 AND SUMMER
Work Term

YEAR 4
30 units from Academic Level IV, Term 1 and Academic Level III, Term 2, plus beginning of second eight-month work term, Summer Term.
### TERMS 1 AND 2
- 6 units: GEO 3U03, 3A03
- 3-6 units: GEO 4R06, 4CC3
- 6 units: from GEO 3B03, 3C03, 3G03, 3Q03, 3W03, 4B03, 4C03, 4G03, 4Q03, 4W03
- 6-9 units: from the Course List (see Note 5 above.)
- 6 units: Electives

### SUMMER
- Work Term

### YEAR 5
- 15 units from Academic Level IV, Term 2, and completion of second eight-month work term, Term 1.

### TERM 1
- Work Term

### TERM 2
- 3 units: GEO 4A03
- 3 units: from GEO 3B03, 3C03, 3G03, 3W03, 3Q03, 4B03, 4C03, 4G03, 4Q03, 4W03
- 3 units: from the Course List (see Note 5 above.)
- 6 units: Electives

### HONOURS GEOLOGY

#### ADMISSION
Completion of the Science I requirements, including:
- 6 units: MATH 1A03, STATS 1C03
- 3 units: BIOLOGY 1A03
- 4 units: CHEM 1A03, 1A3
- 3 units: GEO 1G03
- 3 units: PHYSICS 1B03
- 3 units: from GEO 1A03, 1B03
- 6 units: from Level I Course Lists 2, 3
- 1 course: SCIENCE 1A00

Both GEO 1A03 and 1B03 must be completed by the end of Level II and are recommended in Level I.

#### MINIMUM AVERAGES/GRADES:
A Cumulative Average of 5.0 and a grade of C+ in GEO 1G03 and in either GEO 1A03 or 1B03.

#### NOTES
1. This programme aims to fulfill the academic requirements for registration of Geoscientists in Ontario. Please consult with the Academic Advisor in the School of Geography and Geology for specific requirements.
2. In some courses 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.
3. Students in this programme must choose a specialist stream in Level III and must follow this stream through completion of the programme. The two possible Specialist Streams are as follows:
   - **Geo-resources:**
     - Specialist Course List: GEO 2B03, 2G03, 3G03, 3I03, 3K03, 3P03, 3W03, 4E03, 4F03, 4I03, 4K03, 4Q03, 4S03, 4T03, 4R06, 4W03, 4Z03, 4ZZ3
   - **Geo-environmental:**
     - Specialist Course List: BIOCHEM 2EE3; BIOLOGY 2F03, 3SS3; GEO 2B03, 2G03, 2W03, 3A03, 3C03, 3G03, 3P03, 3Q03, 3W03, 3Y03, 4A03, 4E03, 4G03, 4I03, 4K03, 4Q03, 4R06, 4S03, 4T03, 4W03, 4W3, 4Z03, 4ZZ3

   A minimum of 30 units must be taken from the entire Geo-resources or Geo-environmental specialist course list to obtain specialization.
4. While registered in Level II, students must apply to the School of Geography and Geology by March 31st to be admitted to a specific stream. Students will be notified of the stream to which they are admitted on their June grade report and will register for the appropriate stream courses beginning in Level III. Students may request that the School of Geography and Geology authorize a transcript notation attesting that they have followed and/or completed their chosen stream.
5. It is highly recommended that students make a counselling appointment with the Academic Advisor in the School of Geography and Geology during the March Counselling Period.
6. Students must register for GEO 3F03 in Level III, but normally take the April exam period in Level II. GEO 4E03 is normally taken in the summer after Level III, but is included in the Level IV registration.
7. A minor in Environmental Science is not permitted in the Honours Geology programme.

#### COURSE LIST
- BIOCHEM 2EE3; BIOLOGY 2F03, 3SS3; GEO 2B03, 2G03, 2W03, 3A03, 3C03, 3G03, 3I03, 3K03, 3P03, 3Q03, 3W03, 3Y03, 4A03, 4E03, 4G03, 4I03, 4K03, 4Q03, 4R06, 4S03, 4T03, 4W03, 4W3, 4Z03, 4ZZ3

#### REQUIREMENTS
- 120 units total (Levels I to IV), of which no more than 48 units may be Level I courses

### LEVEL I
- 30 units

(See Admission above.)

### LEVEL II: 30 UNITS
- 3 units: CHEM 2R03
- 18 units: GEO 2E03, 2I03, 2K03, 2K3, 2P03, 2S03
- 9 units: Electives

### LEVEL III: 30 UNITS
- 3 units: from GEO 3A03, 3P03, ENGINEER 4B03
- 15 units: GEO 3E03, 3F03, 3G03, 3I03, 3Z03, 3ZZ3
- 6 units: from Course List (See Note 3 above.)
- 6 units: Electives

### LEVEL IV: 30 UNITS
- 24 units: from Course List (see Note 9 above), including at least nine units from Level IV courses
- 6 units: Electives

#### B.Sc. Three-Level Degree
A three-level programme with a Geography/Geology orientation is available through the B.Sc. in Geoscience (formerly Earth Science) which is listed under the heading Three-Level B.Sc. Programmes in this section.

#### Minor in Geography
- 6 units: from Level I GEO 1A03, 1B03, 1G03, 1HB6, 1H3, 1H4, ENVIR SC 1B03, 1G03, 1H03
- 18 units: from GEO 2B03, 2C03, 2G03, 2G3, 2H3, 2HC3, 2H03, 2HR3, 2HU3, 2HY3, 2W03, 2W3, 3A03, 3C03, 3G03, 3H3, 3I03, 3JH3, 3HR3, 3HT3, 3H03, 3HR3, 3S03, 3W03, 4A03, 4E03, 4G03, 4I03, 4W03, 4W3, 4ZZ3, 4H03, 4H3, 4HY3, 4Hz, 4IZ3, 4W03, including at least six units of Level III, IV courses.
- No more than 6 units can be from GEO 2G03, 2HC3, 2HU3, 2W033, 3HJ3, 3HR3
Minor in Geology
3 units from Level I GEO 1G03; ENVIR SC 1G03, GEOLOGY 1C03, GEOG 1G03
3 units from GEO 1A03, 1B03, ENVIR SC 1B03, 1H03
18 units from GEO 2E03, 2K03, 2KK3, 2P03, 3E03, 3FG3, 3K03, 3P03, 3Q03, 3Z03, 3ZZ3, 4E03, 4FE3, 4K03, 4KK3, 4P03, 4Q03, 4T03, 4X03, 4Z03, 4ZZ3, including at least 6 units from Level III, IV courses.

Minor in Environmental Science
6 units from Level I GEO 1A03, 1B03, 1G03, ENVIR SC 1B03, 1G03, 1H03, 1A06, GEOLOGY 1C03, GEOG 1G03
18 units from BIOLOGY 2F03, 3R03, 3S53, 3TT3, 4J03, 4Y03, CHEM 2A03, 2E03, 2K03, GEO 2B03, 2C03, 2E03, 2G03, 2W03, 3A03, 3B03, 3C03, 3G03, 3Q03, 3W03, 4A03, 4B03, 4C03, 4Q03, 4W03, including at least six units from Level III, IV GEO courses and at least 3 units from Level II, III, or IV BIOLOGY or CHEM courses.

PROGRAMMES FOR STUDENTS WHO ENTERED PRIOR TO SEPTEMBER 1998

Honours Geography (B.Sc.) {2241}
Honours Geography and Environmental Science (B.Sc.) {2242}
Honours Geography and Environmental Science Co-op (B.Sc.) {2244}

Students who entered these programmes prior to September 1998 must consult the Academic Advisor for the School of Geography and Geology to discuss ways of fulfilling their programme requirements.

DEPARTMENT OF KINESIOLOGY

WEB ADDRESS: http://kineobserver.mcmaster.ca

Bachelor of Kinesiology (B.KIN), Honours Bachelor of Kinesiology (B.KIN), and B.KIN as a Second Degree
(See B.A. programmes, Faculty of Social Sciences, Department of Kinesiology)

Honours Kinesiology {2671}

The offering of this programme is contingent upon approval by the Ministry of Education and Training.

ADMISSION

Completion of the Kinesiology I requirements, including:
12 units KINESIOL 1A06, 1D03, 1E03
3 units MATH 1A03
2 units STAT 1CC3
6 units from Level I Science Core Course List 1 (See Note 3 below)
6 units Electives (See Note 3 below)
2 courses KINESIOL 1F00 (See Note 1 below), SCIENCE 1A00

MINIMUM AVERAGES/GRADERS:
A Cumulative Average of 5.0 and an average of 6.0 in KINESIOL 1A06, 1D03, 1E03.

NOTES
1. KINESIOL 1F00 (Aspects of Fitness, Lifestyle Management & Recreation) is a non-credit requirement and must be completed in Level I.
2. Students who do not meet the admission criteria for the Honours Kinesiology programme, but whose Cumulative Average is between 3.0 and 4.9 may register in a three-level degree programme for which they qualify. Students with an average between 4.0 and 4.9 may transfer to the B.Kin (four level) programme.

3. BIOLOGY 1A03, 1AA3 and CHEM 1A03, 1AA3 are required for students wishing to take upper level Biology courses. PSYCH 1A03, 1AA3 are required for students wishing to take upper level Psychology courses.
4. Students transferring into the Honours Kinesiology programme with credit in KINESIOL 1B03 must take STATS 1CC3.
5. Students wishing to complete a minor in Science must carefully choose their Level I and II electives keeping in mind the various prerequisite requirements for Level III and IV courses.

FACTORIES OF SCIENCE 95

MINIMUM AVERAGES/GRADERS:
A cumulative average of 3 units from Minor in Environmental Science

COUER LIST
KINESIOL 3A03, 3D03; 3E03, 3K03; 4A06, 4B03; 4C03, 4CC3; 4H03, 4K03; 4KK3, 4Q03; 4RR6, 4S03; 4SS3, 4V03; 4W03, 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 (EFFECTIVE 1999-2000)
15 units KINESIOL 2A03, 2B03, 2C06, 2G03
9 units from the Faculty of Science
3 units HUMAN 2C03
3 units Electives, excluding courses from the Department of Kinesiology 1 course KINESIOL 2FL0

LEVELS III AND IV: 60 UNITS (EFFECTIVE 2000-2001)
30 units Level III or IV Kinesiology, including at least 18 units from the Course List (see above)
6 units from Level II, III, IV Faculty of Science courses
12 units from Level III, IV Faculty of Science courses
12 units from the Faculty of Business, Humanities, Social Sciences

MATERIALS SCIENCE AND ENGINEERING

WEB ADDRESS: http://mse.eng.mcmaster.ca

Honours Materials Science {2360}
(Specialist Option)

ADMISSION

Completion of the Science I requirements, including:
6 units MATH 1A03, 1AA3
6 units CHEM 1A03, 1AA3
3 units COMP SCI 1MC3
6 units PHYSICS 1B03, 1BA3 (or 1BB3)
3 units MATH 1B03
6 units from Level I Course Lists 2, 3
1 course SCIENCE 1A00
PHYSICS 1B03 is recommended.

MINIMUM AVERAGES/GRADERS:
A Cumulative Average of 5.0 and a grade of at least C+ in each of CHEM 1A03, 1AA3, MATH 1AA3.

OR

Completion of the Engineering I requirements, including:
3 units CHEM 1E03
8 units ENGINEER 1A00, 1C04, 1D04
5 units MATH 1H05
6 units MATH 1N03, 1NN3
6 units PHYSICS 1D03, 1E03
6 units Approved complementary studies electives

MINIMUM AVERAGES/GRADERS:
A Cumulative Average of at least 4.0

COUER LIST
All Level III and IV Materials courses; ENGINEER 3P03, 4J03; CHEM ENG 3Q03; ENG PHYS 3E03, 3F03, 4F03, 4Z03; MECH ENG 3O04; PHYSICS 3M03, 3Q03, 4K03

REQUIREMENTS
125-127 units total (Levels I to IV), of which no more than 48 units may be Level I courses

LEVEL I
30 units (See Admission above)
LEVEL II: 33-34 UNITS
3-4 units from CHEM 2E03, 2I03, 2WW4
6 units MATH 2A03, 2C03
7 units ENGINEER 2O03 (unless MATLS 1A03 already taken), 2P04
11 units MATLS 2B03, 2D03, 2H03, 2X02
6 units PHYSICS 2B06

LEVEL III: 33 UNITS
4 units CHEM ENG 2A04
14 units MATLS 3C03, 3D03, 3E04, 3T04
3 units MATH 3I03
3 units from STATS 3N03, 3Y03
3 units from PHYSICS 3003, 3M03
6 units Electives

LEVEL IV: 29-30 UNITS
8 units MATLS 4A02, 4K04, 4L02
15-16 units from the Course List (see above)
6 units Electives excluding Astronomy, Chemistry, Computer Science, Engineering, Engineering Physics, Materials, Mathematics, Physics, Statistics

Minor in Materials Properties
NOTE
In order to meet prerequisite requirements, at least 6 units of appropriate Level II Mathematics must be taken.
3 units from ENGINEER 2003, MATHS 1A03
1 course from CHEM ENG 2A04, MATLS 3A03
11-12 units MATLS 2X02, 3I05, 3C03, 3D03, 3T04
6 units MATLS 2B03, 2D03

Minor in Materials Processing
NOTE
In order to meet prerequisite requirements, at least 6 units of appropriate Level II Mathematics must be taken.
3 units from ENGINEER 2003, MATHS 1A03
1 course from CHEM ENG 2A04, MATLS 3A03
11 units MATLS 3B03, 3E04, 4B04
6 units MATLS 2B03, 2D03

DEPARTMENT OF MATHEMATICS AND STATISTICS

WEB ADDRESS:
http://www.science.mcmaster.ca/MathStat/Dept.html

Honours Biology and Mathematics
(See Department of Biology)

Honours Computer Science and Mathematics
(See Department of Computing and Software)

Honours Computer Science and Statistics
(See Department of Computing and Software)

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)

Honours Arts & Science and Mathematics
(B.Arts Sc.; See Arts & Science programme)

Honours Mathematics (Specialist Option) {2320}

ADMISSION
Completion of a Level I programme in any Faculty, including:
9 units MATH 1A03, 1AA3, 1B03
21 units Level I courses to complete a Level I programme

MINIMUM AVERAGES/GRADERS:
A Cumulative Average of 5.0 and a grade of C+ in each of MATH 1AA3, 1B03.

NOTES
1. By electing STATS 2D03 and STATS 2MB3 in Level II of this programme, a student can also complete Level II Honours Statistics (Specialist Option) or Level II Honours Mathematics and Statistics (Specialist Option).
2. A minor in Statistics is not permitted in the Honours Mathematics (Specialist Option) programme.

COURSE LIST 1
MATH 2E03, STATS 2D03, 2MA3, 2MB3

COURSE LIST 2
All Level III and IV Mathematics and Statistics courses

REQUIREMENTS
120 units total (Levels I to IV), of which no more than 48 units may be Level I courses

LEVEL I
30 units (See Admission above.)

LEVEL II: 30 UNITS
15 units MATH 2A03, 2AB3, 2C03, 2R03, 2S03
6 units from Course List 1 (see above)
9 units Electives

LEVEL III: 30 UNITS
16 units MATH 3A03, 3A03, 3E03, 3EE3, 3X03
6 units from Course Lists 1 and 2 (see above)
9 units Electives

LEVEL IV: 30 UNITS
3 units from MATH 4B03, 4E03, 4G03, 4X03
18 units from Course List 2 (see above)
9 units Electives

Honours Applied Mathematics

ADMISSION
Completion of the Science I requirements, including:
6 units MATH 1A03, 1AA3
3 units CHEM 1A03
3 units from COMP SCI 1MC3, 1SA3
6 units PHYSICS 1B03, 1B03 (or 1BB3)
3 units MATH 1B03
3 units from Level I Course List 2
6 units from Level I Course Lists 2, 3
1 course SCIENCE 1A00

MINIMUM AVERAGES/GRADERS:
A Cumulative Average of 5.0 and a grade of C+ in each of MATH 1B03, 1AA3, PHYSICS 1B03 (or 1BB3), CHEM 1A03, COMP SCI 1MC3, 1SA3.

OR
Completion of the Engineering I requirements with:

MINIMUM AVERAGES/GRADERS:
A Cumulative Average of 5.0 and a grade of C+ in each of MATH 1H05, 1NN3, PHYSICS 1E03, CHEM 1E03, ENGINEER 1D04.

NOTES
1. Students are encouraged to choose from the Course Lists to give an area of concentration. The courses listed in Course List B give offerings in fluid mechanics, solid mechanics (elasticity), software engineering, geophysics, materials science, thermodynamics and statistical mechanics. Other applied areas may be included, in consultation with a faculty advisor in the Department of Mathematics and Statistics.
2. Selections from Course List A should be made carefully to provide the prerequisite courses necessary for admission to the desired courses from Course List B.
3. Permission will be given to any student registered in this programme to replace MATH 2M06 or MATH 2P04 and 2Q04 with MATH 2AG0 and 2C03 as prerequisites for Engineering courses.
4. Courses in Chemical Engineering and Civil Engineering will be open to any student registered in the Honours Applied Mathematics programme. Entry to courses in Electrical and
5. As this programme involves two faculties, students may encounter difficulties in scheduling their preferred applied courses.

**COURSE LIST A**

CHEM ENG 2A04; CIV ENG 2C04; COMP ENG 2S14, 2D14; ELEC ENG 2C14; MECH ENG 2R03, 2P04; GEO 3ZZ3; MATLS 2X02; MATH 2E03; MECH ENG 2W04; PHYSICS 2B06, 2H04

**COURSE LIST B**

CHEM ENG 3D04; CIV ENG 3G03, 4K04; COMP ENG 3S14, 3D14, 3XK4; ENG PHYS 3003; MATLS 3E04, 3F03, 3T04; MECH ENG 3A03, 3Q04, 4R03, 4S03; PHYSICS 3C03, 3K03, 3M03, 3MM3, 3N03, 4B04, 4K03; Any other Level II or IV Engineering course, subject to the approval of a faculty advisor

**REQUIREMENTS**

120-125 units total (Levels I to IV), of which no more than 48 units may be Level I courses

**LEVEL I**

30 units (See Admission above.)

**LEVEL II: 30-32 UNITS**

12 units MATH 2A03, 2AB3, 2C03, 2R03
3 units from MATH 2S03, 2T03
3 units STAT 2D03
6-8 units from Course List A (see above)
6 units Electives

**LEVEL III: 30-33 UNITS**

15 units MATH 3A03, 3F03, 3FF3, 3Q03, 3X03
3-4 units from Course Lists A and B (see above)
6-8 units from Course List B (see above)
6 units Electives

**LEVEL IV: 30 UNITS**

9 units from MATH 4G03, 4GG3, 4GQ3, 4V03, 4X03
3 units from MATH 3AA3, STAT 3SU3
9-12 units from Course List B (see above)
6-9 units Electives

**Honours Mathematics and Physics {2320440}**

**ADMISSION**

Completion of the Science I requirements, including:

6 units MATH 1A03, 1AA3
6 units CHEM 1A03, 1AA3
6 units PHYSICS 1B03, 1BA3 (or 1BB3)
3 units MATH 1B03
3 units from Level I Science Core Course List 1
6 units from Level I Course Lists 2, 3
1 course SCIENCE 1A00

COMP SCI 1MC3 or 1SA3 is recommended in Level I.

**MINIMUM AVERAGES/GRADES:**

A Cumulative Average of 5.0 and a grade of C+ in each of MATH 1A03, 1BA3, PHYSICS 1B03, 1BA3, 1BB3.

**NOTES**

1. Students who complete Level II of Honours Mathematics and Physics are eligible to proceed to any Level III Honours (Specialist Option) programme in Mathematics or Physics.
2. PHYSICS 3C03 is listed in Level III but is offered in alternate years, and may be taken in Level IV.
3. A minor in Astronomy or Statistics is not permitted in the Honours Mathematics and Physics programme.

**COURSE LIST**

COMP SCI 2MD3, 2SC3; MATH 2E03; STATS 2D03, 2MB3; all Level III and IV Astronomy courses; all Level III and IV Mathematics and Statistics courses; PHYSICS 4J04, all Level III and IV Physics courses except PHYSICS 3T03, 4R06, 4T03

**REQUIREMENTS**

121-123 units total (Levels I to IV), of which no more than 48 units may be Level I courses

**LEVEL I**

30 units (See Admission above.)

**LEVEL II: 31 UNITS**

12 units MATH 2A03, 2AB3, 2C03, 2R03
3 units from MATH 2S03, 2T03
16 units PHYSICS 2B06, 2H04, 2K03, 2L03

**LEVEL III: 30-31 UNITS**

9 units MATH 3A03, 3F03, 3X03
12 units PHYSICS 3C03, 3K03, 3M03, 3MM3
3-4 units from the Course List (see above)
6 units Electives

**LEVEL IV: 30-31 UNITS**

6 units MATH 3A03, 3X03
4 units PHYSICS 4B04
14-15 units from the Course List (see above)
6 units Electives

**Honours Mathematics and Statistics {2320543}**

(Complementary Studies Option)

**ADMISSION**

Completion of a Level I programme in any Faculty, including:

9 units MATH 1A03, 1AA3, 1BA3
21 units Level I courses to complete a Level I programme

**MINIMUM AVERAGES/GRADES:**

A Cumulative Average of 5.0 and a grade of C+ in each of MATH 1A03, 1BA3.

**NOTES**

1. Students contemplating graduate studies in Mathematics or Statistics should consider Honours Mathematics and Statistics (Specialist Option).
2. In some cases there are Level II (and III) prerequisites for Level III (and IV) courses. These should be considered when choosing your Level II (and III) courses.

**REQUIREMENTS**

120 units total (Levels I to IV), of which no more than 48 units may be Level I courses

**LEVEL I**

30 units (See Admission above.)

**LEVEL II: 30 UNITS**

18 units MATH 2A03, 2AB3, 2C03, 2R03; STATS 2D03, 2MB3
6 units from the Faculty of Humanities and/or the Department of Religious Studies
6 units Electives, excluding Mathematics, Statistics
If not completed: SCIENCE 1A00

**LEVEL III: 30 UNITS**

6 units STATS 3D06
3 units from MATH 2S03, 2T03
3 units from MATH 3A03, 3X03
3 units from Level III Mathematics and Statistics, MATH 2K03
3 units from HUMAN 2C03, MATH 2E03
6 units from the Faculties of Business, Humanities, Social Sciences
6 units Electives, excluding Mathematics, Statistics

**LEVEL IV: 30 UNITS (EFFECTIVE 1999-2000)**

6 units from the Science Inquiry Course List
15 units from Level III, IV Mathematics and Statistics courses, MATH 2K03
3 units from Level III, IV courses, excluding Mathematics, Statistics
6 units Electives

**LEVEL IV: 30 UNITS (EFFECTIVE 2000-2001)**

6 units from the Science Inquiry Course List
3 units from MATH 3A03, 3E03, 3X03
12 units from Level III, IV Mathematics and Statistics courses, MATH 2K03
3 units from Level III, IV courses, excluding Mathematics, Statistics
6 units Electives
Honours Mathematics and Statistics {2320542} (Specialist Option)

ADMISSION
Completion of a Level I programme in any Faculty, including:
9 units MATH 1A03, 1AA3, 1B03
21 units Level I courses to complete a Level I programme

MINIMUM AVERAGES/GRADES:
A Cumulative Average of 5.0 and a grade of C+ in each of MATH 1AA3, 1B03.

REQUIREMENTS
120 units total (Levels I to IV), of which no more than 48 units may be from Level I courses

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</thead>
<tbody>
<tr>
<td>30 units</td>
<td>(See Admission above.)</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>LEVEL II: 30 UNITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 units MATH 2A03, 2AB3, 2C03, 2R03, 2S03</td>
</tr>
<tr>
<td>6 units STATS 2D03, 2MB3</td>
</tr>
<tr>
<td>9 units Electives</td>
</tr>
</tbody>
</table>

If not completed: SCIENCE 1A00

<table>
<thead>
<tr>
<th>LEVEL III: 30 UNITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>18 units MATH 3A03, 3AA3, 3E03, 3X03; STATS 3D06</td>
</tr>
<tr>
<td>6 units from Level III, IV Statistics</td>
</tr>
<tr>
<td>6 units Electives</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LEVEL IV: 30 UNITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 units from MATH 3AA3, 3EE3, 4B03, 4E03, 4G03, 4X03</td>
</tr>
<tr>
<td>6 units from Level 4D03, 4M03</td>
</tr>
<tr>
<td>6 units from Level III, IV Mathematics</td>
</tr>
<tr>
<td>6 units from Level III, IV Statistics</td>
</tr>
<tr>
<td>6 units Electives</td>
</tr>
</tbody>
</table>

Honours Statistics (Specialist Option) {2542}

ADMISSION
Completion of a Level I programme in any Faculty, including:
9 units MATH 1A03, 1AA3, 1B03
21 units Level I courses to complete a Level I programme

MINIMUM AVERAGES/GRADES:
A Cumulative Average of 5.0 and a grade of C+ in each of MATH 1AA3, 1B03.

NOTE
A minor in Mathematics is not permitted in the Honours Statistics (Specialist Option) programme.

<table>
<thead>
<tr>
<th>COURSE LIST 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMP SCI 2MD3, 2ME3, 2SB3, 2SC3; MATH 2E03</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>COURSE LIST 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Level III and IV Statistics courses</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>COURSE LIST 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMP SCI 3IA3, 3SD3; MATH 3E03, 3EE3, 3F03, 3FF3, 3Q03, 3R03, 4C03, 4J03, 4K03, 4G03, 4RR3, 4W03, 4X03</td>
</tr>
</tbody>
</table>

REQUIREMENTS
120 units total (Levels I to IV), of which no more than 48 units may be Level I courses

<table>
<thead>
<tr>
<th>LEVEL I:</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>30 units</td>
<td>(See Admission above.)</td>
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</table>

<table>
<thead>
<tr>
<th>LEVEL II: 30 UNITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 units MATH 2A03, 2AB3, 2C03, 2R03</td>
</tr>
<tr>
<td>3 units from MATH 2S03, 2T03</td>
</tr>
<tr>
<td>6 units STATS 2D03, 2MB3</td>
</tr>
<tr>
<td>9 units Electives</td>
</tr>
</tbody>
</table>

If not completed: SCIENCE 1A00

<table>
<thead>
<tr>
<th>LEVEL III: 30 UNITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 units MATH 3A03, 3AA3, 3X03; STATS 3D06</td>
</tr>
<tr>
<td>6 units from Course Lists 1, 2 and 3 (see above)</td>
</tr>
<tr>
<td>9 units Electives</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LEVEL IV: 30 UNITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 units STATS 4D03, 4M03</td>
</tr>
<tr>
<td>6 units from Course List 2 (see above)</td>
</tr>
<tr>
<td>9 units from Course Lists 2 and 3 (see above)</td>
</tr>
<tr>
<td>9 units Electives</td>
</tr>
</tbody>
</table>

B.Sc. Three-Level Degree

A three-level programme with a Mathematics or Statistics orientation is available through the B.Sc. in Mathematical Science which is listed under the heading Three-Level B.Sc. Programmes in this section.

Minor in Mathematics and Statistics

NOTES
1. It is possible for a student to complete this Minor through evening and summer study.
2. MATH 2L03 should not be taken by students wishing to complete this minor.

<table>
<thead>
<tr>
<th>LEVEL I</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>9 units MATH 1A03, 1AA3, 1B03</td>
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<td></td>
</tr>
<tr>
<td>18 units from Level II, III, IV Mathematics and Statistics, including at least six units from Level III, IV Mathematics and Statistics</td>
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</tbody>
</table>

MOLECULAR BIOLOGY

Honours Biochemistry and Molecular Biology

(See Department of Biochemistry)

Honours Molecular Biology {2365}

ADMISSION
Enrolment in this programme is limited. Selection is based on academic achievement but requires, as a minimum, completion of the Science I requirements, including:
6 units MATH 1A03, STATS 1CC3
6 units BIOLOGY 1A03, 1AA3
6 units CHEM 1A03, 1AA3
3 units PHYSICS 1503
3 units from Level I Science Core Course List 1
6 units from Level I Course Lists 2, 3
1 course SCIENCE 1A00
PHYSICS 1A3 (or 1BB3) must be completed by the end of Level II and is very strongly recommended in Level I.

MINIMUM AVERAGES/GRADES:
A Cumulative Average of 5.0 and an average of 6.0 in BIOLOGY 1A03 and 1AA3 and a grade of C+ in each of three of CHEM 1A03, 1AA3, MATH 1A03, STATS 1CC3, PHYSICS 1B03.

NOTES
1. This Honours degree programme is administered within the Faculty of Science through a Committee of Instruction and also draws on the Departments of Biology, Biochemistry and Pathology and the McMaster Institute for Molecular Biology and Biotechnology.
2. Information and counselling may be obtained through the Programme Coordinator.
3. A minor in Biochemistry, Biology, or Chemistry is not permitted in the Honours Molecular Biology programme.
4. This programme has the following areas of specialization:
   a) Molecular Immunology
   b) Molecular Microbiology
   c) Molecular Pharmacology

REQUIREMENTS
120 units total (Levels I to IV), of which no more than 48 units may be Level I courses

<table>
<thead>
<tr>
<th>LEVEL I</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>30 units</td>
<td>(See Admission above.)</td>
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</table>

<table>
<thead>
<tr>
<th>LEVEL II: 30 UNITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>21 units BIOCHEM 2A06; BIOLOGY 2B03, 2C03; CHEM 2OA3, 2OB3, 2R03</td>
</tr>
<tr>
<td>3 units from BIOLOGY 2D03, 2E03, CHEM 2N03</td>
</tr>
<tr>
<td>6 units Electives. BIOLOGY 2D03, 2E03, CHEM 2N03 are recommended</td>
</tr>
</tbody>
</table>

If not completed: PHYSICS 1A3 (or 1BB3)
NEURAL COMPUTATION

Honours Neural Computation \{2381\}

ADMISSION
Completion of the Science I requirements, including:
6 units MATH 1A03, 1AA3
3 units BIOLOGY 1A03
6 units COMP SCI 1MC3, 1MD3
3 units PHYSICS 1B03
6 units PSYCH 1A03, 1AA3
6 units from Level I Course Lists 2, 3
1 course SCIENCE 1A00

MINIMUM AVERAGES/GRADERS:
A Cumulative Average of 5.0, an average of 4.5 in PSYCH 1A03, 1AA3 and a grade of C+ in COMP SCI 1MD3.

NOTES
1. This Honours degree programme is administered within the Faculty of Science through a Committee of Instruction and also draws on the Departments Psychology, Mathematics and Statistics, and Computing and Software.
2. Information and counselling may be obtained through the Programme Coordinator in the Department of Psychology.
3. A Minor in Psychology, Computer Science or Mathematics is not permitted in the Honours Neural Computation Programme, although electives may be drawn from any of these areas.
5. The Neural Computation thesis in Level IV may be taken from any participating department with permission of the Programme Coordinator.

COURSE LIST
COMP SCI 2MJ3, 3GA3, 3SD3, 3TA3, 4TC3, MATH 2E03, 4S03

REQUIREMENTS
121-122 units total (Levels I to IV), of which no more than 48 units may be Level I courses

LEVEL I
30 units (See Admission above.)

LEVEL II: 30-31 UNITS
6 units MATH 1B03, 2A03, 2G04
3 units COMP SCI 2MD3
6 units from PSYCH 2E03, 2H03, 2T03
3 units NEURCOMP 3W03
6 units Electives

LEVEL III: 31 UNITS
3 units from the Course List (see above)
4 units MATH 2P04
6 units MATH 2R03, 2T03
5 units PSYCH 3F03, 403
6 units STAT 3D06
6 units Electives

LEVEL IV: 30 UNITS
9 units from the Course List (see above)
3 units COMP SCI 4IB5
9 units NEURCOMP 4D09
9 units Electives
Honours Physics (Specialist Option) {2440}

ADMISSION
Completion of the Science I requirements, including:
6 units MATH 1A03, 1AA3
6 units CHEM 1A03, 1AA3
6 units from PHYSICS 1B03, 1BA3 (or 1BB3)
3 units MATH 1B03
3 units from Level I Science Core Course List 1
6 units from Level I Course Lists 2, 3
1 course SCIENCE 1A00

MINIMUM AVERAGES/GRAPDES:
A Cumulative Average of 5.0, an average of 6.0 in MATH 1A03, 1AA3, 1B03 and an average of 6.0 in 6 units from PHYSICS 1B03, 1BA3 (or 1BB3).

NOTES
1. Students who have completed Level II of Honours Physics (Specialist Option) with a Cumulative Average of 6.0 are eligible to proceed to Level III of Honours Physics (Specialist Option), or Honours Astrophysics (with completion of either ASTRON 1F03 or 2B03).
2. Students are required to take six units from PHYSICS 3B06, 3BA3, 3BB3, 4D06, 4DA3, 4DB3. This requirement is listed in Level III but may be completed in Level IV. It is recommended that any courses selected from PHYSICS 3B06, 3BA3, 3BB3 are taken in Level III and any courses selected from PHYSICS 4D06, 4DA3, 4DB3 are taken in Level IV.
3. A minor in Mathematics or Mathematics and Statistics or Physics is not permitted in the Honours Astrophysics programme.

REQUIREMENTS
123 units total (Levels I to IV) of which no more than 48 units may be Level I courses

LEVEL I
30 units from the Science I requirements

LEVEL II
31 units from the Honours Physics (Specialist Option) Level II requirements, including ASTRON 1F03

LEVEL III: 31 UNITS
3 units from ASTRON 3X03, 3Y03
6 units from PHYSICS 3B06, 3BA3, 3BB3, 4D06, 4DA3, 4DB3

LEVEL IV: 31 UNITS
13 units from PHYSICS 4A03, 4B03, 4F03, 4G03
3 units from ASTRON 3X03, 3Y03
6 units from PHYSICS 3A03, 3C03, 4E03, 4K03
3 units from Level III, IV Science
6 units Electives

Honours Medical and Health Physics {2443}

ADMISSION
Completion of the Science I requirements, including:
6 units MATH 1A03, 1AA3
3 units BIOLOGY 1A03
6 units CHEM 1A03, 1AA3
3 units PHYSICS 1B03
3 units from PHYSICS 1A03, 1BA3, 1BB3
1 course SCIENCE 1A00
BIOLOGY 1A03 and PHYSICS 1BA3 (or 1BB3) must be completed by the end of Level II and are recommended in Level I.

MINIMUM AVERAGES/GRAPDES:
A Cumulative Average of 5.0, an average of 6.0 in MATH 1A03, 1AA3, 1B03 and a grade of C+ in PHYSICS 1B03.

NOTE
A minor in Astronomy or Mathematics or Mathematics and Statistics is not permitted in the Honours Medical and Health Physics programme.

REQUIREMENTS
122 units total (Levels I to IV), of which no more than 48 units may be from Level I courses

LEVEL I
30 units (See Admission above.)

LEVEL II: 31 UNITS
9 units MATH 2A03, 2A3, 2C03
16 units PHYSICS 2B06, 2H04, 2K03, 2L03
6 units Electives, excluding Physics

LEVEL III: 31 UNITS
6 units MATH 3C03, 3D03
6 units from PHYSICS 3B06, 3BA3, 3BB3, 4D06, 4DA3, 4DB3

LEVEL IV: 32 UNITS
14 units PHYSICS 4A03, 4B04, 4F03, 4J04
3 units from PHYSICS 3A03, 3C03, 4E03, 4G03, 4K03, ASTRON 3X03, 3Y03
6 units from Level III, IV Science
9 units Electives (See Notes 2 and 3 above.)

Honours Astrophysics {2444}

ADMISSION
Completion of Level II Honours Physics (Specialist Option), including ASTRON 1F03, with a Cumulative Average of at least 6.0.

NOTES
1. ASTRON 3X03 and 3Y03 must be completed but are offered in alternate years. These courses should be taken when they are offered.
2. Students are required to take six units from PHYSICS 3B06, 3BA3, 3BB3, 4D06, 4DA3, 4DB3. This requirement is listed in Level III but may be completed in Level IV. It is recommended that any courses selected from PHYSICS 3B06, 3BA3, 3BB3 are taken in Level III and any courses selected from PHYSICS 4D06, 4DA3, 4DB3 are taken in Level IV.
3. A minor in Mathematics or Mathematics and Statistics or Physics is not permitted in the Honours Astrophysics programme.

REQUIREMENTS
122 units total (Levels I to IV), of which no more than 48 units may be from Level I courses

LEVEL I
30 units from the Science I requirements

LEVEL II
31 units from the Honours Physics (Specialist Option) Level II requirements, including ASTRON 1F03

LEVEL III: 31 UNITS
9 units BIOLOGY 2B03; MATH 3C03, 3D03
19 units PHYSICS 3H04, 3M03, 3MM3, 3N03, 3P03, 3T03
3 units Electives. BIOCHEM 3Q03 is recommended.

LEVEL IV: 30 UNITS
3 units BIOLOGY 4U03
3 units from ENG PHYS 3X03, PHYSICS 3XX3
12 units PHYSICS 4A03, 4D06, 4E03
12 units PHYSICS 4K03, 4R06, 4T03
Honours Medical and Health Physics Co-op {2330}

ADMISSION:
Enrolment in this programme is limited to a maximum of 10 students per year. Selection is based on academic and other achievements (see below) but requires, as a minimum, completion of Level I Honours Medical and Health Physics with a Cumulative Average of at least 6.0.

Information about the programme and the selection procedure may be obtained from the Chair of the Committee of Instruction and will be explained in the month of February in an Information Session.

NOTES
1. This is a five-year co-op programme which includes two eight-month work terms which must be spent in Medical or Health Physics related placements.
2. Students must be registered full-time and take a full academic programme.
3. Students are required to complete a Work Orientation Course before the first work placement.
4. At least one of ENG PHYS 3X03 or PHYSICS 3XX3 must be completed and the requirement is listed in Year 4, Term 1, but may be taken in Term 2 of either Year 4 or Year 5.
5. No minors or Theme Schools are permitted in the Honours Medical and Health Physics (Co-op) programme.

REQUIREMENTS
121 units total (Levels I to IV) of which no more than 48 units may be Level I courses

**LEVEL I**
30 units from the Science I requirements

**LEVEL II**
31 units from Honours Medical and Health Physics

**Year 3**
17 units from Academic Level III, Term 1, plus Work Orientation course, and completion of the first work term of eight months duration, Term 2 and Summer term.

**TERM 1**
3 units MATH 3C03
11 units PHYSICS 3HA2, 3N03, 3M03, 3T03
3 units Electives. BIOCHEM 3G03 is recommended.

**TERM 2 AND SUMMER**
Work Term

**Year 4**
31 units from Academic Level IV, Term 1, and Academic Level III, Term 2, plus beginning of second eight-month work term, Summer term.

**TERMS 1 AND 2**
6 units BIOLOGY 2B03, 4U03
3 units from ENG PHYS 3X03, PHYSICS 3XX3
3 units MATH 3D03
7 units PHYSICS 3I01, 3M03, 3R03
12 units PHYSICS 4D06, 4R06

**SUMMER**
Work Term

**Year 5**
12 units from Academic Level IV, Term 2, plus completion of second eight-month work term, Term 1.

**TERM 1**
Work Term

**TERM 2**
6 units PHYSICS 3H82, 4I01, 4K03
6 units PHYSICS 4E03, 4T03

<table>
<thead>
<tr>
<th>YEAR</th>
<th>Term 1</th>
<th>Term 2</th>
<th>Summer Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 3</td>
<td>17 units from Academic Level III</td>
<td></td>
<td>Work Term</td>
</tr>
<tr>
<td>Work Orientation Course</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Year 4</td>
<td>13 units from Academic Level IV</td>
<td>18 units from Academic Level III</td>
<td>Work Term</td>
</tr>
<tr>
<td>Year 5</td>
<td>Work Term</td>
<td>12 units from Academic Level IV</td>
<td></td>
</tr>
</tbody>
</table>

B.Sc. Three-Level Degree
A three-level programme with a Physics orientation is available through the B.Sc. in Physical Science which is listed under the heading Three-Level B.Sc. Programmes in this section.

Minor in Astronomy
3 units from ASTRON 1F03, 2E03
6 units from MATH 2A03 and one of MATH 2C03, 2D03
1 course from PHYSICS 2A03, 2B06
3-6 units from either one of PHYSICS 2H03, 2H04, CHEM 2P06, or both CHEM 2P3 and 2P53
3 units from PHYSICS 2D03, 2G03, 2K03
6 units ASTRON 3X03, 3Y03
3 units from PHYSICS 3M03, 3O03, CHEM 3BA3

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 one of MATH 2C03, 2D03 is also completed.

6 units from PHYSICS 1A06, 1B06, 1C06, 1B03 (or 1C03), 1BA3 (or 1BB3)
18 units from Levels II, III, IV Physics, GEO 3ZZ3 including at least six units from Level III, IV Physics

DEPARTMENT OF PSYCHOLOGY

WEB ADDRESS:
http://www.science.mcmaster.ca/psychology/psych.html

Honours Psychology (B.A.) and B.A. in Psychology
(See Faculty of Social Sciences, Department of Psychology)

Honours Biology and Psychology (B.Sc.; See Department of Biology)

Honours Arts & Science and Psychology (B.Arts Sc.; See Arts & Science programme)

Honours Psychology (B.Sc.) {2462}
(Complementary Studies Option)

ADMISSION
Completion of the Science I requirements, including:

6 units MATH 1A03, 1B03
3 units BIOLOGY 1A03
3 units CHEM 1A03
3 units PHYSICS 1B03
6 units PSYCH 1A03, 1AA3
3 units from Level I Course Lists 2
6 units from Level I Course Lists 2, 3
1 course SCIENCE 1A00
MINIMUM AVERAGES/GRADERS:
A Cumulative Average of 5.0 and an average of 6.0 in PSYCH 1A03, 1AA3.

NOTES
1. In Level III or IV a student must complete at least one laboratory course in Psychology (see the Course List). Enrolment is limited in the laboratory courses.
2. In some cases there are Level II (and III) prerequisites for Level III (and IV) courses. These should be considered when choosing your Level II (and III) courses.

COURSE LIST
PSYCH 3L03, 3LL3, 3QQ3, 3S03, 3V03, 4QQ3

REQUIREMENTS
120 units total (Levels I to IV), of which no more than 48 units may be Level I courses

LEVEL I
30 units (See Admission above.)

LEVEL II: 30 UNITS
3 units PSYCH 2RR3
9 units from PSYCH 2E03, 2F03, 2H03, 2T03
3 units HUMAN 2C03
6 units from the Faculty of Humanities and/or the Department of Religious Studies
3 units Electives, excluding Psychology
6 units Electives

LEVEL III: 30 UNITS
3 units from PSYCH 2E03, 2F03, 2H03, 2T03, or Level III Psychology
12 units from Level III Psychology, including one course from the Course List (See Note 1 above.)
6 units from the Faculties of Business, Humanities, Social Sciences
6 units Electives, excluding Psychology
3 units Electives

LEVEL IV: 30 UNITS
6 units from the Science Inquiry Course List (PSYCH 4D06 may be substituted if space is available)
15 units from Level III, IV Psychology
6 units from Level III, IV courses, excluding Psychology
3 units Electives
If not completed: One course from the Course List (See Note 1 above.)

Honours Psychology (B.Sc.) (Specialist Option) {2461}

ADMISSION
Enrolment in this programme is limited. Selection is based on academic achievement but requires, as a minimum, completion of the Science I requirements, including:
6 units MATH 1A03, 1AA3
3 units BIOLOGY 1A03
3 units CHEM 1A03
3 units PHYSICS 1B03
6 units PSYCH 1A03, 1AA3
3 units from Level I Course Lists 2
6 units from Level I Course Lists 2, 3
1 course SCIENCE 1A00

Students will also be considered for admission if they have completed MATH 1A03 instead of STATS 1CC3. However, STATS 1CC3 is strongly recommended and must be completed by the end of Term 1 in Level II.

MATH 1B03 is strongly recommended for students intending to pursue graduate work in Psychology.

MINIMUM AVERAGES/GRADERS:
A Cumulative Average of 5.0 and an average of 6.0 in PSYCH 1A03, 1AA3.

NOTES
1. In Level III or IV a student must complete at least one laboratory course in Psychology (see the Course List). Enrolment is limited in the laboratory courses.
2. Completion of MATH 1A03, CHEM 1AA3 and PHYSICS 1B03 by the end of Level II is recommended.

COURSE LIST
PSYCH 3L03, 3LL3, 3QQ3, 3S03, 3V03, 4QQ3

REQUIREMENTS
120 units total (Levels I to IV), of which no more than 48 units may be Level I courses

LEVEL I
30 units (See Admission above.)

LEVEL II: 30 UNITS
3 units PSYCH 2RR3
9 units from PSYCH 2E03, 2F03, 2H03, 2T03
9 units from Levels I and II Biochemistry, Biology, Chemistry, Computer Science, Mathematics, Statistics, Physics
6 units from the Faculties of Business, Humanities, Social Sciences
3 units Electives

LEVEL III: 30 UNITS
3 units from PSYCH 2E03, 2F03, 2H03, 2T03, or Level III Psychology
15 units from Level III Psychology, including one course from the Course List (See Note 1 above.)
6 units from Level III, IV Biochemistry, Biology, Chemistry, Computer Science, Mathematics, Statistics, Physics
6 units Electives

LEVEL IV: 30 UNITS
6 units PSYCH 4D06
12 units from Levels III, IV Psychology
6 units Electives, excluding Psychology
6 units Electives
If not completed: One course from the Course List (See Note 1 above.)

B.Sc. Three-Level Degree
A three-level programme with a Psychology orientation is available through the B.Sc. in Life Science which is listed under the heading Three-Level B.Sc. Programmes in this section.

Minor in Psychology
NOTES:
1. It is possible for a student to complete this Minor through evening and summer study.
2. When choosing Level II courses students should consider the prerequisite requirements for the various Level III courses.

6 units from PSYCH 1A06, 1A03, 1AA3
18 units from Level II, III Psychology courses, including at least six units from Level III Psychology courses
SCIENCE

Honours Science
(Complementary Studies Option)

STREAM A GEOSCIENCE (2513)
STREAM B LIFE SCIENCE (2514)
STREAM C MATHEMATICAL SCIENCE (2515)
STREAM D PHYSICAL SCIENCE (2516)

ADMISSION
Completion of Science I, including:
3 units MATH 1A03
3 units from MATH 1AA3, STATS 1CC3 (See Note 3 below)
12 units from Level I Science Core Course List 1 (See below for courses required for each stream.)
6 units from Level I Course List 2
6 units from Level I Course Lists 2, 3
1 course SCIENCE 1A00
One of GEO 1A03, 1B03, 1G03 must be completed by the end of Level II.

MINIMUM AVERAGES/GRADES:
A Cumulative Average of 5.0 and one of:
for Stream A: a grade of C+ in (each of) two of GEO 1A03, 1B03, 1G03
for Stream B: a grade of C+ in one of BIOLOGY 1AA3, PSYCH 1AA3
for Stream C: a grade of C+ in (each of) two of COMP SCI 1MC3, 1MD3, MATH 1AA3, 1B03
for Stream D: a grade of C+ in one of CHEM 1AA3, PHYSICS 1B03 (or 1BB3)

NOTES
1. There are Level II (and III) prerequisites for many Level III (and IV) courses. These should be considered when choosing your Level II courses.
2. Students within the Faculty of Science are not permitted in the Honours Science (Complementary Studies Option) programmes.
3. Students who choose Stream A or B must take STATS 1CC3.
   Students who choose Stream C or D must take MATH 1AA3.

COURSE LIST A
All Level II, III and IV Geo courses except non-science Geo courses*. Non-science Geo courses contain the letter H in the course code.

COURSE LIST B
BIOCHEM 2E3E, 3B03, 3B3A, 3C03, 3G03, 3H03, 3N03, 4C03, 4D03, 4E03, 4I03, 4M03, 4Q03; MOL BIOL 4F03, 4H03; PHARMAC 4G03
All Level II, III and IV Biology courses
All Level II, III, and IV Psychology courses, except PSYCH 2AA3, 2B03, 2C03, 2V03, 3D03, 3D3A, 3Z03, 3ZZ3, 4D06, 4V03, 4V03, 4V03

COURSE LIST C
All Level II, III and IV Computer Science, Mathematics and Statistics courses

COURSE LIST D
All Level II, III and IV Astronomy, Chemistry and Physics courses

REQUIREMENTS
120 units total (Levels I to IV), of which no more than 48 units may be Level I courses

LEVEL I:
30 units (See Admission above.)

LEVEL II:
30 UNITS
12 units from Level II courses in the selected stream Course List (courses may be chosen from one Course List only)
6 units from Level II courses in any Course List, excluding courses from the selected stream Course List
6 units from the Faculty of Humanities and/or the Department of Religious Studies
6 units Electives, excluding courses from the selected stream Course List

LEVEL III: 30 UNITS
12 units from Level III courses in the selected stream Course List
3 units from Level III courses in any Course List, excluding courses from the selected stream Course List
3 units HUMAN 2C03
6 units from the Faculties of Business, Humanities, Social Sciences
6 units Electives, excluding courses from the selected stream Course List

LEVEL IV: 30 UNITS
6 units from the Science Inquiry Course List
12 units from Level III, IV courses in the selected stream Course List
6 units from Level III, IV courses in any Course List, excluding courses from the selected stream Course List
6 units Electives, excluding courses from the selected stream Course List

THREE-LEVEL B.Sc. PROGRAMMES

B.Sc. in Geoscience (1149)

ADMISSION
Completion of the Science I requirements, including:
6 units MATH 1A03, STATS 1CC3
6 units from GEO 1A03, 1B03, 1G03
9 units from Level I Science Core Course List 1
3 units from Level I Course List 2
6 units from Level I Course Lists 2, 3
1 course SCIENCE 1A00

MINIMUM AVERAGES/GRADES:
A Cumulative Average of 3.5 and a grade C- in one of GEO 1A03, 1B03, 1G03.

NOTES
1. There are Level II prerequisites for many Level III courses; these should be considered when choosing your Level II courses. As an aid to choosing a coherent set of courses in a single discipline, students should consult the required specialist stream courses in the Honours Environmental Science or the Honours Geology programme.
2. In addition, students should seek academic counselling from the School of Geography and Geology to ensure that their choices are appropriate.

COURSE LIST 1
GEO 2B03, 2C03, 2E03, 2G03, 2G3A, 2I03, 2K03, 2K3A, 2P03, 2S03, 2W03, 2W34

COURSE LIST 2
GEO 3A03, 3B03, 3C03, 3E03, 3F03, 3G03, 3I03, 3K03, 3P03, 3Q03, 3R03, 3S03, 3U03, 3W03, 3Z03, 3ZZ3

REQUIREMENTS
90 units total (Levels I to III), of which no more than 42 units may be Level I courses

LEVEL I:
30 units (See Admission above.)

LEVEL II:
30 UNITS
15 units from Course List 1 (see above)
6 units from the Faculty of Humanities and/or the Department of Religious Studies
3 units HUMAN 2C03
3 units Electives, excluding courses from Course List 1
3 units Electives

LEVEL III: 30 UNITS
12 units from Level III courses in the selected stream Course List
3 units from Level III courses in any Course List, excluding courses from the selected stream Course List
3 units from the Faculties of Business, Humanities, Social Sciences
3 units Electives, excluding courses from the selected stream Course List

LEVEL IV: 30 UNITS
6 units from the Science Inquiry Course List
12 units from Level III, IV courses in the selected stream Course List
6 units from Level III, IV courses in any Course List, excluding courses from the selected stream Course List
6 units Electives, excluding courses from the selected stream Course List

If not completed for all streams: one of GEO 1A03, 1B03, 1G03
If not completed for:
Stream A: GEO 1A03, 1B03, 1G03
Stream B: BIOLOGY 1A03 and 1AA3, PSYCH 1A03 and 1AA3
Stream C: 9 units from COMP SCI 1MC3, 1MD3, MATH 1AA3, 1B03
Stream D: CHEM 1A03 and 1AA3, MATH 1B03, PHYSICS 1B03 and 1BA3 (or 1BB3)
LEVEL II: 30 UNITS
12 units from Course List 2 (see above)
3-6 units from Course Lists 1 and 2 (see above)
6 units from the Faculties of Business, Humanities, Social Sciences
6 units Electives, excluding courses in Course Lists 1 and 2
0-3 units Electives, excluding Biology

B.Sc. in Life Science \{1312\}

ADMISSION
Completion of the Science I requirements, including:
6 units MATH 1A03, STAT 1CC3
3 units BIOLOGY 1A03
3 units CHEM 1A03
3 units PSYCH 1A03
6 units from BIOLOGY 1AA3, CHEM 1AA3, PSYCH 1AA3
3 units from Level I Science Core Course List 1
6 units from Level I Course Lists 2, 3
1 course SCIENCE 1A00

MINIMUM AVERAGES/GRADRES:
A Cumulative Average of 3.5 and an average of 4.0 in 6 units from BIOLOGY 1AA3, CHEM 1AA3, PSYCH 1AA3.

NOTES
1. There are Level II prerequisites for many Level III courses: these should be considered when choosing your Level II courses. As an aid to choosing a coherent set of courses in a single discipline, students should consult the list of courses required in the Honours (Complementary Studies Option) program in that discipline.
2. In addition, students should seek academic counselling to ensure that their choices are appropriate. For counselling, students should approach the department corresponding to their area of emphasis, either Biology or Psychology. Students without an area of particular emphasis should obtain counselling from the Department of Biology.
3. Enrolment in most Psychology laboratory courses is limited. PSYCH 3L03, 3L13, 3Q03, 3S03, 3V03 are laboratory courses.

COURSE LIST 1
BIOCHEM 2EE3; BIOLOGY 2B03, 2C03, 2D03, 2E03, 2F03; PSYCH 2E03, 2H03, 2003 (or 2F03), 2T03

COURSE LIST 2
CHEM 2E03 or 2A93, 2B03; STATS 2MA3, or PSYCH 2RR3

COURSE LIST 3
BIOCHEM 3B03, 3B53, 3C03, 3G03; PSYCH 2O03; all Level III Biology and Level III Psychology courses

REQUIREMENTS
90 units total (Levels I to III), of which no more than 42 units may be Level I courses

LEVEL I
30 units (See Admission above.)

LEVEL II: 30 UNITS
18 units from Course Lists 1 and 2. No more than six units from Biology may be taken.
6 units from the Faculty of Humanities and/or the Department of Religious Studies
6 units Electives, excluding Level II, III, IV Biochemistry, Biology, Psychology

LEVEL III: 30 UNITS
12 units from Course List 3. No more than six units from Biology may be taken.
3 units HUMAN 2C03
6 units from the Faculties of Business, Humanities, Social Sciences
3 units Electives, excluding Biochemistry, Biology, Psychology
6 units Electives, excluding Biology

B.Sc. in Mathematical Science \{1325\}

ADMISSION
Completion of any Level I programme, including:
6 units MATH 1A03, 1AA3
3 units from COMP SCI 1MC3, MATH 1B03
21 units Level I courses to complete a Level I programme
MATH 1B03 must be completed by the end of Level II.
Students wishing Level II Computer Science courses must take both COMP SCI 1MC3 and 1MD3.

MINIMUM AVERAGES/GRADRES:
A Cumulative Average of 3.5 and a grade of C- in each of three courses from COMP SCI 1MC3, 1MD3, MATH 1A03, 1AA3, 1B03.

NOTES
1. There are Level II prerequisites for many Level III courses: these should be considered when choosing your Level II courses. As an aid to choosing a coherent set of courses in a single discipline, students should consult the list of courses required in the Honours (Complementary Studies Option) program in that discipline.
2. In addition, students should seek academic counselling to ensure that their choices are appropriate. For counselling, students should approach the department corresponding to their area of emphasis, either Mathematics and Statistics or Computing and Software. Students without an area of particular emphasis should obtain counselling from the Department of Mathematics and Statistics.

COURSE LIST 1
COMP SCI 2MD3, 2VE3, 2MF3, 2MJ3, 2SB3, 2SC3; MATH 2A03, 2AB3, 2C03, 2E03, 2K03, 2RO3, 2S03, 2T03; STATS 2D03, 2MB3

COURSE LIST 2
All Level III and IV Computer Science, Mathematics and Statistics courses

REQUIREMENTS
90 units total (Levels I to III), of which no more than 42 units may be Level I courses

LEVEL I
30 units (See Admission above.)

LEVEL II: 30 UNITS
3 units HUMAN 2C03
15 units from Course List 1 (see above)
6 units from the Faculty of Humanities and/or the Department of Religious Studies
3 units Electives, excluding Computer Science, Mathematics, Statistics
3 units Electives
If not completed: MATH 1B03, SCIENCE 1A00

LEVEL III: 30 UNITS
12 units from Course List 2 (see above)
1 course from Course Lists 1 and 2 (see above)
6 units from the Faculties of Business, Humanities and Social Sciences
6 units Electives, excluding Computer Science, Mathematics, Statistics
0-3 units Electives, excluding Biology

B.Sc. in Physical Science \{1435\}

ADMISSION
Completion of the Science I requirements, including:
6 units MATH 1A03, 1AA3
3 units CHEM 1A03
3 units PHYSICS 1B03
3 units from CHEM 1A93, PHYSICS 1BA3 (or 1BB3)
6 units from Level I Course List 1
3 units from Level I Course List 2
6 units from Level I Course Lists 2, 3
1 course SCIENCE 1A00
MATH 1B03, CHEM 1A93, PHYSICS 1BA3 (or 1BB3) must be taken by the end of Level II and are strongly recommended in Level I.
MINIMUM AVERAGES/GRADERS:
A Cumulative Average of 3.5 and a grade of C- in one of CHEM 1AA3, PHYSICS 1BA3 (or 1BB3).

NOTES
1. There are Level II prerequisites for many Level III courses: these should be considered when choosing your Level II courses. As an aid to choosing a coherent set of courses in a single discipline, students should consult the list of courses required in the Honours (Complementary Studies Option) programme in that discipline.
2. In addition, students should seek academic counselling to ensure that their choices are appropriate. For counselling, students should approach the department corresponding to their area of emphasis, either Chemistry or Physics. Students without an area of particular emphasis should obtain counselling from the Department of Physics.
3. Students proceeding in Physics must include PHYSICS 2B06 and MATH 2A03 and MATH 2C03 in Level II.

COURSE LIST 1
CHEM 2A03, 2BA3, 2BB3, 2E03, 2I3, 2L03, 2OA3, 2OB3, 2PA3, 2PB3, 2R03; MATH 2A03, 2C03; PHYSICS 2A03, 2B06, 2H04, 2K03

COURSE LIST 2
All Level III Astronomy, Chemistry, and Physics courses

REQUIREMENTS
90 units total (Levels I to III), of which no more than 42 units may be Level I courses

LEVEL I
30 units  (See Admission above.)

LEVEL II: 30 UNITS
18 units from Course List 1 (see above)
6 units from the Faculty of Humanities and/or the Department of Religious Studies
If not completed: MATH 1B03, CHEM 1AA3, PHYSICS 1BA3 (or 1BB3)

LEVEL III: 30 UNITS
12 units from Course List 2 (see above)
3 units HUMAN 2C03
6 units from the Faculties of Business, Humanities, Social Sciences
6 units Electives, excluding Astronomy, Chemistry, and Physics
3 units Electives, excluding Biology
FACULTY OF SOCIAL SCIENCES

Dean of Social Sciences
Alan Harrison/B.A., M.A., Ph.D.

Associate Dean (Studies)
Stefania Szlack Miller/M.A., Ph.D.

Academic Assistant to the Dean
Eleanor Frank/M.A.

Cooperative Internship Coordinator/Student Advisor
Joanne Crossley/B.A.

Student Advisors
Anne Dillon/B.A.

Elizabeth Moore


development in theory and refinements of method have, in recent years, given great impetus to social science studies and research. The Faculty of Social Sciences offers degrees in the following: Anthropology, Economics, Geography, Gerontology, Kinesiology, Labour Studies, Political Science, Psychology, Religious Studies, Social Work, Sociology.

The Faculty offers Honours Bachelor of Arts, Honours Bachelor of Kinesiology, Bachelor of Kinesiology, Bachelor of Social Work and Bachelor of Arts Degrees. Students are strongly advised to take advantage of the extensive advisory services provided by the Faculty. New students in particular should plan a programme of study that will allow them a number of options for Level II.

PROGRAMMES AND DEGREES

A. Level I Programmes

SOCIAL SCIENCES I

1. Students registered in Honours B.A. or B.A. programmes in the Faculty of Social Sciences 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 programmes are required to complete six units from the Faculty of Humanities. It is recommended that this requirement be completed in Level I.

2. Normally, a student will take only six units of Level I work in any one discipline. In special circumstances a student may be permitted to take up to 12 Level I units in one discipline.

3. Many programmes in the Faculty of Social Sciences require Mathematics. The Centre for Continuing Education offers three levels of non-degree math skills courses to help students upgrade their competence in mathematics in preparation for university study (CCE 101, CCE 102 and CCE 108). For students in Social Sciences, completion of CCE 108 will be recognized as satisfying the prerequisites for MATH 1K03 and STAT 1C03. For students in Religious Studies, completion of CCE 102 will be recognized as satisfying the prerequisites for MATH 1A03 and STAT 1C03.

REQUIREMENTS: 30 UNITS

12 units from ANTHRO 1A03, 1B03, 1Z03; ECON 1A06; GEO 1HS1, 1HS2; GERONTOLOGY 1A06; INQUIRY 1SS3; LABR ST 1A03, 1Z03; POL SCI 1G06; PSYCH 1A03, 1A43; RELIG ST 1B06, 1D06, 1E06, 1H03, 1I03; SOC SCI 1H03; SOC WORK 1A06; SOCIOLOGY 1A06

18 units Electives, which may include Social Sciences courses (See Note 1 above.)

KINESIOLOGY I

Enrolment in this Programme is limited.

PROGRAMME NOTES:

1. Application is made to the Kinesiology I Programme.

2. Students who intend to transfer to Level II of the Honours B.Sc. programme in Kinesiology (first offered September 2000) must successfully complete the following courses as part of their elective:

   • MATH 1A03
   • STATS 1C03

3. Students are encouraged to complete INQUIRY 1SS3, Inquiry in the Social Sciences, as part of their electives. REQUIREMENTS: 30 UNITS

12 units KINESIOLOGY 1A06, 1D03, 1E03

18 units Electives (See Notes 2 and 3 above.)

B. Degree Programmes

HONOURS PROGRAMMES (HONOURS BACHELOR OF ARTS AND HONOURS BACHELOR OF KINESIOLOGY)

Honours Bachelor of Arts programmes and the Honours Bachelor of Kinesiology degree programmes consist of a total of 120 units of work normally completed over four years. Honours programmes 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 study.

Students enrolled in Honours programmes in the Faculty of Social Sciences, 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 breadth requirements prescribed by the Faculty: six units from the Faculty of Humanities and/or the Department of Religious Studies. (Students enrolled in Religious Studies programmes are required to complete six units from the Faculty of Humanities); research methods/statistics as prescribed by the Department(s) and a course in critical thinking (HUMAN 2C03). Internship Options: The Faculty of Social Sciences offers two types of full-time, paid work opportunities for students registered in Honours programmes. Cooperative Internships that can last 8, 12 or 16 months provide intense employment opportunities for students. One-semester Internships (4 months), while still providing valuable workplace experience, may, in some situations, not extend the degree beyond four years. Both types of internships allow students to explore career goals, assist in the development of their employability skills and make important contacts for their employment after graduation.

Students who have successfully completed all Level II requirements may apply for non-credit internship options. Students who qualify compete for work opportunities with participating employers through an application process. The number of students accepted into the option is small in any year and depends on available work opportunities. Internships must be undertaken before the student has completed all requirements for the degree. An administrative fee will be assessed following the start of the internship. At the conclusion of an internship, a job report from the student and a letter of evaluation from the employer must be submitted. If both are satisfactory, a brief notation describing the internship is placed on the student's transcript. Any interested students should consult the details of his/her programme to determine whether this option is available. Further details of cooperative internship options may be obtained from:

Office of the Associate Dean of Studies, Kenneth Taylor Hall, Room 120 (905) 525-9140, extension 27059
email: soccoop@mcmaster.ca

Honours Bachelor of Arts (Specialist Option): Economics, Labour Studies and Psychology offer an Honours (Specialist Option) programme which involves greater concentration of work in the particular discipline.

Combined Honours Bachelor of Arts Programmes: Subject to possible timetable restrictions, and provided that the student meets the requirements for entry into each of the relevant Honours pro-
ADE Minors: A minor is an option available to students enrolled in a four-or five-level programme. A minor normally consists of at least 18 units of work beyond Level I in each component of the programme (normally 12 units per level in each subject). The Honours B.Kin. degree is not available in combination with another subject. Except for the Kinesiology programmes, the Faculty of Humanities, with the Arts and/or Social Sciences, is responsible for ensuring that the courses taken meet these requirements. 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.

Combined B.A./B.S.W.: The School of Social Work offers a Combined B.A./B.S.W. programme of studies leading to a B.A. and a B.S.W. degree. (See the programme 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 Kinesiology: The Department of Kinesiology offers a programme of studies leading to the B.Kin. degree. (See the programme description in this section.) The B.Kin. Programme consists of a total of 120 units of work, normally completed over four years.

Bachelor of Arts programmes: B.A. programmes consist of a total of 90 units of work, normally completed over three years.

The only three-level Combined Bachelor's degree programme is in Gerontology and Another Subject. The other subject may be from the Faculty of Social Sciences or the Faculty of Humanities. This programme may also be combined with the B.S.W. as a four-level programme.

Part-time Studies

Subject to limitations of course offerings, a student may pursue on a part-time basis any programme in the Faculty of Social Sciences, except for the Kinesiology programmes.

ACADEMIC REGULATIONS

Students enrolled in a programme 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 AND REINSTATEMENT

Students from other Faculties are able to transfer to degree programmes offered by the Faculty of Social Sciences provided they have obtained a Cumulative Average of at least 3.5 and have completed the necessary programme admission requirements.

Students who do not meet these requirements must consult with the Office of the Associate Dean (Studies). Requests for transfer will be considered at the same time as applications for reinstatement (see below).

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 Application form by the deadline for the session. See Sessional Dates section of this Calendar. Reinstatement applications will be carefully reviewed and the evidence considered will include the student's academic performance before and after admission to McMaster, letter of explanation supported by two Letters of Reference and other appropriate documentation.

Reinstatement is not automatic or guaranteed and 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 for courses in which passing grades have been achieved.

DEADLINES

The Faculty of Social Sciences will not consider applications for 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 Admissions, Study and Reviewing Committee.

HUMANITIES/RELIGIOUS STUDIES REQUIREMENT

Students registered in the Faculty of Social Sciences except for those in B.Kin. 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 programmes are required to complete six units from the Faculty of Humanities.

Students in Psychology programmes should note the additional Business, Humanities or Science requirements.

COURSES IN KINESIOLOGY OR SOCIAL WORK AVAILABLE FOR UNDERGRADUATE CREDIT

Both KINESIO11A06 (subject to enrolment restriction) and SOC WORK 1A06 are available to all students as undergraduate credit. In addition, the following Kinesiology and Social Work courses may be taken as elective credit by undergraduates in Level III or above of other programmes. These courses are subject to enrolment restrictions and are processed on a first come basis.

KINESIO11D03, 3F03, 3J33, 3L03, 3M03, 3P03, 3Q03, 3S53, 4J33, 4M03, 4D03, 4F03, and 4W03
SOC WORK 3C03, 3D03, 4B03, 4C03, 4F03, 4G03, 4L03, 4K03, 4L03, 4M03, 4R03 and 4W03

All other Kinesiology and Social Work courses are open only to students registered in those programmes.

COURSE SELECTION AND CHANGES

A student must ensure that the selection of courses meets the degree requirements for the programme in which the student is registered, that any prerequisites have been met, and that the appropriate written permission has been obtained if required. All registrations, programme changes and course changes must be approved by the Office of the Associate Dean (Studies) and are subject to the deadline dates established by the University as published in this Calendar under the Sessional Dates section.

Qualified students are permitted to transfer between B.A. and Honours programmes with the approval of the Office of the Associate Dean (Studies). Transfers are subject to the deadline dates established by the University.

ACADEMIC ADVISING

The aim of academic advising is to help students tailor a programme of studies to fit their interests. Advising also involves reviewing these interests from time to time to accommodate changing plans and needs and academic performance.

Advising is available throughout the year from the Office of the Associate Dean of Social Sciences (Studies) and the departments or academic units in the Faculty of Social Sciences. It is highly recommended that students consult with a Departmental Undergraduate Advisor during March in conjunction with the distribution of the new Undergraduate Calendar.

AWARDS

Full-time students must maintain a full academic load as defined by their programme during the Fall/Winter session to be eligible for full-time, in-course 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

Students who wish to take more courses than recommended for a single level of their programme 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 programme are permitted to overload by up to six additional units in order to become eligible to graduate.

WITHDRAWAL

Students who wish to withdraw from the University are required to advise the Office of the Associate Dean (Studies) in writing. Students must surrender their McMaster Identification Cards to the Office of the Associate Dean (Studies) to ensure the process-
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 (Studies) and pay the appropriate fee. 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 PROGRAMMES

There are a number of official exchange programmes offered to undergraduate students registered in the Faculty of Social Sciences, including Province of Ontario Exchange Programmes in Germany and France, and McMaster University-wide Exchange Programmes in China, Denmark, El Salvador, Germany and the United Kingdom. Official exchange programmes 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. You may, however, arrange to study elsewhere for a year independent of the official exchange programmes. 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 programmes go abroad for the third Level of an Honours programme.

Students interested in any exchange programme must discuss their plans with their department and with the Office of the Associate Dean (Studies) if they intend to transfer credit to their McMaster degree programme. 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 Group of Ten Student Exchange Programme (GOTSEP) can be found in the Academic Facilities, Student Services and Organizations section of this Calendar under the heading Student Exchanges.

Acceptance to the Ontario and University-wide Exchange Programmes is by recommendation. Application forms can be obtained from:

STUDENT EXCHANGES
HAMILTON HALL, ROOM 405
TELEPHONE: (905) 525-9140, EXTENSION 24748

DEPARTMENT OF ANTHROPOLOGY

WEB ADDRESS: http://www.socsci.mcmaster.ca/~anthro

ANTHROPOLOGY SUBFIELDS

(Applicable to all Anthropology programmes)

Anthropology includes the four major subfields of Social/Cultural Anthropology, Physical/Biological Anthropology, Archaeology, and Linguistics. Students may specialize in any one of these subfields but it is not necessary to do so. It should be noted, however, 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, 2H03, 2P03, 2Q03, 2R03, 2S03, 2X03, 2XX3, 2Z03, 3B03, 3CN3, 3F03, 3G03, 3L03, 3P03, 3C03, 3RR3, 3SY3, 3TO3, 3YO3, 3Z03, 3ZZ3, 4AE3, 4BO3, 4D03, 4I03, 4N03, 4PO3, 4Q03, 4Y03

PHYSICAL/BIOLOGICAL ANTHROPOLOGY

ANTHROP 2A03, 2D03, 2E03, 2FF3, 2J03, 2U03, 3C03, 3H03, 3N03, 3PP3, 3Z03, 3Z23, 4J03, 4R03, 4S03 (Relevant courses are also offered by Biology and Kinesiology.)

ARCHAEOLOGY

ANTHROP 2D03, 2PA3, 2V03, 3A03, 3C06, 3DD3, 3E03, 3EE3, 3K03, 4F03, 4H03, 4HF3, 4P13, 4UG3 (Relevant courses are also offered by History and Classics.)

LINGUISTICS

ANTHROP 2LC3, 2L03, 2LP3, 2M03, 4LA3, 4T03

OTHER COURSES

Courses not distinguished by subfield include the reading courses ANTHROP 3W03**, 3WM3**, 4G03, 4GG3, as well as the seminar courses ANTHROP 4A03 and 4BB3.

In planning a programme, it is important for students to take note of the prerequisites of certain upper-level courses.

Honours Arts & Science and Anthropology

(B.Arts.Sc.; See Arts & Science programme)

COOPERATIVE INTERNSHIP OPTIONS FOR HONOURS ANTHROPOLOGY STUDENTS

The Faculty of Social Sciences offers two types of full-time, paid work opportunities for students registered in Honours programmes. For further information see Degree Programmes, Internship Options, in the Faculty of Social Sciences section of this Calendar.

Honours Anthropology

ADMISSION

Completion of any Level I programme with a Cumulative Average of at least 6.0 including an average of at least 7.0 in six units from ANTHROP 1A03, 1B03, 1203.

NOTE

Students who have completed ANTHROP 2103 are not required to take ANTHROP 3L03.

REQUIREMENTS

120 units total (Levels I to IV), of which 48 units may be Level I

30 units from the Level I programme completed prior to admission to the programme. (See Admission above.)

12 units ANTHROP 2E03, 2F03, 2PA3, 3L03 (See Note above.)

3 units from ANTHROP 2D03, 2FF3, 2Z03, 3H03, 3K03, 3P03

3 units from ANTHROP 2B03, 2P03, 2S03, 2V03, 3A03, 3B03, 3D03, 3F03

3 units ANTHROP 4I03

9 units Level IV Anthropology

21 units Level II, III or IV Anthropology

3 units from SOC SCI 2J03 or STATS 1C03* (or an equivalent Research Methods/Statistics course as prescribed by other Social Sciences Programmes.)

3 units HUMAN 2003

33 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 programme with a Cumulative Average of at least 6.0 including an average of at least 7.0 in six units from ANTHROP 1A03, 1B03, 1203. Satisfaction of admission requirements for the Honours programme in the other B.A. subject.

NOTE

Students who have completed ANTHROP 2103 are not required to take ANTHROP 3L03.

REQUIREMENTS

120 units total (Levels I to IV), of which 48 units may be Level I

30 units from the Level I programme completed prior to admission to the programme. (See Admission above.)

12 units ANTHROP 2E03, 2F03, 2PA3, 3L03 (See Note above.)

3 units from ANTHROP 2D03, 2FF3, 2Z03, 3H03, 3K03, 3P03

3 units from ANTHROP 2B03, 2P03, 2S03, 2V03, 3A03, 3B03, 3D03, 3F03

3 units ANTHROP 4I03

3 units Level IV Anthropology
12 units Level II, III or IV Anthropology  
36 units courses specified for the other subject  
3 units from SOC SCI 2J03 or STATS 1C03* or in combined programmes within the Faculty of Social Sciences, the Research Methods/Statistics requirement specified for the other subject.  
3 units HUMAN 2C03. Students combining Honours Arts and Science with Anthropology are exempt from this requirement.  
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. 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 programme 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 Ill), of which 42 may be Level I  
30 units from the Level I programme completed prior to admission to the programme. (See Admission above.)  
6 units from ANTHROP 2E03, 2F03, 2PA3  
18 units Level 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  
6 units from ANTHROP 1A03, 1B03, 1Z03  
3 units from ANTHROP 2E03, 2F03, 2PA3  
15 units Level II, III or IV Anthropology  

DEPARTMENT OF ECONOMICS  

WEB ADDRESS: http://www.socsci.mcmaster.ca/~econ  

Honours Arts & Science and Economics  

(B. Arts Sc.; See Arts & Science programme)  

COOPERATIVE INTERNSHIP OPTIONS  
FOR HONOURS ECONOMICS STUDENTS  
The Faculty of Social Sciences offers two types of full-time, paid work opportunities for students registered in Honours programmes. For further information see Degree Programmes, Internship Options, in the Faculty of Social Sciences section of this Calendar.  

Honours Economics (Specialist Option) {2151}  

ADMISSION  
Completion of any Level I programme with a Cumulative Average of at least 6.0 including a grade of B- in ECON 1A06. Credit in OAC Calculus or MATH 1K03, or equivalent.  

NOTES  
1. Students who completed COMMERCE 2F03 in the 1997-98 academic year may use this course as three units of Economics.  
2. ECON 2L03 may not be used to satisfy economics unit requirements, but may be used as an elective.  

REQUIREMENTS  
120 units total (Levels I to IV), of which 48 may be Level I  
30 units from the Level I programme completed prior to admission to the programme. (See Admission above.)  
21 units ECON 2G03, 2GG3, 2H03, 2H3, 3F03, 3LL3, 4A03  
3 units from ECON 2K03, 3I03  
18 units Level II, III, IV Economics with no more than six units from ECON 2A03, 2C03, 2D03, 2E03, 2F03, 2I03, 2J03, 2N03, 2P03, 2T03 (See Notes 1 and 3 above.)  
6 units ECON 2B03 and 3U03  
3 units* from MATH 1A03 or 1M03  
3 units** from STATS 1L03, 2D03 (or OAC Finite Math)  
3 units HUMAN 2C03  
24 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 OACs, these units will be taken as electives.  

Honours Economics {2150}  

ADMISSION  
Completion of any Level I programme with a Cumulative Average of at least 6.0 including a grade of B- in ECON 1A06. Credit in OAC Calculus or MATH 1K03, or equivalent. Satisfaction of admission requirements for the Honours programme in the other B.A. subject.  

NOTES  
1. One of OAC Finite Math, STATS 1L03, or STATS 2D03 is a prerequisite for the research methods course offered by the Department of Economics (ECON 2B03).  
2. Students registered in Combined Honours programmes 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.  
3. Students who completed COMMERCE 2F03 in the 1997-98 academic year may use this course as three units of Economics.  
4. ECON 2L03 may not be used to satisfy economics unit requirements, but may be used as an elective.  

Combined Honours in Economics and Another Subject  

ADMISSION  
Completion of any Level I programme with a Cumulative Average of at least 6.0 including a grade of B- in ECON 1A06. Credit in OAC Calculus or MATH 1K03, or equivalent. Satisfaction of admission requirements for the Honours programme in the other B.A. subject.  

NOTES  
1. One of OAC Finite Math, STATS 1L03, or STATS 2D03 is a prerequisite for the research methods course offered by the Department of Economics (ECON 2B03).  
2. Students registered in Combined Honours programmes 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.  
3. Students who completed COMMERCE 2F03 in the 1997-98 academic year may use this course as three units of Economics.  
4. ECON 2L03 may not be used to satisfy economics unit requirements, but may be used as an elective.
110 FACULTY OF SOCIAL SCIENCES

REQUIREMENTS

120 units total (Levels I to IV), of which 48 units may be Level I

- 30 units from the Level I programme completed prior to admission to the programme. (See Admission above.)
- 21 units ECON 2G03, 2G33, 2H03, 2H13, 3F03, 3L3, 4A03 (See Note 2 above.)
- 3 units from ECON 2K03, 3I03
- 9 units Level II, III, IV Economics with no more than six units from ECON 2A03, 2C03, 2D03, 2E03, 2F03, 2I03, 2J03, 2N03, 2P03, 2T03 (See Notes 3 and 4 above.)
- 36 units courses specified for the other subject
- 6 units ECON 2B03 and 3U03 or, in combined programmes within the Faculty of Social Sciences, the Research Methods/Statistics requirement specified for the other subject. (See Note 1 above.)
- 3 units* from MATH 1A03 or 1M03
- 3 units** from STATS 1L03, 2D03 (or OAC Finite Math)
- 3 units HUMAN 2C03. Students combining Honours Arts & Science with Economics are exempt from this requirement.
- 6 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 courses above.)

If requirement completed in Level I, these units will be taken as electives.

**If requirement completed in Level I or with OACs, these units will be taken as electives.

Honours Economics and Computer Science

{2150145}

ADMISSION

Completion of any Level I programme with a Cumulative Average of at least 6.0 including COMP SCI 1MC3 and 1MD3 (or 1MA3 and 1MB3), and including a grade of at least B- in ECON 1A06, and a weighted average of at least 7.0 in ECON 1A06, COMP SCI 1MC3, 1MD3 (or 1MB3), MATH 1A03, 1AA3 and 1B03. MATH 1B03 may be postponed until Level II.

NOTES

1. Students who completed COMMERCE 2FA3 in the 1997-98 academic year may use this course as three units of Economics.

2. ECON 2L03 may not be used to satisfy economics requirements, but may be used as an elective.

REQUIREMENTS

120 units total (Levels I to IV), of which 48 units may be Level I

- 30 units from the Level I programme completed prior to admission to the programme. (See Admission above.)
- 21 units ECON 2G03, 2G33, 2H03, 2H13, 3F03, 3L3, 4A03 (See Note 2 above.)
- 3 units from ECON 2K03, 3I03
- 12 units Level 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.)
- 18 units COMP SCI 2MD3, 2MF3, 2SC3, 3MG3, 4MP6
- 6 units from COMP SCI 3CA3, 3EA3, 3MH3, 3M13
- 6 units Level II, III or IV Computer Science. (COMP SCI 3EAD is strongly recommended. COMP SCI 2ME3, 4EB3, 4EC3 are recommended as preparation for Business Data Processing.)
- 6-9 units STATS 2D03, one of STATS 2MB3 or 3D06, or ECON 2B03 and 3U03
- 3 units HUMAN 2C03
- 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.

Honours Economics and Mathematics

{2150320}

ADMISSION

Completion of any Level I programme with a Cumulative Average of at least 6.0 including a grade of at least B- in each of ECON 1A06, MATH 1A03, 1AA3 and 1B03.

NOTES

1. Students who completed COMMERCE 2FA3 in the 1997-98 academic year may use this course as three units of Economics.

2. ECON 2L03 may not be used to satisfy economics unit requirements, but may be used as an elective.

REQUIREMENTS

120 units total (Levels I to IV), of which 48 units may be Level I

- 30 units from the Level I programme completed prior to admission to the programme. (See Admission above.)
- 21 units ECON 2G03, 2G33, 2H03, 2H13, 3F03, 3L3, 4A03 (See Note 2 above.)
- 3 units from ECON 2K03, 3I03
- 12 units Level 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.)
- 18 units MATH 2A03, 2AB3, 2C03, 2R03, 3AA3
- 3 units from MATH 2S03, 2T03
- 15 units from Level III, IV Mathematics, Statistics
- 6-9 units STATS 2D03; one of STATS 2MB3 or 3D06, or ECON 2B03 and 3U03
- 3 units HUMAN 2C03
- 6-9 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.

B.A. in Economics

{1150}

ADMISSION

Completion of any Level I programme with a Cumulative Average of at least 3.5 and a grade of at least C- in ECON 1A06. Credit in OAC Calculus or MATH 1K03 or equivalent.

NOTES

1. Students who completed COMMERCE 2FA3 in the 1997-98 academic year may use this course as three units of Economics.

2. ECON 2L03 may not be used to satisfy economics requirements, but may be used as an elective.

REQUIREMENTS

90 units total (Levels I to III), of which 42 units may be Level I

- 30 units from the Level I programme completed prior to admission to the programme. (See Admission above.)
- 9 units ECON 2B03, 2G03, 2H03
- 3 units from ECON 2K03, 3I03
- 12 units Level 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.)
- 3 units* from MATH 1A03 or 1M03
- 3 units** from STATS 1L03, 2D03 (or OAC Finite Math)
- 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. 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 OACs, 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. ECON 2L03 may not be used to satisfy economics unit requirements.

REQUIREMENTS

6 units ECON 1A06
- 18 units Level II, III, IV Economics or COMMERCE 2FA3 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 GEOLOGY

WEB ADDRESS: http://www.science.mcmaster.ca/geo/geomain.html

Honours Geography (B.Sc.), and Honours Geography and Environmental Science (B.Sc.), and Honours Geology (B.Sc.)
(See Faculty of Science, School of Geography and Geology.)

Honours Arts & Science and Geography
(B. Arts Sc.; See Arts & Science programme)

COOPERATIVE INTERNSHIP OPTIONS FOR HONOURS GEOGRAPHY STUDENTS
The Faculty of Social Sciences offers two types of full-time, paid work opportunities for students registered in Honours programmes. For further information see Degree Programmes, Internship Options, in the Faculty of Social Sciences section of this Calendar.

PROGRAMMES FOR STUDENTS ENTERING IN SEPTEMBER 1999

Honours Geography {2240}

ADMISSION
Completion of any Level I programme with a Cumulative Average of at least 6.0 including a minimum grade of C+ in GEO 1HB6 or an average of at least 6.0 in six units from GEO 1A03, 1B03, 1G03. (See Note 2 below.)

NOTES
1. Beginning in 2000-2001, admission to the programme will require completion of any Level I programme with a Cumulative Average of at least 6.0 including an average of at least 6.0 in six units from GEO 1A03, 1B03, 1G03, 1H03, 1H04 (or a grade of at least C+ in GEO 1HB6 if previously completed).
2. Progression to Level III of this programme is conditional upon eligibility to continue in an Honours programme and a grade of at least C+ in GEO 2103. Students who do not meet the minimum requirements must transfer to another programme for which they qualify.
3. One of MATH 1A03 or 1M03 must be completed by the end of Level II. Inclusion in Level I is strongly recommended.
4. One of SOC SCI 2J03 or STATS 1C03 must be completed by the end of Level II and is a prerequisite for GEO 2S03.

COURSE LIST 1
GEO 2A03, 2B03, 2C03, 2G03, 2H03, 2J03, 2P03, 2Q03, 2R03, 2S03, 2T03, 2W03, 2Y03

REQUIREMENTS
120 units total (Levels I to IV) of which 48 units may be Level I
30 units from the Level I programme completed prior to admission to the programme. (See Admission above.)
24 units GEO 2103, 3I03, 3N03, 3P03, 3R06, 4S03
3 units from GEO 3F03, 3H03
6 units from Course List 1
12 units from Course List 2
6 units one of SOC SCI 2J03 or STATS 1C03*; GEO 2S03
3 units* from MATH 1A03 or 1M03, which must be completed by the end of 60 units
3 units* HUMAN 2C03
33 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 Geography and Environmental Studies {2243}

ADMISSION
Completion of any Level I programme with a Cumulative Average of at least 6.0 including a minimum grade of C+ in GEO 1HB6 or an average of at least 6.0 in six units from GEO 1A03, 1B03, 1G03. (See Note 2 below.)

NOTES
1. Beginning in 2000-2001, admission to the programme will require completion of any Level I programme with a Cumulative Average of at least 6.0 including an average of at least 6.0 in GEO 1HS3 and 1HU3 (or a grade of at least C+ in GEO 1HB6 if previously completed) and successful completion of at least one of GEO 1A03, 1B03, 1G03.
2. One of MATH 1A03 or 1M03 must be completed by the end of Level II. Inclusion in Level I is strongly recommended.
3. One of SOC SCI 2J03 or STATS 1C03 must be completed by the end of Level II and is a prerequisite for GEO 2S03.

COURSE LIST 1
GEO 4C03, 4D03, 4H03, 4HT3, 4HU3, 4HX3, 4HY3, 4HZ3, 4J03, 4R06, 4S03, 4W03

REQUIREMENTS
120 units total (Levels I to IV) of which 48 units may be Level I
30 units from the Level I programme completed prior to admission to the programme
6 units GEO 2103, 3R03
3 units from GEO 3F03, 3H03
12 units from Course List 1, including one of GEO 4CC3 or 4R06
12 units from Course List 2
12 units from Course List 3
6 units one of SOC SCI 2J03 or STATS 1C03*; GEO 2S03
3 units* from MATH 1A03 or 1M03, which must be completed by the end of 80 units
3 units HUMAN 2C03
33 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.

Honours Geography {2246}
(Geographic Information Systems Specialist Option)

ADMISSION
Completion of any Level I programme with a Cumulative Average of at least 6.0 including a minimum grade of C+ in GEO 1HB6 or an average of at least 6.0 in six units from GEO 1A03, 1B03, 1G03. (See Notes 2 and 3 below.)

NOTES
1. Beginning in 2000-2001, admission to the programme will require completion of any Level I programme with a Cumulative Average of at least 6.0 including an average of at least 6.0 in six units from GEO 1A03, 1B03, 1G03, 1H03, 1H04 (or a grade of at least C+ in GEO 1HB6 if previously completed).
2. Progression to Level III of this programme is conditional upon eligibility to continue in an Honours programme and a grade of at least C+ in GEO 2103. Students who do not meet the minimum requirements must transfer to another programme for which they qualify.
3. One of MATH 1A03 or 1M03 must be completed by the end of Level II. Inclusion in Level I is strongly recommended.
4. One of SOC SCI 2J03 or STATS 1C03 must be completed by the end of Level II and is a prerequisite for GEO 2S03.

COURSE LIST 1
GEO 3A03, 3B03, 3C03, 3E03, 3G03, 3H03, 3J03, 3K03, 3P03, 3R03, 3S03

REQUIREMENTS
120 units total (Levels I to IV) of which 48 units may be Level I
30 units from the Level I programme completed prior to admission to the programme. (See Admission above.)
24 units GEO 2103, 3I03, 3N03, 3P03, 3R06, 4S03
3 units from GEO 3F03, 3H03
6 units from Course List 1
12 units from Course List 2
6 units one of SOC SCI 2J03 or STATS 1C03*; GEO 2S03
3 units* from MATH 1A03 or 1M03, which must be completed by the end of 60 units
3 units* HUMAN 2C03
33 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.
REQUIREMENTS

120 units total (Levels I to IV) of which 48 units may be Level I

30 units from the Level I programme completed prior to admission to the programme. (See Admission above.)

21 units GEO 2H03, 2H04, 2G03, 3G03, 3H03, 3I03, 4A03

3 units from GEO 2H03, 2H04, 2H04

6 units from GEO 3H03, 3H03, 3H03, 3H03, 3H03, 3H03

9 units from Course List 1, including one of GEO 4C03 or 4R06

15 units from Course List 2, where no more than six units may be chosen from GEO courses

3 units ECON 2J03

3 units from MATH 1A03 or 1M03, which must be completed by the end of Level II and is a prerequisite for admission to the programme. (See Admission above.)

6 units one of SOC SCI 2J03 or STATS 1CC3; GEO 2S03

6 units ECON 1A06 which must be completed by the end of Level II

3 units HUMAN 2C03

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.

Honours Geography and Environmental Studies (Geographic Information Systems Specialist Option)

ADMISSION

Completion of any Level I programme with a Cumulative Average of at least 6.0 including a minimum grade of C+ in GEO 1H06 or an average of at least 6.0 in six units from GEO 1A03, 1B03, 1G03. (See Notes 2 and 3 below.)

NOTES

1. Beginning in 2000-2001, admission to the programme will require completion of any Level I programme with a Cumulative Average of at least 6.0 including an average of at least 6.0 in six units from GEO 1A03, 1B03, 1G03 (or a grade of at least C+ in GEO 1H06 if previously completed) and satisfies admission requirements for the Honours programme in the other B.A. subject.

2. One of MATH 1A03 or 1M03 must be completed by the end of Level II. Inclusion in Level I is strongly recommended.

COURSE LIST 1

GEO 4A03, 4B03, 4C03, 4CC3, 4D03, 4F03, 4G03, 4H03, 4J03, 4K03, 4L03, 4M03, 4N03, 4R03, 4S03, 4T03, 4W03

COURSE LIST 2

GEO 3A03, 3B03, 3C03, 3D03, 3E03, 3F03, 3G03, 3H03, 3I03, 3J03, 3K03, 3L03, 3M03, 3N03, 3O03, 3P03, 3R03

COURSE LIST 3

GEO 2B03, 2C03, 2G03, 2H03, 2I03, 2J03, 2K03, 2L03, 2M03

REQUIREMENTS

120 units total (Levels I to IV) of which 48 units may be Level I

30 units from the Level I programme completed prior to admission to the programme. (See Admission above.)

24 units GEO 2B03, 3B03, 3C03, 3D03, 4B03, 4C03, 4D03, 4S03

15 units GEO 2H03, 2H03, 3A03, 3H03, 4A03

3 units from GEO 2H03, 2H03, 2H03

3 units ECON 2J03

15 units from Course List 1, where no more than six units may be chosen from GEO courses

3 units from MATH 1A03 or 1M03, which must be completed by the end of 60 units

6 units one of SOC SCI 2J03 or STATS 1CC3; GEO 2S03

6 units ECON 1A06 which must be completed by the end of 60 units

3 units HUMAN 2C03

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 Geography \{1240\}

ADMISSION
Completion of any Level I programme with a Cumulative Average of at least 3.5 including a minimum grade of at least C- in GEO 1HB6 or an average of at least 4.0 in six units from GEO 1A03, 1C03, 1G03.

NOTE:
1. Beginning in 2000-2001, admission to the programme will require completion of any Level I programme with a Cumulative Average of at least 3.5 including an average of at least 4.0 in six units from GEO 1A03, 1B03, 1G03, 1H03 (or a grade of at least C- in GEO 1HB6 if previously completed).

COURSE LIST

1. Beginning in

B.A. in Geography

GEO 2803, 2C03, 2G03, 3A03, 3803, 3C03, 3G03, 3HD3, 3HF3, 3H03, 3H3, 3HC3, 3HT3, 3HH3, 3HZ3, 3I03, 3S03, 3W03, 3Y03

COURSE LIST 2

GEO 2B03, 2C03, 2G03, 2HG3, 2HA3, 2HB3, 2HC3, 2HD3, 2HH3, 2HY3, 2I03, 2S03, 2W03, 2WW3

REQUIREMENTS
90 units total (Levels I to III), of which 42 units may be Level I
30 units from the Level I programme completed prior to admission to the programme. (See Admission above.)
12 units from Course List 2 with no more than six units from GEO 2G03, 2HC3, 2HY3, 2WW3
12 units from Course List 1
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

COURSE LIST 1

GEO 4B03, 4C03, 4D03, 4G03, 4H03, 4HT3, 4H03, 4HY3, 4HZ3, 4S03, 4W03

COURSE LIST 2

GEO 3B03, 3C03, 3G03, 3HD3, 3H03, 3HC3, 3HJ3, 3HH3, 3HT3, 3HZ3, 3S03, 3W03

COURSE LIST 3

GEO 2B03, 2C03, 2G03, 2HG3, 2HA3, 2HB3, 2HC3, 2HD3, 2HH3, 2HY3, 2I03, 2S03, 2W03, 2WW3

REQUIREMENTS
6 units from GEO 1A03, 1B03, 1G03, 1HB6, 1H03, 1HS3, 1I03
6 units from Course Lists 1, 2
12 units from Course Lists 1, 2, 3 with no more than six units from GEO 2G03, 2HC3, 2HY3, 2W03, 2WW3, 3HJ3, 3HR3

PROGRAMMES FOR STUDENTS WHO ENTERED PRIOR TO SEPTEMBER 1999

Honours Geography \{2245\}
(B.A., Specialist Option)

The Honours Geography (Specialist Option) programme is being phased out. Registration in Level II will be last available in September 1999. Level I students who had intended to register in this programme or students who registered in the programme prior to 1999 should see a Student Advisor in the Office of the Associate Dean (Studies) of the Faculty of Social Sciences.

Honours Geography \{2240\}

(Open to all students)

All Geography (except GEOG 4B09), Geology and Level I Environmental Science courses have been renumbered and renamed Geo. To determine the former Geography, Geology and Environmental Science designations of the new Geo courses, please see Geography and Geology in the Course Listings section of this Calendar. To determine the Geo designation of a former Geography, Geology or Environmental Science course, please see the listings for Environmental Science, Geography and Geology respectively, in the Course Listings section of this Calendar.

NOTES
1. Students who entered the programme prior to September 1998 are encouraged, but not required, to complete one of GEO 3F03 or 3H03. Students who choose not to complete either of these courses will replace this with three units from Course Lists 1 or 2. See the 1997-1998 Undergraduate Calendar for programme requirements.
2. One of SOC SCI 1J03 or STATS 1CC3 and one of MATH 1A03 or 1M03, must be completed by the end of Level II.

COURSE LIST 1

GEO 4A03, 4B03, 4C03, 4D03, 4G03, 4H03, 4HT3, 4H03, 4HY3, 4HZ3, 4I03, 4R06, 4S03, 4W03

COURSE LIST 2

GEO 3A03, 3B03, 3C03, 3G03, 3H03, 3F03, 3H3, 3HC3, 3HJ3, 3HT3, 3HZ3, 3I03, 3S03, 3W03, 3Y03

COURSE LIST 3

GEO 2B03, 2C03, 2G03, 2HA3, 2HB3, 2HD3, 2HR3, 2HY3, 2I03, 2S03, 2W03

REQUIREMENTS
120 units total (Levels I to IV), of which 48 units may be Level I
30 units from the Level I programme completed prior to admission to the programme
3 units GEO 3R03
3 units from GEO 3F03, 3H03 (See Note 1 above.)
12 units from Course List 1 including one of GEO 4C03 or 4R06
24 units from Course Lists 1, 2, 3
6 units from SOC SCI 1J03 or STATS 1CC3; GEO 2S03
3 units* from MATH 1M03 or 1A03, which must be completed by the end of 60 units.
3 units* HUMAN 2C03
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 B.A. in Geography and Another Subject

(Available only to those students who entered the programme prior to September 1999.)

All Geography (except GEOG 4B09), Geology and Level I Environmental Science courses have been renumbered and renamed Geo. To determine the former Geography, Geology and Environmental Science designations of the new Geo courses, please see Geography and Geology in the Course Listings section of this Calendar. To determine the Geo designation of a former Geography, Geology or Environmental Science course, please see the listings for Environmental Sciences, Geography and Geology respectively, in the Course Listings section of this Calendar.

NOTES
1. Students who entered the programme prior to September 1998 are encouraged, but not required, to complete one of GEO 3F03 or 3H03. Students who choose not to complete either of these courses will replace this with three units from Course Lists 1 or 2. See the 1997-1998 Undergraduate Calendar for programme requirements.
2. One of SOC SCI 2J03 or STATS 1CC3 and one of MATH 1A03 or 1M03, must be completed by the end of Level II.
FACULTY OF SOCIAL SCIENCES

REQUIREMENTS
120 units total (Levels I to IV), of which 48 units may be Level I
30 units from the Level I programme completed prior to admission to the programme. (See Admission above.)
3 units GEO 3P03
3 units from GEO 3F03, 3H03 (See Note 1 above.)
18 units from Course Lists 1, 2, 3
12 units from Course List 1 including one of GEO 4C03 or 4R06 or 12-15 units nine from Course List 1 and the Thesis or Honours Seminar specified by the Department for the other subject
36 units courses specified for the other subject
6 units one of SOC SCI 2J03 or STATS 1CC3*, GEO 2S03 or in combined programmes within the Faculty of Social Sciences, the Research Methods/Statistics requirement specified for the other subject
3 units* from MATH 1A03 or 1M03, which must be completed by the end of 60 units.
3 units HUMAN 2C03. Students combining Honours Arts & Science with Geography are exempt from this requirement.
3-6 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 Geography and 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.

Honours Geography and Environmental Studies (B.A.)

(Available only to those students who entered the programme prior to September 1998.)

All Geography (except GEOG 4B09), Geology and Level I Environmental Science courses have been renumbered and renamed Geo. To determine the former Geography, Geology and Environmental Science designations of the new Geo courses, please see Geography and Geology in the Course Listings section of this Calendar. To determine the Geo designation of a former Geography, Geology or Environmental Science course, please see the listings for Environmental Science, Geography and Geology respectively, in the Course Listings section of this Calendar.

NOTES
1. Students who entered the programme prior to September 1998 are encouraged, but not required, to complete GEO 3H03. Students who choose not to complete GEO 3H03 will be replace this with three units from Course Lists 1 or 2. See the 1997-1998 Undergraduate Calendar for programme requirements.
2. Students who entered the programme prior to September 1998 and who did not complete:
   • GEOG 3J03 must replace this with ECON 3W03;
   • GEOG 3U03 must replace this with GEO 3A03;
   • GEOG 3U03 must replace this with GEO 4A03
3. One of SOC SCI 2J03 or STATS 1CC3 and one of MATH 1M03 or 1A03, must be completed by the end of Level II.

COURSE LIST 1
GEO 2B03, 2C03, 2G03, 2HR3, 2I03, 2W03, 3B03, 3C03, 3G03, 3H03, 3I03, 3S03, 3W03, 3Y03, 4B03, 4C03, 4F03, 4G03, 4H03, 4H13, 4H33, 4H73, 4I03, 4S03, 4W03

COURSE LIST 2
ANTHROP 2A03, 2E03, 2F03, 2H03, 2PA3, 2U03, 3C03, 3F03, 3V03, 3Z03, 4AE5, 4P03
BIOLOGY 2D03, 2E03, 3S03, 3T03, 4Y03
ECON 2G03, 2J03, 3B03, 3C03, 3Z03
PHILOS 2G03, 2N03
POL SCI 2E06, 2G06, 3S03, 3Z03, 3Z06, 3Z23, 4D03, 4D06, 4G06, 4K06, 4O06
SOCIOl 3G03, 3H03, 3J03

REQUIREMENTS
120 units total (Levels I to IV), of which 48 units may be Level I
30 units from the Level I programme completed prior to admission to the programme
27 units BIOLOGY 2F03, ECON 3W03, GEO 3A03, 3F03, 3H03, 3R03, 4A03, 4R06 (See Notes 1 and 2 above.)
36 units from Course Lists 1 and 2:
   • at least 12 units must be Level III or IV courses;
   • at least 16 units must be from Course List 2;
   • at least 3 units must be from Course List 1
3 units* from MATH 1M03 or 1A03 which must be completed by the end of 60 units.
6 units one of SOC SCI 2J03 or STATS 1CC3*, GEO 2S03
3 units HUMAN 2C03
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.

Honours Geography and Geology (B.A.)

Level I students who intended to register in this programme or students who registered prior to 1998 should see the Academic Advisor in the School of Geography and Geology for programme requirements and individual counselling.

B.A. in Geography

(Available only to those students who entered the programme prior to September 1999.)

All Geography (except GEOG 4B09), Geology and Level I Environmental Science courses have been renumbered and renamed Geo. To determine the former Geography, Geology and Environmental Science designations of the new Geo courses, please see Geography and Geology in the Course Listings section of this Calendar. To determine the Geo designation of a former Geography, Geology or Environmental Science course, please see the listings for Environmental Science, Geography and Geology respectively, in the Course Listings section of this Calendar.

COURSE LIST 1
GEO 3A03, 3B03, 3C03, 3F03, 3G03, 3H03, 3H03, 3I03, 3S03, 3W03, 3Y03

COURSE LIST 2
GEO 2B03, 2C03, 2G03, 2G3, 3A3, 3B3, 3F03, 3H03, 3H03, 3W03, 3W03, 3W3, 3Y03

REQUIREMENTS
90 units total (Levels I to III), of which 42 may be Level I
30 units from the Level I programme completed prior to admission to the programme
12 units from Course List 1 with no more than six units from GEO 2G03, 2H03, 2W03
12 units from Course List 1
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.

GERONTOLOGICAL STUDIES

WEB ADDRESS: http://www.socscl.mcmaster.ca/~geros

COOPERATIVE INTERNSHIP OPTIONS
FOR HONOURS GERONTOLOGY STUDENTS

The Faculty of Social Sciences offers two types of full-time, paid work opportunities for students registered in Honours programmes. For further information see Degree Programmes, Internship Options, in the Faculty of Social Sciences section of this Calendar.

Combined Honours in Gerontology and Another Subject

ADMISSION

Enrolment in this programme is limited. Admission is by selection but requires, as a minimum, completion of any Level I programme with a minimum Cumulative Average of 6.0 including a grade of at least B- in GERONTOL 1A06 (or its equivalent), and satisfaction of admission requirements for the Honours B.A. programme in the other subject.
NOTES
1. Application for admission, including a statement explaining the applicant's interest in the programme, must be made to the Chair of the Committee of Instruction, prior to April 1. The Admissions Committee may wish to interview the applicant.
2. Students who have not taken GERONTOL 1A06 in Level I may be considered for admission to the programme if they have an equivalent introductory gerontology course. Such students must consult the Chair of the Committee of Instruction regarding GERONTOL 1A06 equivalency prior to applying.
3. Courses other than those listed in Course List 1 may be substituted, with the prior permission of the Chair of the Committee of Instruction.
4. GERONTOL 2C03 and 3G03 (or another approved three or six unit statistics course) must be completed by the end of Level III.
5. Students who complete the Thesis in the other subject must replace GERONTOL 4A06 with six units of Level II, III or IV Gerontology or courses from Course List 1.

COURSE LIST 1
ANTHROP 3Z03
ECON 3D03, 3Q03, 3Z03
GEO 3H03
HTH SCI 3B03
KINESIOL 3F03
PHILOS 3C03
PSYCH 3X03
RELIG ST 2M03, 2N03, 2WW3
SOC WORK 3C03, 4L03, 4R03
SOCIOI 3CC3, 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 programme completed prior to admission to the programme. (See Admission above.)
6 units GERONTOL 2B03, 2D03
6 units GERONTOL 3B03, 3D00
6 units GERONTOL 4A06 or if available, a Thesis in the other subject (See Note 5 above.)
3 units Level IV Gerontology
12 units Level II, III or IV Gerontology or courses from Course List 1
36 units Courses as specified for the other subject
3 units GERONTOL 2C03
3-6 units from GERONTOL 3Q03, STATS 1C03*, or in combined programmes within the Faculty of Social Sciences, the Research Methods/Statistics requirement specified for the other subject.
3 units HUMAN 2C03. Students combining Arts and Science with Gerontology are exempt from this requirement.
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. Gerontology and Another Subject
ADMISSION
Enrolment in this programme is limited. Admission is by selection but requires, as a minimum, completion of any Level I programme with a minimum Cumulative Average of 3.5 including a grade of C- in GERONTOL 1A06 (or its equivalent), and satisfaction of admission requirements for the B.A. in the other subject.

NOTES
1. Application for admission, including a statement explaining the applicant's interest in the programme, must be made to the Chair of the Committee of Instruction, prior to April 1. The Admissions Committee may wish to interview the applicant.
2. Students who have not taken GERONTOL 1A06 in Level I may be considered for admission to the programme if they have an equivalent introductory gerontology course. Such students must consult the Chair of the Committee of Instruction regarding GERONTOL 1A06 equivalency prior to applying.
3. Courses other than those listed in Course List 1 may be substituted, with the prior permission of the Chair of the Committee of Instruction.
4. No more than six units of work in the other subject of the combined programme which are also in Course List 1 may be used to fulfill the requirements of both programme components.
5. Students in the B.A. in Gerontology and Another Subject/Bachelor of Social Work programme should consult with the Chair of the Committee of Instruction regarding GERONTOL 3B03 (the Gerontology Field Observation requirement) and SOC WORK 3D06.

COURSE LIST 1
ANTHROP 3Z03
ECON 3D03, 3Q03, 3Z03
GEO 3H03
HTH SCI 3B03
KINESIOL 3F03
PHILOS 3C03
PSYCH 3X03
RELIG ST 2M03, 2N03, 2WW3
SOC WORK 3C03, 4L03, 4R03
SOCIOI 3CC3, 3G03, 3H03
or other designated and approved courses. (See Note 3 above.)

REQUIREMENTS
(For the B.A. in Gerontology and Sociology programme requirements see below.)
90 units total (Levels I to III), of which 42 units may be Level I
30 units from the Level I programme completed prior to admission to the programme (See Admission above.)
6 units GERONTOL 2B03, 2D03
3 units GERONTOL 2C03
6 units GERONTOL 3B03, 3D00
9 units Level II, III or IV Gerontology or courses from Course List 1
24 units courses specified for the other subject (See Note 4 above.)
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. Gerontology and Sociology
1265520
(Programme requirements only)
For admission information and programme notes, see B.A. in Gerontology and Another Subject (above).

COURSE LIST 1
ANTHROP 3Z03
ECON 3D03, 3Q03, 3Z03
GEO 3H03
HTH SCI 3B03
KINESIOL 3F03
PHILOS 3C03
PSYCH 3X03
RELIG ST 2M03, 2N03, 2WW3
SOC WORK 3C03, 4L03, 4R03
SOCIOI 3CC3, 3G03, 3H03
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 programme completed prior to admission to the programme. (See Admission, B.A. in Gerontology and Another Subject above.)
6 units GERONTOL 2B03, 2D03
6 units GERONTOL 3B03, 3D00
9 units Level II, III or IV Gerontology or courses from Course List 1
3 units GERONTOL 2C03 or SOCIOI 2Z03
6 units SOCIOI 2S06
15 units Level II or III Sociology
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 Gerontology as a Second Degree 1265
ADMISSION
Enrolment in this programme is limited. Admission is by selection but requires, as a minimum, completion of an undergraduate degree from a recognized university normally with a minimum Cumulative Average of 4.0 (or its equivalent), a grade of at least
C-in GERONTOL 1A06 (or its equivalent), and evidence of a personal interest in Gerontological Studies, which may be evaluated by one, or a combination of a written statement and an interview. An applicant is normally required to complete the prerequisite undergraduate degree work by April of the year in which application is made. As Second Degree candidates, applicants must first apply for admission to the University, through the Office of the Registrar (Admissions) indicating they wish to apply for Gerontology as a Second Degree. This application step must be completed prior to April 1. A supplementary application for admission to the Gerontology programme will then be sent to the applicant from the Office of the Registrar (Admissions). The supplementary application, including a statement explaining the applicant's interest in the programme, must be addressed to the Chair of the Committee of Instruction and sent to the Office of the Registrar (Admissions) prior to May 15.

Students who have not included GERONTOL 1A06 in their first degree programme may be considered for admission to the programme if they have an equivalent introductory gerontology course. Such students must consult the Chair of the Committee of Instruction regarding GERONTOL 1A06 equivalency prior to applying.

NOTES

1. Students who wish to enter a graduate or professional programme after completion of their second degree in Gerontology are advised to choose courses required for entry to these programmes. These may include research methods courses, advanced seminar in gerontology, a directed research course for second degree students and other courses at Level IV. Students should consult the requirements for their post-graduate or professional programme of choice.

2. Students are required to complete a total of 30 units for the second degree, all of which must be completed at McMaster. Students may apply for permission to the Chair of the Committee of Instruction for credit in equivalent Gerontology courses or courses from Course List 1 as part of their first degree. If the requirement is waived, additional courses must be taken at McMaster to total 30 units.

3. Courses other than those listed below in Course List 1 may be substituted with the prior permission of the Chair of the Committee of Instruction.

4. Students who have completed the methods requirement in their first degree should consult the Chair of the Gerontology Committee of Instruction.

COURSE LIST 1

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<tr>
<th>Subject</th>
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<td>ANTHROP 3Z03</td>
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<td>ECON 3D03, 3Q03</td>
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<td>GEO 3HH3</td>
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<td>PSYCH 3X03</td>
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<td>RELIG ST 2M03, 2N03, 2WW3</td>
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<td>SOC WORK 3C03, 4L03, 4R03</td>
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<td>SOCIOL 3CC3, 3G03, 3HH3</td>
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or other designated and approved courses. (See Note 3 above.)

REQUIREMENTS (MINIMUM)

30 units total

6 units GERONTOL 2B03, 2D03
6 units GERONTOL 3B03, 3D03
3 units GERONTOL 2C03 (See Note 4 above.)
9 units Level II, III or IV Gerontology or courses from Course List 1
6 units Electives

Combined Honours in Gerontology and Another Subject as a Second Degree

ADMISSION

Enrolment in this programme is limited. Admission is by selection and only former McMaster students who have completed a three-level B.A. degree in Combined Gerontology and Another Subject may apply to the Combined Honours in Gerontology and Another Subject as a Second Degree if they have a minimum Cumulative Average of 6.0. The other subject must be the same as in the first degree and students must be accepted for Honours both by Gerontology and by the other department.

Applicants must first apply for admission to the University through the Office of the Registrar (Admissions) indicating they wish to apply for Honours Gerontology and Another Subject as a Second Degree. This application step must be completed prior to April 1. A supplementary application for admission to the Gerontology programme will then be sent to the applicant from the Office of the Registrar (Admissions). The supplementary application, including a statement explaining the applicant's interest in the programme, must be addressed to the Chair of the Committee of Instruction and sent to the Office of the Registrar (Admissions) prior to May 15.

NOTES

1. Students are required to take courses to total at least 30 units, including all outstanding Honours requirements for both subjects. All units for the second degree must be completed at McMaster.

2. Courses other than those listed below in Course List 1 may be substituted with the prior permission of the Chair of the Committee of Instruction.

3. Students who have completed the methods requirement in their first degree should consult the Chair of the Gerontology Committee of Instruction.

COURSE LIST 1

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<td>SOCIOL 3CC3, 3G03, 3HH3</td>
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or other designated and approved courses. (See Note 2 above.)

REQUIREMENTS (MINIMUM)

30 units total

Gerontology courses or courses from Course List 1 to complete the Honours requirements including six units of research methods/statistics, if not already completed.

Courses specified for the other subject.

PROGRAMMES FOR STUDENTS WHO ENTERED PRIOR TO SEPTEMBER 1998

Combined Honours in Gerontology and Another Subject

(Available only to students who entered this programme prior to September 1998.)

NOTES

1. Courses other than those listed in Course List 1 may be substituted with the prior permission of the Chair of the Committee of Instruction.

2. Students are encouraged to take both GERONTOL 2B03 and 3D03.

3. GERONTOL 2C03 (or 3C03) and 3G03 (or another approved three or six unit statistics course) must be completed by the end of Level III.

4. Students who complete the Thesis in the other subject must replace GERONTOL 4A06 with six units of Level II, III or IV Gerontology or courses from Course List 1.

COURSE LIST 1

<table>
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<th>Subject</th>
<th>Units</th>
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<td>ANTHROP 3Z03</td>
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<td>ECON 3D03, 3Q03</td>
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<td>GEO 3HH3, 4HS3</td>
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<td>RELIG ST 2M03, 2N03, 2WW3</td>
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<td>SOC WORK 3C03, 4L03, 4R03</td>
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<td>SOCIOL 3CC3, 3G03, 3HH3</td>
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</tbody>
</table>

or other designated and approved courses. (See Note 1 above.)

(If the topic was Economics of Aging)
**FACULTY OF SOCIAL SCIENCES**

**REQUIREMENTS**

120 units total (Levels I to IV), of which 48 units may be Level I

- 30 units from the Level I programme completed prior to admission to the programme
- 3 units from GERONTOL 2A03, 2AA3, 2D03
- 3 units from GERONTOL 2B03, 3D03 (See Note 2 above.)
- 3 units GERONTOL 3B03
- 6 units GERONTOL 4A06 or if available, a Thesis in the other subject (See Note 2 above.)
- 3 units Level IV Gerontology
- 15 units Level II, III or IV Gerontology or courses from Course List I

60 units Courses as specified for the other subject

- 3 units GERONTOL 2C03 (or 3C03)
- 3-6 units from GERONTOL 3G03, STATS 1CC3* or, in combined programmes within the Faculty of Social Sciences, the Research Methods/Statistics requirement specified for the other subject
- 3 units HUMAN 2C03. Students combining Arts and Science with Gerontology are exempt from this requirement.
- 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.
- 12 units Electives. If required completed in Level I, these units will be taken as electives.

**B.A. in Gerontology and Another Subject**

*(Available only to students who entered this programme prior to September 1998.)*

**NOTES**

1. Courses other than those listed in Course List 1 may be substituted, with the prior permission of the Chair of the Committee of Instruction.
2. No more than six units of work in the other subject of the combined programme which are also in Course List 1 may be used to fulfill the requirements of both programme components.
3. Students are encouraged to take both GERONTOL 2B03 and 3D03.
4. Students in the B.A. in Gerontology and Another Subject/Bachelor of Social Work should consult with the Chair of the Committee of Instruction regarding GERONTOL 3B03 (the Gerontology Field Observation requirement) and SOC WORK 3D06.

**COURSE LIST**

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<td>ANTHROP 3Z03</td>
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<td>ECON 3D03, 3Q03, 3YY3**, 3Z03</td>
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<tr>
<td>GEO 3HH3, 4HS3</td>
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<td>HTH SCI 3B03</td>
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<td>KINESIOL 3F03</td>
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<td>SOCIOL 3CC3, 3G03, 3H-H3</td>
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<tr>
<td>or other designated and approved courses. (See Note 1 above.)</td>
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<td>(**) if the topic was Economics of Aging</td>
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</tbody>
</table>

**REQUIREMENTS (MINIMUM)**

30 units total

- 3 units from GERONTOL 2A03, 2AA3, 2D03
- 3 units GERONTOL 3B03
- 3 units from GERONTOL 2B03, 3D03 (See Note 4 above.)
- 3 units from GERONTOL 2C03, 3C03 or 4E03
- 12 units Level II, III or IV Gerontology or courses from Course List 1
- 6 units Electives

**Combined Honours in Gerontology and Another Subject as a Second Degree**

*(Available only to students who entered this programme prior to September 1998.)*

**NOTES**

1. Students are required to take courses to total at least 30 units, including all outstanding Honours requirements for both subjects. All units for the second degree must be completed at McMaster.
2. Courses other than those listed below in Course List 1 may be substituted with the prior permission of the Chair of the Committee of Instruction.
3. Students are encouraged to take both GERONTOL 2B03 and 3D03.
4. Students who have completed the methods requirement in their first degree should consult the Chair of the Committee of Instruction.

**COURSE LIST**

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<td>ANTHROP 3Z03</td>
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<tr>
<td>GEO 3HH3, 4HS3</td>
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<tr>
<td>HTH SCI 3B03</td>
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<td>KINESIOL 3F03</td>
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</tbody>
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Subject to approval by the Ministry of Education and Training, beginning in the 2000-2001 academic year, the Department of Kinesiology intends to offer an Honours Bachelor of Kinesiology (Available only to students who enter this programme in September 1999.) Enrolment in this programme is limited.

Admission
Completion of any undergraduate degree from a recognized university with a minimum average of 7.0 (B-). Eligibility for transfer to the Honours B.Kin. as a Second Degree programme is determined upon completion of 30 units of work. See Note 2 below.

Notes:
1. McMaster graduates (or potential graduates) must apply using the McMaster Returning Student Application form, which can be obtained from the Office of the Registrar, Gilmour Hall, Room 106. Graduates (or potential graduates) from other universities must use the 105(D) application form which can be obtained from the Admissions Office of any Ontario university. Completed applications must be returned to the appropriate office (either the Office of the registrar, McMaster University or the Ontario Universities' Application Centre) with the appropriate fee by May 15. Students are strongly urged to apply well before the deadline.
2. Students who successfully complete Level I of the B.Kin. as a Second Degree programme with a minimum C.A. of 6.0 including an average of at least 6.0 in KINESIOL 1A06, 1D03 and 1E03 may transfer to the Honours B. Kin. as a Second degree programme (see programme requirements below.)
3. With permission of the Undergraduate Coordinator, Department of Kinesiology, students may defer KINESIOL 2C06 until Level II and replace it with six units from Course List 1 in Level I.

4. Students who intend to transfer to Hon. B.Kin. must also complete HUMAN 2C03, if not completed as part of their first degree.

5. The degree must be completed on a full-time basis and typically requires two years.

**COURSE LIST 1**

KINESIOL 3A03, 3B03, 3D03, 3DD3, 3F03, 3JJ3, 3L03, 3M03, 3P03, 3Q03, 3SS3, 4D03, 4G03, 4H03, 4JJ3, 4M03, 4N03, 4S03, 4SS3, 4T03, 4U03, 4V03, 4Z03

**REQUIREMENTS**

60-63 units total (Levels I and IV) of which 15 units may be Level I

**LEVEL I: 30 UNITS**

12 units KINESIOL 1A06, 1D03, 1E03

15 units KINESIOL 2A03, 2B03, 2C06, 2G03 (See Note 3 above.)

1 course KINESIOL 1FL0

3 units Electives, which must include one of SOC SCI 2J03 or STATS 1CC3, if not completed as part of the first degree. (See Note 4 above.)

**LEVEL II (HONS. B.KIN.): 30-33 UNITS (See Note 2 above.)**

30 units Level III or IV Kinesiology

0-3 units Electives, which must include HUMAN 2C03, if not already completed or completed as part of the first degree.

**LEVEL II (B.KIN.): 30 UNITS**

18 units Level III or IV Kinesiology (maximum allowed)

12 units Electives

**Bachelor of Kinesiology {2309} as a Second Degree**

*(Available only to students who entered this programme prior to September 1999.)*

**NOTES**

1. The degree must be completed on a full-time basis and typically requires two years.

2. KINESIOL 1CA0 (Standard First Aid/CPR) and KINESIOL 2FL0 (Aspects of Fitness, Life Style Management and Recreation) are non-credit requirements. To qualify for an exemption from KINESIOL 1CA0 (Standard First Aid/CPR), a student must have completed Standard First Aid from either the Red Cross or St. John's and two person rescuer (C qualification) or hold a current NLS (National Life Saving) certification.

3. Students registering in this programme with prior credit in STATS 1CC3 are exempt from taking KINESIOL 1B03.

**REQUIREMENTS**

60 units total

27 units KINESIOL 1A06, 1B03, 1D03, 1E03, 2A03, 2B03, 2C06

2 courses KINESIOL 1CA0, 2FL0 (See Note 2 above.)

30 units Level III or IV Kinesiology (maximum allowed)

3 units Electives (may be KINESIOL 2G03)

**LABOUR STUDIES**

**WEB ADDRESS:** http://www.socsci.mcmaster.ca/~labrst

**COOPERATIVE INTERNSHIP OPTIONS FOR HONOURS LABOUR STUDIES PROGRAMS**

The Faculty of Social Sciences offers two types of full-time, paid work opportunities for students registered in Honours programmes. For further information see Degree Programmes, Internship Options, in the Faculty of Social Sciences section of this Calendar.

**Honours Labour Studies {2641} (Specialist Option)**

**ADMISSION**

Enrolment in this programme is limited. Selection is based on academic achievement and a supplementary letter but requires, as a minimum, completion of any Level I programme with a Cumulative Average of at least 6.0 including an average of at least 7.0 in LABR ST 1A03 and 1D03 (or 1AA3). Applicants must have completed at least six units from ECON 1A06, HISTORY 1A06 or 1C06, MATH 1K03 or STATS 1L03, POL SCI 1A06 or 1G06, PSYCH 1A06 or 1A03 and 1AA3, SOCIOl 1A06.

**NOTES**

1. Application for admission (forms available from Labour Studies Office), including a statement explaining the applicant’s interest in the programme, should be made to the Chair, Committee of Instruction, prior to April 1.

2. Students are encouraged to consult the Labour Studies Programme Handbook which is available from the Labour Studies Office.

3. Students may not transfer to another Labour Studies programme 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.

**COURSE LIST 1**

COMMERCE 3BC3

ECON 2C03, 2E03, 2F03, 2K03, 2N03

GERONTOL 3J03

HISTORY 3N03

POL SCI 3D03, 3E03, 3EE3, 3F03

SOCIOl 2E06, 2R03, 2RR3, 2Q06, 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 programme completed prior to admission to the programme. (See Admission above.)

30 units LABR ST 2A03, 2C03, 2D03, 3G03, 4A09, 4C03, 4D03, COMMERCE 4BC3

6 units Level II Labour Studies; COMMERCE 2BA3

6 units Level III Labour Studies; COMMERCE 4BD3

3 units from SOC SCI 2J03 or STATS 1CC3 or an equivalent Research Methods/Statistics course as prescribed by other Social Sciences Programmes. (See Note 4 above.)

3 units HUMAN 2C03

12 units* SOCIOl 1A06 and ECON 1A06 which must be completed by the end of 60 units

21 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.

**Honours Labour Studies {2640}**

**ADMISSION**

Enrolment in this programme is limited. Selection is based on academic achievement and a supplementary letter but requires, as a minimum, completion of any Level I programme with a Cumulative Average of at least 6.0 including an average of at least 7.0 in LABR ST 1A03 and 1D03 (or 1AA3). Applicants must have completed at least six units from ECON 1A06, HISTORY 1A06 or 1C06, MATH 1K03 or STATS 1L03, POL SCI 1A06 or 1G06, PSYCH 1A06 or 1A03 and 1AA3, SOCIOl 1A06.

**NOTES**

1. Application for admission (forms available from Labour Studies Office), including a statement explaining the applicant’s interest in the programme, should be made to the Chair, Committee of Instruction, prior to April 1.

2. Students are encouraged to consult the Labour Studies Programme Handbook which is available from the Labour Studies Office.

3. Students may not transfer to another Labour Studies programme 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.

**COURSE LIST 1**

COMMERCE 3BC3

ECON 2C03, 2E03, 2F03, 2K03, 2N03

GERONTOL 3J03

HISTORY 3N03

POL SCI 3D03, 3E03, 3EE3, 3F03

SOCIOl 2E06, 2R03, 2RR3, 2Q06, 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 programme completed prior to admission to the programme. (See Admission above.)

21 units LABR ST 2A03, 2C03, 2D03, 3G03, 4A09
6 units Level II Labour Studies; COMMERCE 2B03
9 units Level III Labour Studies; COMMERCE 4BC3, 4BD3
3 units from LABR ST 4C03, 4D03
3-6 units from Course List
3 units from SOC SCI 2J03 or STATS 1CC3* or an equivalent Research Methods/Statistics course as prescribed by the other Social Sciences Programmes. (See Note 4 above.)
3 units HUMAN 2C03
12 units* SOCIOI 1A06 and ECON 1A06 which must be completed by the end of 60 units
27-30 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.

Combined Honours in Labour Studies and Another Subject

ADMISSION
Enrolment in this programme is limited. Selection is based on academic achievement and a supplementary letter but requires, as a minimum, completion of any Level I programme with a Cumulative Average of at least 6.0 including an average of at least 7.0 in LABR ST 1A03 and 1203 (or 1A03). Applicants must have completed at least six units from ECON 1A06, HISTORY 1A06 or 1C06, MATH 1K03 or STATS 1L03, POL SCI 1A06 or 1G06, PSYCH 1A06 or 1A03 and 1A3, SOCIOI 1A06. Satisfaction of admission requirements for the Honours B.A. programme in the other subject.

NOTES
1. Application for admission (forms available from Labour Studies Office), including a statement explaining the applicant's interest in the programme, should be made to the Chair, Committee of Instruction, prior to April 1.
2. Students are encouraged to consult the Labour Studies Programme Handbook which is available from the Labour Studies Office.
3. Students may not transfer to another Labour Studies programme 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. Electives: SOCIOI 1A06, ECON 1A06 and six units from the Faculty of Humanities and/or the Department of Religious Studies should be included in the Level I programme to provide some electives in this programme.
6. Students combining Labour Studies with a Humanities subject or with Religious Studies must complete LABR ST 4A09 and SOC SCI 2J03 or STATS 1CC3. Students in other Combined Honours Programmes may complete the Honours Seminar requirement as specified by the other Department and replace LABR ST 4A09 with six units Level III Labour Studies courses.

REQUIREMENTS
120 units total (Levels I to IV), of which 48 units may be Level I)

30 units from the Level I programme completed prior to admission to the programme. (See Admission above.)

21 units LABR ST 2A03, 2C03, 2D03, 3G03, 4A09 (See Note 6 above.)
3 units Level II Labour Studies; COMMERCE 2B03
9 units Level III Labour Studies; COMMERCE 4BC3, 4BD3
3 units from LABR ST 4C03, 4D03
36 units courses specified for the other subject
3 units from SOC SCI 2J03 or STATS 1CC3* or an equivalent Research Methods/Statistics course as specified by the other subject. (See Note 4 above.)
3 units HUMAN 2C03 Students combining Honours Arts & Science with Labour Studies are exempt from this requirement.
12 units* SOCIOI 1A06 and ECON 1A06 which must be completed by the end of 60 units
0-15 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

ADMISSION
Enrolment in this programme is limited. Selection is based on academic achievement and a supplementary letter but requires, as a minimum, completion of any Level I programme with a Cumulative Average of at least 3.5 including an average of at least 4.0 in LABR ST 1A03 and 1203 (or 1A03). Applicants must have completed at least six units from ECON 1A06, HISTORY 1A06 or 1C06, MATH 1K03 or STATS 1L03, POL SCI 1A06 or 1G06, PSYCH 1A06 or 1A03 and 1A3, SOCIOI 1A06.

NOTES
1. Application for admission (forms available from Labour Studies Office), including a statement explaining the applicant's interest in the programme, should be made to the Chair, Committee of Instruction, prior to April 1. Students applying for the Honours programme will automatically be considered for the B.A. programme.
2. Students are encouraged to consult the Labour Studies Programme Handbook which is available from the Labour Studies Office.
3. Students may not transfer to another Labour Studies programme except by the normal application process.

REQUIREMENTS
90 units total (Levels I to III), of which 42 units may be Level I)

30 units from the Level I programme completed prior to admission to the programme. (See Admission above.)
15 units LABR ST 2A03, 2C03, 2D03, 3G03, 4A09
6 units Level II Labour Studies; COMMERCE 2B03
9 units Level III Labour Studies; COMMERCE 4BD3
12 units* SOCIOI 1A06 and ECON 1A06 which must be completed by the end of 60 units.
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.

*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), including a statement explaining the applicant's interest in the programme, should be made to the Chair, Committee of Instruction, prior to April 1.
2. Students working towards a Minor in Labour Studies may take more than three units of Level IV Labour Studies courses.
3. Students are encouraged to consult the Labour Studies Programme Handbook which is available from the Labour Studies Office.
4. Students may not transfer from the Minor in Labour Studies to another Labour Studies programme except by the normal application process.
5. Students who have completed LABR ST 2A06 may take nine units Level II, III, IV Labour Studies instead of 12 units.

REQUIREMENTS
6 units LABR ST 1A03 and 1Z03 (or 1A03)
6 units LABR ST 2A03 (See Note 5 above.), 2C03
12 units Level II, III or IV Labour Studies (See Note 2 above.)
12 units ECON 1A06 and SOCIOI 1A06

PHYSICAL EDUCATION (B.P.E.)

(See Department of Kinesiology)
Honours Arts & Science and Political Science
(B. Arts Sc.; See Arts & Science programme)

COOPERATIVE INTERNSHIP OPTIONS
FOR HONOURS POLITICAL SCIENCE STUDENTS

The Faculty of Social Sciences offers two types of full-time, paid work opportunities for students registered in Honours programmes. For further information see Degree Programmes, Internship Options, in the Faculty of Social Sciences section of this Calendar.

Honours Political Science {2450}

ADMISSION
Completion of any Level I programme with a Cumulative Average of at least 6.0 including a grade of at least B- in POL SCI 1G06 or 1A06.

NOTES
1. 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.
2. POL SCI 3N06 (previously 2F06) and 2006 are required for students enrolled in Honours Political Science programmes and they are recommended for students in the B.A. programme.

REQUIREMENTS

120 units total (Levels I to IV), of which 48 units may be Level I
30 units from the Level I programme completed prior to admission to the programme. (See Admission above.)
6 units POL SCI 2B06
24 units Level II, III or IV Political Science of which a maximum of 12 units may be Level II
12 units Level IV Political Science
6 units POL SCI 3N06 (previously 2F06)
3 units HUMAN 2C03
39 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 maximum Political Science courses to be taken is 60 units.)

Combined Honours in
Political Science and Another Subject

ADMISSION
Completion of any Level I programme with a Cumulative Average of at least 6.0 including a grade of at least B- in POL SCI 1G06 or 1A06. Satisfaction of the admission requirements for the Honours programme in the other subject.

NOTES
1. 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.
2. POL SCI 3N06 (previously 2F06) and 2006 are required for students enrolled in Honours Political Science programmes and they are recommended for students in the B.A. programme.

REQUIREMENTS

120 units total (Levels I to IV), of which 48 units may be Level I
30 units from the Level I programme completed prior to admission to the programme. (See Admission above.)
6 units POL SCI 2B06
9 units Level III Political Science
9 units Level II, III or IV Political Science
6 units Level IV Political Science
36 units courses specified for the other subject
6 units POL SCI 3N06 (previously 2F06) or in combined programmes within the Faculty of Social Sciences, the Research Methods/Statistics course specified for the other subject.
3 units HUMAN 2C03. Students combining Honours Arts and Science with Political Science are exempt from this requirement.
COURSE LIST

1. Credit in MATH 1A03 or MATH 1M03 with a grade of at least C- must be completed before entrance into Level II of the programme.

2. Stats 1CC3 (or PSYCH 2R03) and PSYCH 2RR3 must be completed before entrance into Level III of the programme.

3. At some time during the programme, the student:
   a) must meet a laboratory requirement by completing one of PSYCH 3E03, 3L03, 3LL3, 3QQ3, 3S03, 3V03, 4G03, 4QQ3. Enrolment in Psychology Laboratory courses is limited.
   b) must complete six units from the Faculty of Humanities and/or the Department of Religious Studies.
   c) must complete HUMAN 2C03.

4. BIOLOGY 1A03 or 1A06 is a prerequisite for PSYCH 2F03.

LEVEL II: 30 UNITS

15 units Level III Psychology; or three units from PSYCH 2E03, 2F03, 2H03, 2T03 (if not taken in Level II) and 12 units of Level III Psychology. (See Note 3(a) above.)

12 units Electives, excluding Psychology. (See Notes 3(b) and (c) above.)

3 units Electives

LEVEL III: 30 UNITS

15 units Level III Psychology; or three units from PSYCH 2E03, 2F03, 2H03, 2T03 (if not taken in Level II) and 12 units of Level III Psychology. (See Note 3(a) above.)

12 units Electives, excluding Psychology. (See Notes 3(b) and (c) above.)

3 units Electives

LEVEL IV: 30 UNITS

15 units Level III or IV Psychology including one course from Course List I, if not already completed. (See Note 3(a) above.)

9 units Electives excluding Psychology. (See Notes 3(b) and (c) above.)

6 units Electives

Combined Honours in Psychology and Another Subject (B.A.)

ADMISSION

Completion of any Level I programme with a Cumulative Average of at least 6.0, an average of at least 7.0 in PSYCH 1A03 and 1A06 or a grade of at least B- in PSYCH 1A06 and credit in MATH 1A03 or a grade of at least C- in MATH 1M03. Satisfaction of the admission requirements for the Honours programme in the other subject.

NOTES

1. Credit in MATH 1A03 or 1M03 with a grade of at least C- must be completed before entrance into Level II of the programme.

2. Stats 1CC3 (or PSYCH 2R03) and PSYCH 2RR3 must be completed before entrance into Level III of the programme.

3. At some time during the programme, the student:
   a) must meet a laboratory requirement by completing one of PSYCH 3E03, 3L03, 3LL3, 3QQ3, 3S03, 3V03, 4G03, 4QQ3. Enrolment in Psychology Laboratory courses is limited.
   b) must complete six units from the Faculty of Humanities and/or the Department of Religious Studies.
   c) must complete HUMAN 2C03.

4. BIOLOGY 1A03 or 1A06 is a prerequisite for PSYCH 2F03.

COURSE LIST 1

PSYCH 3E03, 3L03, 3LL3, 3QQ3, 3S03, 3V03, 4G03, 4QQ3

REQUIREMENTS

120 units total (Levels I to IV), of which 48 units may be Level I

LEVEL II: 30 UNITS

6 units STATS 1CC3* (or PSYCH 2R03), PSYCH 2RR3
9 units from PSYCH 2E03, 2F03, 2H03, 2T03
3 units* from the Faculty of Science, excluding Psychology and Mathematics courses taken to satisfy the admission or programme requirements. BIOLOGY 1A03 is recommended.

9 units Electives, excluding Psychology. (See Notes 3(b) and (c) above.)

3 units Electives

LEVEL III: 30 UNITS

15 units Level III Psychology; or three units from PSYCH 2E03, 2F03, 2H03, 2T03 (if not taken in Level II) and 12 units of Level III Psychology. (See Note 3(a) above.)

12 units Electives, excluding Psychology (See Notes 3(b) and (c) above.)

3 units Electives

LEVEL IV: 30 UNITS

15 units Level III or IV Psychology including one course from Course List I, if not already completed. (See Note 3(a) above.)

9 units Electives excluding Psychology. (See Notes 3(b) and (c) above.)

6 units Electives

Honours Psychology (B.A.)

2460

ADMISSION

Completion of any Level I programme with a Cumulative Average of at least 6.0, an average of at least 7.0 in PSYCH 1A03 and 1A06 or a grade of at least B- in PSYCH 1A06 and credit in MATH 1A03 or a grade of at least C- in MATH 1M03. Satisfaction of the admission requirements for the Honours programme in the other subject.

NOTES

1. Credit in MATH 1A03 or 1M03 with a grade of at least C- must be completed before entrance into Level II of the programme.

2. Stats 1CC3 (or PSYCH 2R03) and PSYCH 2RR3 must be completed before entrance into Level III of the programme.

3. At some time during the programme, the student:
   a) must meet a laboratory requirement by completing one of PSYCH 3E03, 3L03, 3LL3, 3QQ3, 3S03, 3V03, 4G03, 4QQ3. Enrolment in Psychology Laboratory courses is limited.
   b) must complete six units from the Faculty of Humanities and/or the Department of Religious Studies.
   c) must complete HUMAN 2C03.

4. BIOLOGY 1A03 or 1A06 is a prerequisite for PSYCH 2F03.

COURSE LIST 1

PSYCH 3E03, 3L03, 3LL3, 3QQ3, 3S03, 3V03, 4G03, 4QQ3

REQUIREMENTS

120 units total (Levels I to IV), of which 48 units may be Level I
LEVEL IV: 30 UNITS
12 units Level III or IV Psychology including one course from Course List I, if not already completed. (See Note 3 (a) above.)
12 units Courses as specified for the other subject.
6 units Electives (See Note 3 (b) and (c) above.)

B.A. in Psychology 1460

ADMISSION
Completion of any Level I programme 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. Completion of one of MATH 1A03, 1K03 or 1M03 is required in Level II. Completion in Level I is highly recommended.
2. PSYCH 2G03 or STATS 1CC3 (or PSYCH 2R03) must be completed before entrance into Level III of the programme.

REQUIREMENTS
90 units total (Levels I to III), of which 42 units may be Level I

LEVEL II: 30 UNITS
3 units from PSYCH 2G03, STATS 1CC3* (or PSYCH 2R03) (See Note 2 above.)
6 units from PSYCH 2E03, 2F03, 2H03, 2T03
3 units Level II Psychology
3 units* from MATH 1A03, 1K03 or 1M03 (See Note 1 above.)
6 units from Business, Humanities or Science, excluding Psychology
6 units Electives, excluding Psychology
3 units Electives
*If requirement completed in Level I, these units will be taken as electives.

LEVEL III: 30 UNITS
12 units Level III Psychology, or three units from PSYCH 2E03, 2F03, 2H03, 2T03 (if not taken in Level II) and nine units from Level III Psychology
6 units from Business, Humanities or Science, excluding Psychology
6 units Electives, excluding Psychology
6 units Electives

Minor in Psychology

REQUIREMENTS
6 units PSYCH 1A03 and 1AA3 or 1A06
12 units Level II or III Psychology
6 units Level III Psychology

DEPARTMENT OF RELIGIOUS STUDIES

WEB ADDRESS: http://socserv2.sosci.mcmaster.ca/~relistud/

Honours Arts & Science and Religious Studies (B. Arts Sc.; See Arts & Science programme)

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, 2J06, 2L03, 2P06, 2RR3, 2T03, 3A03, 3E03, 3H03, 3L03, 3S03, 3U03, 3UJ3
SANSKRIT 3A06, 4B06

II. BIBLICAL STUDIES
RELIG ST 2B03, 2D03, 2EE3, 2GG3, 2HH3, 2VV3, 2YY3, 2Z03, 3DD3, 3M03, 3N03, 3R03, 3T03
HEBREW 2A03, 2B03, 3A03, 3B03

III. WESTERN RELIGIOUS THOUGHT
RELIG ST 3C03, 2CC3, 2H03, 2J03, 2K03, 2UU3, 2VV3, 2Z03, 3DD3, 3L03, 3IK3, 3LL3, 3MM3, 3NN3, 3W03, 3Z03, 3ZZ3

IV. CONTEMPORARY AND COMPARATIVE RELIGIONS
RELIG ST 2AA3, 2BB3, 2EE3, 2GG3, 2HH3, 2M03, 2N03, 2Q03, 2Q03, 2SS3, 2VV3, 2W03, 2W03

NOTE
Students wishing to specialize in Asian Religions should consider beginning language training in Sanskrit or Japanese or both early in their programme (see the calendar offerings listed under these headings in the Course Listings section of this Calendar). Students wishing to specialize in Biblical Studies should consult work in Greek (see offerings under Classics, Greek in the Course Listings section of this Calendar) or Hebrew or both.

Honours Religious Studies 2475

ADMISSION
Completion of any Level I programme 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 strongly urged to consult a departmental undergraduate advisor in the selection of their Level III and IV courses.
2. Part-time students should note that RELIG ST 3F03 and 4A06 are 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 programme requirements should consult a departmental undergraduate advisor as early as possible in their programme.
3. With the written approval of a departmental undergraduate advisor, courses from other departments may be substituted for Religious Studies.

REQUIREMENTS
120 units total (Levels I to IV), of which 48 units may be Level I
30 units from the Level I programme completed prior to admission to the programme. (See Admission above.)
6 units from Asian Religions
3 units from Biblical Studies
3 units from Western Religious Thought
3 units from Contemporary and Comparative Religions
15 units RELIG ST 3F03, 4A06, 4F06
18 units Level II, III or IV Religious Studies of which at least six units must be from Level III. 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.
6 units* from Linguistics, a language other than English or Statistics
3 units HUMAN 2C03
33 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 in Religious Studies and Another Subject

ADMISSION
Completion of any Level I programme 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 programme in the other subject.

NOTES
1. All honours students are required to consult a departmental undergraduate advisor in the selection of their Level three and four courses.
2. Part-time students should note that RELIG ST 3F03 and 4A06 are 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 programme requirements should consult a departmental undergraduate advisor as early as possible in their programme.
3. With the written approval of a departmental undergraduate advisor, courses from other departments may be substituted for Religious Studies.
4. Students must consult both departments to determine the manner in which the Research Methods/Statistics requirement is to be satisfied.
5. Students required to write a thesis in a subject other than Religious Studies may propose 12 units of Levels III-IV Religious Studies courses as substitutes for RELIG ST 4A06 and 4J06. This substitution must be approved in writing by a departmental undergraduate advisor.

REQUIREMENTS
120 units total (Levels I to IV), of which 48 units may be Level I
30 units from the Level I programme completed prior to admission to the programme. (See Admission above.)
3 units from Asian Religions
6 units three units each from two of Biblical Studies, Western Religious Thought and Contemporary and Comparative Religions
15 units RELIG ST 3F03, 4A06, 4J06 (See Note 5 above.)
12 units Level II, III or IV Religious Studies of which at least six units must be Level III. 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.
36 units courses specified for the other subject
6 units* courses from Linguistics, a language other than English, Statistics or in combined programmes within the Faculty of Social Sciences, the Research Methods/Statistics course specified for the other subject. (See Note 4 above.)
3 units HUMAN 2C03. Students combining Honours Arts and Science with Religious Studies are exempt from this requirement.
9 units Electives. If not completed in Level I, a minimum of six units must be from the Faculty of Humanities. Students combining Religious 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 Religious Studies

ADMISSION
Completion of any Level I programme with a Cumulative Average of at least 3.5 and an average of at least 4.0 in six units of Religious Studies courses, preferably including one Level I Religious Studies course.

NOTES
1. All students should consult the Departmental Handbook and are strongly urged to consult a departmental undergraduate advisor at least once each year.
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 programme requirements should consult a departmental undergraduate advisor as early as possible in their programme.
3. With the written approval of a departmental undergraduate advisor, courses from other departments may be substituted for Religious Studies.

REQUIREMENTS
90 units total (Levels I to III), of which 42 units may be Level I
30 units from the Level I programme completed prior to admission to the programme. (See Admission above.)
3 units from Asian Religions
6 units three units each from two of Biblical Studies, Western Religious Thought and Contemporary and Comparative Religions
3 units RELIG ST 3F03
12 units Level II, III or IV Religious Studies of which at least six units must be Level III. 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.
36 units Electives. If not completed in Level I, a minimum of six units must be from the Faculty of Humanities. (The maximum Religious Studies courses to be taken is 48 units.)

Minor in Religious Studies

REQUIREMENTS
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
Completion of any Level I programme, including two of PSYCH 1A03 and 1A04 or 1A06, SOCIO 1A06, SOC WORK 1A06, normally with a CGA of at least 6.0 and evidence of personal suitability, which may be evaluated by one or a combination of written statements, tests, or interviews.

An applicant must complete Level I (30 units) by April of the year in which application is made.

In choosing Level I courses, the student should take care to include those courses that will allow entry to the B.A. programme. Students should consult the relevant sections of the Calendar and/or the Office of the Associate Dean (Studies).

Enrolment in the Combined B.A./B.S.W. programme is limited.

Students who intend to apply for the combined B.A. and B.S.W. programme must consult the School of Social Work prior to application. All applications for admission to the School of Social Work are considered annually and must be made directly to the School website at http://www.mcmaster.ca/socialwork/apply. Applicants who wish to apply by May 1 may consider the School Of Social Work's Application Centre (OUAC) and are required to meet the introductory Psychology and Sociology prerequisites.

Students admitted to the Combined programme who have completed B.A. work beyond Level I normally will require three years after admission to complete the programme.

TWO-TIER APPLICATIONS
If you are transferring from a university other than McMaster, or a college, you must complete two application forms as follows:

1. General Application (December 1)
   If you wish to study full-time, obtain a 105D application form from the Admissions Office of any Ontario university. Complete the form showing your interest in the B.A./B.S.W. programme, and the subject you wish to take for the B.A. component. The form should be returned to OUAC, with the appropriate fee.
   If you wish to study part-time, complete a McMaster University Application form which can be obtained from OUAC or directly from McMaster, at the Office of the Registrar, Gilmour Hall, Room 106. Return this form to the OUAC, with the appropriate fee.
   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)
   After the General Application has been received at McMaster, the School of Social Work will mail you a Supplementary Application form, which must be completed and returned directly to the School of Social Work by March 1. To avoid delay, you should request this form personally through direct contact with the School of Social Work. 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.

NOTES
1. Course Groupings: There are two groups of courses in the Social Work programme:
   • Foundation for Social Work includes core courses which are required.

2C03, 4A06, 4J06 (See Admission above.)
2. Progression Within Programme: Students must achieve a minimum grade of C+ in each of SOC WORK 2A06, 2B03, 2BB3, 2E03, 3A03, 3D06, 3DD6, 4D06, 4DD6, 4003, 4X03

SOCIAL AND POLITICAL CONTEXT OF SOCIAL WORK
SOC WORK 3C03, 3H03, 3D03, 4B03, 4C03, 4F03, 4G03, 4J03, 4L03, 4M03, 4R03, 4W03

2. Progression Within Programme: Students must achieve a minimum grade of C+ in each of SOC WORK 2A06, 2B03, 2BB3, 2E03, 3A03, 3D06, 4D06, 4003, 4J03, 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 Z203, or GERONTOL 2C03). 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 towards 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. programme.

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, 4003, 4J03, 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 programme completed prior to admission to the programme. (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, 4003, 4X03

12 units SOC WORK 4J03 and nine additional units selected from the Social and Political Context of Social Work courses (See Note 4 above.)

3 units Social Sciences Research Methods. (These units will be taken as electives for the B.A. (See Note 3 above.)

24 units courses specified for the B.A. (This may vary according to the B.A. programme.)

21 units Electives. (Other requirements may be specified by the B.A. programme.)

Bachelor of Social Work (B.S.W.) 1620

ADMISSION
Completion of an undergraduate degree from a recognized university, including two of Introductory Psychology, Sociology or Social Work (equivalent to the McMaster courses PSYCH 1A03 and 1AA3 (or 1A06), SOCIO1 1A06, SOC WORK 1A06) normally with an average of at least 6.0 or its equivalent, and evidence of personal suitability which may be evaluated by one or a combination of written statements, interviews, or tests.

First Nations students may select an alternate application process. Those who wish to do so should consult the School of Social Work for details.

An applicant is required to complete the prerequisite undergraduate degree work by April of the year in which application is made. Enrolment in the B.S.W. programme is limited. Students who intend to apply to the B.S.W. programme must consult the School of Social Work prior to application.

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. Applicants must also apply to the University.

TWO-TIER APPLICATIONS
Individuals interested in the B.S.W. programme must complete two application forms as follows:

1. General Application (December 1)

If you wish to study full-time, you must obtain either a 105D application form from the Admissions Office of any Ontario university or, if you are a McMaster graduate, obtain the McMaster Returning Student Application form from the Office of the Registrar, Gilmour Hall, Room 108. You must return the completed form to the appropriate office (either the Ontario Universities' Application Centre (OUAC) or the Office of the Registrar, McMaster University) with the appropriate fee.

If you wish to study part-time, you must obtain either a McMaster Part-time Application form or, if you are a McMaster graduate, a McMaster Returning Student Application form from the Office of the Registrar, Gilmour Hall, Room 108. You must return the completed form to the appropriate office (either the Ontario Universities' Application Centre or the Office of the Registrar, McMaster University) with the appropriate fee.

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)

After the General Application has been received at McMaster, the School of Social Work will mail you a Supplementary Application form, which must be completed and returned directly to the School of Social Work by March 1. To avoid delay, you are advised to request this form personally through direct contact with the School of Social Work. 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.

NOTES
1. Course Groupings: There are two groups of courses in the Social Work programme.

• Foundation of Social Work includes core courses which are required;


FACULTY OF SOCIAL SCIENCES 125
3 units SOC WORK 4J03 and six additional units selected from the Social and Political Context of Social Work courses

PROGRAMMES FOR STUDENTS WHO ENTERED PRIOR TO SEPTEMBER 1998

Combined Bachelor of Arts/Bachelor of Social Work (B.A./B.S.W.)

(Available only to those students who entered the programme prior to September 1998.)

NOTES:
1. Students who have not completed SOC WORK 2B06 must take SOC WORK 2B03 and 2BB3. This requirement must be completed prior to enrolling in SOC WORK 3D06 and 3D06.
2. Students who have not completed SOC WORK 2C03 and 2D03 must take SOC WORK 2A06. Students who have completed one of SOC WORK 2C03 or 2D03 must take SOC WORK 2A06 and reduce their elective requirements by three units. This requirement must be completed prior to enrolling in SOC WORK 3D06 and 3D06.
3. It is strongly recommended that students who have not completed PSYCH 2A03 replace it with SOC WORK 2E03 even though these courses are not exact equivalents. This requirement must be completed prior to enrolling in SOC WORK 3D06 and 3D06.
4. Progression Within Programme: Students must achieve a minimum grade of C+ in each of SOC WORK 2B06 (or 2B03 and 2BB3), 2C03, 2D03, (or 2A06), 3D06 and 4D06, a Pass in SOC WORK 3D06 and 4D06, and a CA of at least 6.0.
5. SOC WORK 4J03 is highly recommended for students who have not already completed 16 units from Course List 1.
6. Students must complete at least three units of Social Sciences Research Methods, (e.g. SOCIOL 2Z03 or GERONTOL 2C03). A statistics course may not substitute for a research methods course.
7. 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 towards the B.A. degree and 12 units from Course List 1 as elective for the B.A. programme. The B.S.W. degree component will be granted only if the student has achieved a grade of at least C+ in each of SOC WORK 2B06 (or 2B03 and 2BB3), 2C03, 2D03, (or 2A06), 3D06 and 4D06, a Pass in SOC WORK 3D06 and 4D06, and a CA of at least 6.0.
8. Students are expected to assume the cost of travelling to and from field practice agencies.
9. Students who have questions regarding their requirements should consult the School of Social Work.

COURSE LIST 1

SOC WORK 3A03, 3C03, 3G03, 3H03, 3N03*, 3P03, 3R03, 3A03, 3C03, 3D03, 3E03, 3F03, 3G03, 3H03, 3I03*, 3J03*, 3K03*, 3L03*, 3M03*, 3N03, 3P03*, 3Q03*, 3R03, 3S03, 3T03, 3U03, 3V03, 3W03, 3X03, 3Y03, 3Z03* (course no longer offered)

REQUIREMENTS
3 units from SOC WORK 4G03, 4X03, 4Y03
12 units SOC WORK 4D06, 4D06
18 units Course List 1 (See Note 5 above.)
3 units Social Science Research Methods. (If completed as part of the B.A., these units will be taken as electives. See Note 6 above.)
24 units courses specified for the B.A. (This may vary according to the B.A. programme.)
18 units Elective. (Other requirements may be specified by the B.A. programme.)

Bachelor of Social Work (B.S.W.) [1620]

(Available only to those students who entered the programme prior to September 1998.)

NOTES:
1. Students who have not completed SOC WORK 2B06 must take SOC WORK 2B03 and 2BB3. This requirement must be completed prior to enrolling in SOC WORK 3D06 and 3D06.
2. Students who have not completed SOC WORK 2C03 and 2D03 must take SOC WORK 2A06. Students who have completed one of SOC WORK 2C03 or 2D03 must take SOC WORK 2A06 and reduce their selection from Course List 1 by three units. This requirement must be completed prior to enrolling in SOC WORK 3D06 and 3D06.
3. It is strongly recommended that students who have not completed PSYCH 2A03 replace it with SOC WORK 2E03 even though these courses are not exact equivalents. This requirement must be completed prior to enrolling in SOC WORK 3D06 and 3D06.
4. Progression Within Programme: Students must achieve a minimum grade of C+ in each of SOC WORK 2B06 (or 2B03 and 2BB3), 2C03, 2D03, (or 2A06), 3D06 and 4D06, a Pass in SOC WORK 3D06 and 4D06, and a CA of at least 6.0.
5. SOC WORK 4J03 is highly recommended for students who have not already completed 12 units from Course List 1.
6. Students must complete at least three units of Social Sciences Research Methods, (e.g. SOCIOL 2Z03 or GERONTOL 2C03). A statistics course may not substitute for a research methods course.
7. Graduation: To qualify for the B.S.W. degrees, students must complete a total of at least 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 2B06 (or 2B03 and 2BB3), 2C03, 2D03, (or 2A06), 3D06 and 4D06, a Pass in SOC WORK 3D06 and 4D06, and a CA of at least 6.0.
8. Students are expected to assume the cost of travelling to and from field practice agencies.
9. Students who have questions regarding their requirements should consult the School of Social Work.

COURSE LIST 1

SOC WORK 3A03, 3C03, 3G03*, 3H03, 3N03*, 3P03, 3R03, 3A03, 3C03, 3D03, 3E03, 3F03, 3G03, 3H03, 3I03*, 3J03*, 3K03*, 3L03*, 3M03*, 3N03, 3P03*, 3Q03*, 3R03, 3S03, 3T03, 3U03, 3V03, 3W03, 3X03, 3Y03, 3Z03* (course no longer offered)

REQUIREMENTS
6 units SOC WORK 2B06 (or 2B03 and 2BB3) (See Note 1 above.)
6 units SOC WORK 2C03, 2D03 (or 2A06) (See Note 2 above.)
3 units PSYCH 2A03 or SOC WORK 2E03 (See Note 3 above.)
3 units from SOC WORK 3A03, 3N03, 3R03
12 units SOC WORK 3D06, 3D06 (which must be completed prior to enrolling in SOC WORK 4D06 and 4D06.)
3 units from SOC WORK 4X03, 4Y03, 4Z03
12 units Course List 1 (See Note 5 above.)
3 units Social Science Research Methods. (If requirement was completed prior to admission, these units will be selected from Course List 1. See Note 6 above.)
Web Address: http:\www.mcmaster.ca/socscidocs/sochome.htm

Honours Arts & Science and Sociology
(B.Arts Sci.; See Arts & Science programmes)

Honours Sociology (Specialist Option) {2522}

NOTES
1. The Honours Sociology (Specialist Option) programme is being phased out. Registration in Level III will be last available in September 1999.
2. Students may take a maximum of six units of Level IV independent research (SOCIOL 4M03, 4MM6 or 4N03).
3. Students may take a maximum of nine combined units of SOCIOL 3GG3 and 4GG3.
4. Students should check both this Calendar and the Departmental Handbook for prerequisites and course descriptions.

REQUIREMENTS
120 units total (Levels I to IV), of which 48 units may be Level I
30 units from the Level I programme completed prior to admission to the programme. (See Admission above.)
6 units SOCIOL 2S06
3 units from SOCIOL 3A03, 3P03, 3PP3
3 units from SOCIOL 3I03, 3I03, 3W03
12 units Level IV Sociology
24 units Level II, III or IV Sociology
9 units SOCIOL 2Z03 which must be completed by the end of 60 units, and SOCIOL 3H06
3 units HUMAN 2C03
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.

B.A. in Sociology {1520}

ADMISSION
Completion of any Level I programme with a Cumulative Average of at least 3.5 including a grade of at least C- in SOCIOL 1A06.

NOTES
1. Students enrolled in the B.A. Gerontology and Sociology programme should refer to Gerontological Studies in this section of this Calendar for programme requirements.
2. Students should check both this Calendar and the Departmental Handbook for prerequisites and course descriptions.

REQUIREMENTS
90 units total (Levels I to III), of which 42 units may be Level I
30 units from the Level I programme completed prior to admission to the programme. (See Admission above.)
6 units SOCIOL 2S06
3 units SOCIOL 2Z03
15 units Level II or III Sociology
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 Sociology

NOTES
1. Students who have already completed SOCIOL 2006 or 2S06 may use these units towards this requirement of the minor.
2. Students should check both this Calendar and the Departmental Handbook for prerequisites and course descriptions.

REQUIREMENTS
6 units SOCIOL 1A06
6 units from SOCIOL 2C06, 2D06, 2R03 and 2RR3, 2V06 (See Note 1 above.)
12 units Level II or III Sociology
THEME SCHOOLS

The concept of a Theme School was outlined in a key series of recommendations in the University's Strategic Plan. A Theme School is a centre of interdisciplinary learning in which a group of faculty members identifies a set of intellectual problems arising out of their research, establishes a programme of study focused on these problems, and gathers a group of students interested in learning about these problems. Students and faculty will form an intellectual community that will explore these problems through self-directed learning and independent study.

Theme Schools will be taken as a minor in conjunction with any four- or five-level programme. (See Minors in the General Academic Regulations section of this Calendar.)

It is anticipated that Theme Schools’ life cycles will normally be five years. They will accept approximately 80 students a year for three years.

The subject area of Theme Schools will vary over time, depending on the interests of faculty and students.

Currently, two schools are in operation. Both the Theme School on Globalization, Social Change and the Human Experience and the Theme School in Science, Technology, and Public Policy will be admitting new students in September 1999.

SCHEDULING OF COURSES

Students participating in Theme Schools should be aware that many Theme School courses will be held on Thursday evenings. This is necessary to make Theme School courses available to students from a wide variety of programmes. The Theme Schools will arrange classes that meet the scheduling needs of their students; however, it may be necessary for students to change their optional courses to have conflict-free schedules.

ACADEMIC REGULATIONS

Theme School Minor programmes are governed by the General Academic Regulations of the University and the regulations described in each Theme School.

Normally, students will enter a Theme School in Level II and will complete a four- or five-year degree with a Theme School Minor. Continuation in the Theme School normally requires students to maintain standing in their programme.

THEME SCHOOL ON GLOBALIZATION, SOCIAL CHANGE AND THE HUMAN EXPERIENCE

WEB ADDRESS: http://www.humanities.mcmaster.ca/~global/global.htm

Director
William D. Coleman/B.A., A.M., Ph.D
Kenneth Taylor Hall, Room 529, ext. 27556

The term globalization is a rather new one in social, political, economic and cultural discourse. It speaks, in part, to a new intense phase of compression of space and time that has transformed, in turn, aspects of human contact, identity, and culture in societies around the world. Citizens and migrants in all states and territories have reacted, assimilated, accommodated or challenged these transformations in a myriad of ways. As a part of public discourse, the concept often lends itself to hyperbole and provides an umbrella under which shelter a rather diverse set of ideologies, social movements, and cultural and artistic creations. This theme school proposes to examine critically the phenomenon of globalization from a diverse number of disciplinary perspectives.

ADMISSION

Enrolment in the Theme School Minor is limited.

The Theme School on Globalization, Social Change and the Human Experience will admit a maximum of 80 students to the minor in 1999-2000.

Admission to the theme school will be gained through registration in GSCHE 2A06. Normally, students must be registered in a four- or five-level programme to be eligible for a theme school.

REQUIREMENTS

Students are required to take 24 units in order to obtain the Theme School Minor. In Level II, all students must take GSCHE 2A06, the introductory course. In Levels III and IV, students take an additional 18 units of theme school courses to obtain their minor.

See specific courses and their descriptions listed under Theme Schools in the Course Listings section in this Calendar.

THEME SCHOOL ON SCIENCE, TECHNOLOGY, AND PUBLIC POLICY

WEB ADDRESS: http://www.cos.mcmaster.ca/stpp/

Director
John Hodgins Engineering Bldg., Room 142, ext. 22019

This Theme School is a response to the reality that the formation of public policy in our society requires not only scientific and technological knowledge, but also an awareness of the social and ethical implications of scientific and technological developments. The foundational course in Level II aims to develop a basic understanding of the nature of science, technology and technological change, and of the interaction between science and technology on the one hand, and larger societal values and public policy on the other.

Some of the elective courses are interdisciplinary, in which instructors and students apply the perspectives of a variety of fields to the relationship between science, technology and our social life. Other elective courses bring the perspectives of a single discipline to these dynamic relations.

One of the key aims of the Theme School is to prepare students to participate in the formation of public policy as citizens and/or professionals with a particular sensitivity to the ethical dimension of the social and political debate concerning many current science/technology projects.

ADMISSION

Enrolment in the Theme School Minor is limited.

The Theme School on Science, Technology, and Public Policy will admit a maximum of 80 students to the minor in 1999-2000. Admission to the theme school will be gained through registration in STPP 2A06. Normally, students must be registered in a four- or five-level programme to be eligible for the theme school.

REQUIREMENTS

Students are required to complete 24 units in order to obtain the Theme School minor; this includes six units of Level I work acceptable to the Director. In Level II all students must take STPP 2A06, the introductory course. In Levels III and IV students may complete their minor by taking an additional 12 units of Theme School courses.

See specific courses and their descriptions listed under Theme Schools in the Course Listings section in this Calendar.
INTERDISCIPLINARY MINORS AND THEMATIC AREAS

INTERDISCIPLINARY MINORS

The following four listings constitute University-sanctioned Minors in Health and Society, Indigenous Studies, Jewish Studies, and Peace Studies.

No degree is granted for these programmes of study, but students registered in four- or five-level programmes can receive a Minor designation on their transcripts following graduation if their chosen Minor programme 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.

Health and Society

Health issues are a major public concern and increasing attention is being devoted to the social bases of health and illness. Concepts of health and illness are shifting away from clinical definitions to a strong emphasis on well-being and lay concerns. In confronting decisions about their health people are faced with profound moral dilemmas about life and death, while governments are faced with issues of cost-effectiveness and the introduction of policies which promote health. These issues transcend traditional medical treatment. Indeed, medicine as a particular system of thought and practice is subject to analysis in the same way as other social phenomena, alternative disease models and systems of healing. These themes are the focus of courses in Health and Society.

The requirements for a Minor are 24 units chosen from the courses listed below. For more information on specific courses, please consult the Course Listings section in this Calendar.

Students wishing to pursue a Minor in Health and Society may obtain more information from Dr. Ann Herring, Chester New Hall, Room 527, ext. 23920.

COURSES DEALING WITH HEALTH AND SOCIETY ISSUES

<table>
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<tr>
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<tbody>
<tr>
<td>ANTHRO 2U03</td>
<td>Plagues and People</td>
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<td>ANTHRO 3S03</td>
<td>Cultural Psychology</td>
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<td>ANTHRO 3Y03</td>
<td>Aboriginal Community Health and Well-being</td>
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<tr>
<td>ANTHRO 3Z03</td>
<td>Medical Anthropology: The Biomedical Approach</td>
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<tr>
<td>ANTHRO 3Z23</td>
<td>Medical Anthropology: Symbolic Healing</td>
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<tr>
<td>ECON 3Z03</td>
<td>Health Economics</td>
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<tr>
<td>GEO 3H3</td>
<td>Geography of Health and Health Care</td>
</tr>
<tr>
<td>HTH SCI 3B03</td>
<td>Health, Science and Society</td>
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<tr>
<td>KINESIOL 3S53</td>
<td>Body, Mind, Spirit</td>
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<td>LABR ST 3D03</td>
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<td>Moral Issues</td>
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<td>Special Populations</td>
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<td>PSYCH 3NN3</td>
<td>Abnormal Psychology II (Major Disorders)</td>
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<td>RELIG ST 2M03</td>
<td>Death and Dying: Comparative Views</td>
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<td>RELIG ST 2N03</td>
<td>Death and Dying: The Western Experience</td>
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<tr>
<td>RELIG ST 2WW3</td>
<td>Health, Healing and Religion</td>
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<td>SCIENCE 2G03</td>
<td>The Right to Food</td>
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<td>SOC SCI 1H03</td>
<td>Health Studies</td>
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<td>SOC WORK 3C03</td>
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<tr>
<td>SOCIOI 4U03*</td>
<td>The Social Production of Illness</td>
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</table>

If on a health-related topic.

Please see the Course Listings section for a detailed description of the above courses.

Indigenous Studies

Director
D.J. Martin-Hill/B.A., M.A., Ph.D. (McMaster)

Aboriginal Student Counsellor
B. Freeman

The Minor in Indigenous Studies was developed as a direct response to the wishes of representatives of Indigenous groups in Ontario, of students, and of educators, for greater accessibility to a university education for native students. The structure of the programme was developed by the President's Committee on Indigenous Issues. This Committee, comprising University and Aboriginal representatives, formulates policy on all issues affecting the Indigenous communities at large. The Committee serves as the primary resource on all subjects relating to the education and support needs of the University's Indigenous population, both in Indigenous-specific and general programming and services.

The Indigenous Studies Minor responds to a desire for a programme of study that examines Indigenous people's history, language, spirituality, and contemporary situation, with particular attention to the Indigenous people's own perspective. As such, the Minor will provide new perspectives on these subjects for non-native students and will enrich the University experience of native students.

The Minor concept has been developed by the President's Committee on Indigenous Issues with significant input from Indigenous representatives from the province. The idea of a Minor was chosen because it responded first to the need of native students to attain a degree in regular academic disciplines while enriching their knowledge of Indigenous societies and culture. Second, it will assist non-native students who wish to learn more about Indigenous peoples as a complement to their chosen programme of study.

ACADEMIC REGULATIONS

The Indigenous Studies Minor is governed by the general Academic Regulations of the University and the regulations described below.

In order to qualify for the Indigenous Studies Minor students in four- or five-level programmes must complete 24 units of work as follows:

- 6 units
- 18 units* from Course List (see below)

*No more than six of the 18 units may be Level I courses. At least 12 of the 18 units for the Minor must be Indigenous Studies or Indigenous language courses.

Students wishing to pursue a Minor in Indigenous Studies may obtain more information, from the Indigenous Studies office, Chester New Hall, Room 228, ext. 27426.

COURSE LIST

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<tr>
<th>Code</th>
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<tbody>
<tr>
<td>INDIG ST 2A06</td>
<td>Introduction to Indigenous People's Spirituality</td>
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<tr>
<td>INDIG ST 2C03</td>
<td>Introduction to Contemporary Indigenous Societies</td>
</tr>
<tr>
<td>INDIG ST 2D03</td>
<td>Traditional Indigenous Ecological Knowledge</td>
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<tr>
<td>INDIG ST 3A03</td>
<td>The Spiritual Teachings of Elders</td>
</tr>
<tr>
<td>INDIG ST 3B03</td>
<td>History of the Eastern Woodland People</td>
</tr>
<tr>
<td>INDIG ST 3BB3</td>
<td>History of Contemporary Indigenous Peoples</td>
</tr>
<tr>
<td>INDIG ST 3C03</td>
<td>Study of Iroquois First Nations in Contemporary Times</td>
</tr>
<tr>
<td>INDIG ST 3C3C</td>
<td>Contemporary Indigenous Societies: Selected Topics</td>
</tr>
<tr>
<td>INDIG ST 3D03</td>
<td>Contemporary Native Literature in Canada</td>
</tr>
<tr>
<td>INDIG ST 3E03</td>
<td>Contemporary Native Literature in the United States</td>
</tr>
<tr>
<td>INDIG ST 3F06</td>
<td>Indigenous Women's Issues</td>
</tr>
<tr>
<td>INDIG ST 3G03</td>
<td>Indigenous Creative Arts and Drama</td>
</tr>
<tr>
<td>INDIG ST 3H03</td>
<td>Traditional Approaches to Healing and Wellness (Philosophy)</td>
</tr>
</tbody>
</table>
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 programme 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 taking List B courses as part of their minor are required to write assignments and research papers on topics directly related to 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 programme. Details are available through the Department of Religious Studies, University Hall, Room 104, ext. 24567, or the Office of International Affairs, Kenneth Taylor Hall, Room 239.

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

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>HEBREW 2A03</td>
<td>Introduction to Biblical Hebrew I</td>
</tr>
<tr>
<td>HEBREW 2B03</td>
<td>Introduction to Biblical Hebrew II</td>
</tr>
<tr>
<td>HEBREW 3A03</td>
<td>Intermediate Hebrew I</td>
</tr>
<tr>
<td>HEBREW 3B03</td>
<td>Intermediate Hebrew II</td>
</tr>
<tr>
<td>RELIG ST 2B03</td>
<td>Women in the Biblical Tradition</td>
</tr>
<tr>
<td>RELIG ST 2D03</td>
<td>The Five Books of Moses</td>
</tr>
<tr>
<td>RELIG ST 2E03</td>
<td>The Prophets</td>
</tr>
<tr>
<td>RELIG ST 2V03</td>
<td>Bible as Story</td>
</tr>
<tr>
<td>RELIG ST 2Y03</td>
<td>The Bible and Film</td>
</tr>
<tr>
<td>RELIG ST 3D03</td>
<td>The Jewish World in New Testament Times</td>
</tr>
<tr>
<td>RELIG ST 3V03</td>
<td>Songs of David: Poetry in the Hebrew Bible</td>
</tr>
<tr>
<td>RELIG ST 3R03</td>
<td>Death and the Afterlife in Early Judaism and Christianity</td>
</tr>
<tr>
<td>RELIG ST 3Z03</td>
<td>Judaism, the Jewish People and the Birth of the Modern World</td>
</tr>
<tr>
<td>RELIG ST 3Z23</td>
<td>Judaism and the Jewish People in the Twentieth Century</td>
</tr>
</tbody>
</table>

LIST B

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANTHROP 3B03</td>
<td>Ethnology: Europe</td>
</tr>
<tr>
<td>ANTHROP 3G03</td>
<td>Comparative Mythology</td>
</tr>
<tr>
<td>ANTHROP 3H03</td>
<td>Anthropological Demography</td>
</tr>
<tr>
<td>HISTORY 2EA3</td>
<td>Islam and Mediterranean Society, 600-1300</td>
</tr>
<tr>
<td>HISTORY 2EB3</td>
<td>Islam in the World, 1300-1800</td>
</tr>
<tr>
<td>HISTORY 3A03</td>
<td>The Modern Middle East</td>
</tr>
<tr>
<td>HISTORY 3I03</td>
<td>International Relations of the European Powers, 1914-45</td>
</tr>
</tbody>
</table>

Peace Studies

Peace Studies, which is concerned with war and peace - their nature, causes and relation to social life - is a growing international field. Students completing a Minor in Peace Studies should select 24 units of courses from those listed below.

The courses listed are offered by various departments and are relevant to the study of peace and conflict. They are drawn from a wide variety of disciplines within the Faculties of Humanities, Social Sciences and Science. The range of options available for the Minor ensures an interdisciplinary approach. The Minor should be of interest to students wishing to pursue a wide range of careers.

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. programme.

Asian Studies

While there is no B.A. programme 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 specific courses should consult the departmental listing in the Calendar. (Students interested in Japanese Studies should enquire about the Combined Honours programme in Japanese Studies and Another Subject.)
Students wishing to pursue Asian Studies may obtain further information from Dr. D. Barrett, Chester New Hall, Room 625, ext. 24130, or Dr. K. Shinohara, University Hall, Room 126, ext. 23393.

### COURSES DEALING STRICTLY WITH ASIAN MATERIAL

<table>
<thead>
<tr>
<th>Code</th>
<th>Course Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEO 3H3</td>
<td>Geography of Japan</td>
</tr>
<tr>
<td>HISTORY 2EA3</td>
<td>Islam and Mediterranean Society, 600-1300</td>
</tr>
<tr>
<td>HISTORY 2EB3</td>
<td>Islam in the World, 1300-1800</td>
</tr>
<tr>
<td>HISTORY 2GG3</td>
<td>China: Historical Foundations</td>
</tr>
<tr>
<td>HISTORY 3AA3</td>
<td>The Modern Middle East</td>
</tr>
<tr>
<td>HISTORY 3B03</td>
<td>Modern Japan</td>
</tr>
<tr>
<td>HISTORY 3GG3</td>
<td>China: The Revolutionary Century, 1895-1995</td>
</tr>
<tr>
<td>HISTORY 4BB6</td>
<td>Special Topics in the History of Modern Japan</td>
</tr>
<tr>
<td>HISTORY 4GG6</td>
<td>Topics in Middle Eastern and Islamic History</td>
</tr>
<tr>
<td>RELIG ST 2E03</td>
<td>Engaged Buddhism</td>
</tr>
<tr>
<td>RELIG ST 2J06</td>
<td>India: Its Culture, Social History, Religion and Philosophy</td>
</tr>
<tr>
<td>RELIG ST 2L03</td>
<td>Life, Work and Teachings of Mahatma Gandhi</td>
</tr>
<tr>
<td>RELIG ST 2P06</td>
<td>Japanese Civilization</td>
</tr>
<tr>
<td>RELIG ST 2RR3</td>
<td>Introduction to Hindu Philosophy</td>
</tr>
<tr>
<td>RELIG ST 2T03</td>
<td>Topics in Indian Philosophy</td>
</tr>
<tr>
<td>RELIG ST 3AA3</td>
<td>Popular Religion in India</td>
</tr>
<tr>
<td>RELIG ST 3E03</td>
<td>Japanese Religion</td>
</tr>
<tr>
<td>RELIG ST 3H03</td>
<td>Story Telling in East Asian Religions</td>
</tr>
<tr>
<td>RELIG ST 3P03</td>
<td>Storytelling in Indian Religion</td>
</tr>
<tr>
<td>RELIG ST 3U03</td>
<td>Issues in Asian Religious Thought: India</td>
</tr>
<tr>
<td>RELIG ST 3U3</td>
<td>Issues in Asian Religious Thought: East Asia</td>
</tr>
<tr>
<td>RELIG ST 4A3</td>
<td>Advanced Reading: Asian Religions</td>
</tr>
</tbody>
</table>

### COURSES WITH SIGNIFICANT ASIAN CONTENT

<table>
<thead>
<tr>
<th>Code</th>
<th>Course Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON 2C03</td>
<td>Asian-Pacific Economies</td>
</tr>
<tr>
<td>POL SCI 4MM6</td>
<td>International Relations of the Pacific Rim</td>
</tr>
<tr>
<td>RELIG ST 1B06</td>
<td>World Religions</td>
</tr>
<tr>
<td>RELIG ST 2BB3</td>
<td>Images of the Divine Feminine</td>
</tr>
<tr>
<td>RELIG ST 2H03</td>
<td>Theory and Practice of Non-Violence</td>
</tr>
<tr>
<td>RELIG ST 2Q03</td>
<td>Cults in North America</td>
</tr>
<tr>
<td>RELIG ST 2SS3</td>
<td>Women and Religion</td>
</tr>
<tr>
<td>RELIG ST 2WW3</td>
<td>Health, Healing and Religion</td>
</tr>
</tbody>
</table>

### LANGUAGE COURSES

<table>
<thead>
<tr>
<th>Code</th>
<th>Course Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>JAPANESE 1Z06</td>
<td>Beginner's Intensive Japanese</td>
</tr>
<tr>
<td>JAPANESE 2Z06</td>
<td>Intermediate Intensive Japanese</td>
</tr>
<tr>
<td>JAPANESE 3B03</td>
<td>Business Japanese</td>
</tr>
<tr>
<td>JAPANESE 3Z76</td>
<td>Advanced Intensive Japanese</td>
</tr>
<tr>
<td>JAPANESE 4L03</td>
<td>Japanese Literature</td>
</tr>
<tr>
<td>JAPANESE 4Z03</td>
<td>Advanced Practice in Japanese</td>
</tr>
<tr>
<td>JAPAN ST 4A06</td>
<td>Guided Reading in Japanese Studies</td>
</tr>
<tr>
<td>JAPAN ST 4B03</td>
<td>Guided Reading in Japanese Studies</td>
</tr>
<tr>
<td>SANSKRIT 3A06</td>
<td>Introduction to Sanskrit Grammar</td>
</tr>
<tr>
<td>SANSKRIT 4B06</td>
<td>Readings in Sanskrit Texts</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Code</th>
<th>Course Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART HIST 3B03</td>
<td>Aspects of Canadian Art</td>
</tr>
<tr>
<td>ENGLISH 2C03</td>
<td>Contemporary Canadian Fiction</td>
</tr>
<tr>
<td>FRENCH 2E03</td>
<td>Literature of Quebec</td>
</tr>
<tr>
<td>FRENCH 3AA3</td>
<td>The Modern French-Canadian Novel</td>
</tr>
<tr>
<td>FRENCH 3BB3</td>
<td>Contemporary Quebec Theatre</td>
</tr>
<tr>
<td>FRENCH 4U03</td>
<td>Topics in French-Canadian Literature</td>
</tr>
<tr>
<td>HISTORY 2J06</td>
<td>The History of Canada</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Code</th>
<th>Course Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>HISTORY 3G03</td>
<td>Business History: The Canadian Experience in International Perspective</td>
</tr>
<tr>
<td>HISTORY 3K03</td>
<td>Canadian Political Development Since 1840</td>
</tr>
<tr>
<td>HISTORY 3N03</td>
<td>The History of the Canadian Working Class</td>
</tr>
<tr>
<td>HISTORY 3P03</td>
<td>Religion and Society in Canada</td>
</tr>
<tr>
<td>HISTORY 3U03</td>
<td>Aspects of French Canadian History</td>
</tr>
<tr>
<td>MUSIC 3T03</td>
<td>Canadian Music</td>
</tr>
</tbody>
</table>

### SOCIAL SCIENCES

<table>
<thead>
<tr>
<th>Code</th>
<th>Course Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANTHROP 3F03</td>
<td>Contemporary Northern Peoples</td>
</tr>
<tr>
<td>ANTHROP 3Y03</td>
<td>Aboriginal Community Health and Well-Being</td>
</tr>
<tr>
<td>ECON 2K03</td>
<td>Economic History of Canada</td>
</tr>
<tr>
<td>GEO 2HC3</td>
<td>Canada</td>
</tr>
<tr>
<td>GEO 3HT3</td>
<td>Geography of Planning</td>
</tr>
<tr>
<td>GEO 4HU3</td>
<td>Selected Problems in Urban Planning</td>
</tr>
<tr>
<td>GEO 4HZ3</td>
<td>The Landscape of Urban Housing</td>
</tr>
<tr>
<td>POL SCI 1G06</td>
<td>Politics and Government</td>
</tr>
<tr>
<td>POL SCI 3DD3</td>
<td>Participation and Elitist Politics in Canada</td>
</tr>
<tr>
<td>POL SCI 3FF3</td>
<td>Canadian Foreign Policy</td>
</tr>
<tr>
<td>POL SCI 3GG3</td>
<td>Federalism: Theoretical, Constitutional and Institutional Issues</td>
</tr>
<tr>
<td>POL SCI 3HH3</td>
<td>Intergovernmental Policy Issues in Canada</td>
</tr>
<tr>
<td>POL SCI 3II3</td>
<td>Elections and Electoral Behaviour in Canada</td>
</tr>
<tr>
<td>POL SCI 3JJ3</td>
<td>Provincial Politics in Canada</td>
</tr>
<tr>
<td>POL SCI 4O06</td>
<td>Canadian Public Policy</td>
</tr>
<tr>
<td>POL SCI 4S06</td>
<td>Canadian Political Theory</td>
</tr>
</tbody>
</table>

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, you will associate with one of the undergraduate Faculties (Business, 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 programme 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 programmes of study. The programmes of study which are available entirely through evening and summer courses are indicated on the Degrees by Programme chart, in the Degrees and Programmes section of this Calendar. You should also familiarize yourself with the requirements and information found in the following sections: Admissions Requirements, General Academic Regulations and Sessional Dates, as well as the programme descriptions found in the specific Faculty sections.

ADMISSION

Before you register for any degree course or programme, you must apply for admission.

- If you have already completed some university, community college, or other post-secondary education, you will be required to submit official transcripts of this work and a Transcript Assessment Fee, along with your application, in order to be considered for admission and possible credit towards your McMaster programme.
- If you satisfy the University's normal admission requirements for full-time study, you may choose to register for part-time study in most programmes.
- 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. Initially, you may take only one course at a time.

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.

Normally, publications for part-time students are made available in March for the Spring/Summer session and in June for the Fall/Winter session.
CERTIFICATE AND DIPLOMA PROGRAMMES

CERTIFICATE FOR CONTINUING EDUCATION

Located in the Commons Building, Room 118, the Centre for Continuing Education offers Certificate and Diploma programmes, independently and in conjunction with several professional associations, as well as short courses and workshops for personal and professional development. For students who are not sure about degree studies, the Centre offers registration in degree courses as a Listener, as well as a variety of courses designed to prepare students for degree studies. For details, please contact the Centre for Continuing Education at extension 24321.

CERTIFICATE AND DIPLOMA PROGRAMMES APPROVED FOR ADVANCED CREDIT

For information with regard to the awarding of advanced credit, please see the Graduates of McMaster Certificate Programmes in the Admission Requirements section of this calendar.

ACCOUNTING DIPLOMA PROGRAMME (8956)
This eleven-course programme is designed for individuals planning a career in managerial or financial accounting. All courses satisfy programme requirements for both the Society of Management Accountants of Ontario (SMA) and the Certified General Accountants Association (CGA).

Advanced Credit - 12 units

ADDITIONS CAREWORKER DIPLOMA PROGRAMME (8951)
The diploma requirements consist of 300 hours of study organized in compulsory courses and skill and knowledge electives.

Advanced Credit - pending

ADDITIONS STUDIES DIPLOMA PROGRAMME (8969)
This programme (150 hours) is designed to provide foundation studies in the field of addictions.

Advanced Credit - 9 units

CASE MANAGEMENT DIPLOMA PROGRAMME (8939)
This ten-course programme, offered jointly by McMaster University and the University of Toronto, 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.

Advanced Credit - 24 units

CERTIFICATE IN ADVANCED PROJECT MANAGEMENT (8948)
This 15-unit programme consisting of two required courses (five units) plus ten units of elective work is designed for managers with at least three years experience as a project manager or as a member of a project team.

Advanced Credit - 15 units

CERTIFICATE/DIPLOMA IN FAMILY MEDIATION (8938)
This five-course (Certificate)/eight-course (Diploma) programme offers a rewarding career opportunity for people in a variety of professions to either gain new or expand their skills and knowledge in the field of alternative dispute resolution.

Advanced Credit - 15 units (Certificate)
Advanced Credit - 24 units (Diploma)

DIPLOMA IN VISUAL ART FOUNDATION STUDIES (8937)
This one year full-time programme is a joint partnership between McMaster University and the Dundas Valley School of Art. Offered fully on-site at DVSA, the programme provides a solid base for those seeking a foundation for further advanced study in the Visual Arts.

Advanced Credit - 24 units

EMPLOYEE ASSISTANCE PROGRAMME (EAP) CERTIFICATES (8944/8945)
The two EAP certificate programmes (180 hours each) are designed to introduce the core concepts and practices in the expanding field of occupational assistance.

Advanced Credit - 9 units

McMASTER HUMAN RESOURCES SPECIALIST CERTIFICATE
This ten-course programme covers concepts and practices basic to human resources management.

Advanced Credit - 12 units

INDUSTRIAL SUPERVISION (8984)
An eight-course programme emphasizing industrial supervision, quality management, organization and human relations.

Advanced Credit - 12 units

McMASTER BUSINESS MANAGEMENT DIPLOMA (8980)
This 12 module or six-course programme, offered in association with the Michael DeGroote School of Business at McMaster covers the fundamentals of modern business.

Advanced Credit - 24 units (pending)

MOHAWK-McMASTER GEOGRAPHIC (8947)
INFORMATION SYSTEMS SPECIALIST CERTIFICATE
This collaborative six-course programme is designed for those who have some experience in the field of GIS and who have some computer background.

Advanced Credit - pending

McMASTER CERTIFICATE IN WRITING (8941)
This programme (200 hours) 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.

Advanced Credit - pending

METALLURGY OF IRON AND STEEL CERTIFICATE (8991)
This six-course programme comprehensively covers metallurgical principles involved in the extraction, refining and manufacturing of ferrous products.

Advanced Credit - 6 units

MICROCOMPUTER SYSTEMS DIPLOMA PROGRAMME (8954)
This eight-course programme provides students with a thorough background in the fundamentals of computer science within the context of microcomputers.

Advanced Credit - 12 units

POLICE STUDIES CERTIFICATE PROGRAMME (8986)
This programme (370 hours) is designed to develop a capacity for critical inquiry at the university level, while augmenting the training received by police and security personnel.

Advanced Credit - 12 units

THE NATIONAL CERTIFICATE PROGRAMME IN VOLUNTARY & NON-PROFIT SECTOR MANAGEMENT (8959)
Offered in association with the Canadian Centre for Philanthropy, this eight-course programme is geared to senior-level staff, as well as volunteers with management experience in the non-profit sector.

Advanced Credit - 9 units

QUALIFIED ADMINISTRATIVE ASSISTANTS PROGRAMME (QAA) (8965)
A seven-course programme which provides a solid background in general business education.

Advanced Credit - 9 units

CANADIAN INSTITUTE OF CERTIFIED ADMINISTRATIVE MANAGERS (CAM) (8989)
This nine-course programme covers a mix of courses in the professional management field.

Advanced Credit - 9 units

CANADIAN PUBLIC PERSONNEL MANAGEMENT ASSOCIATION (CPPMA) (8955)
This seven-course programme is offered by CCE as a recognized academic component to obtain the professional designation Canadian Personnel Professional (CPP).

Advanced Credit - 9 units

CERTIFIED GENERAL ACCOUNTANTS ASSOCIATION OF ONTARIO CGA (8956)
Students may use courses under the Accounting Diploma Programme as equivalency credits towards the CGA programme.
CERTIFICATE AND DIPLOMA PROGRAMMES

CREDIT INSTITUTE OF CANADA (8942)
FELLOWS PROGRAMME
This six-course programme provides individuals with the skills and knowledge needed to succeed in the Credit and Collection profession.
Advanced Credit - pending

CREDIT UNION INSTITUTE OF CANADA (CUIC) (8983)
I. General Studies Programme (Nine courses)
   This programme provides a general overview of credit union administration and management.
II. Management Studies Programme (12 courses)
   This programme offers a mix of general and credit-union specific courses on credit union business management.
   Advanced Credit - 12 units

HUMAN RESOURCES PROFESSIONALS (8974)
ASSOCIATION OF ONTARIO
This eight-course programme is designed to provide human resources practitioners and those in general management positions with the core knowledge needed in their field.
Advanced Credit - 9 units

INSTITUTE OF CANADIAN BANKERS (ICB) (8988)
I. Business Program
   This programme provides a solid foundation in general business education at the university level.
II. Specialized Studies Program
   This programme consists of five courses in an area of concentration (Finance & Accounting, Human Resource Management).
   Advanced Credit - 12 units

INSTITUTE OF RISK MANAGEMENT (8935)
A ten-course fellowship programme designed to recognize and enhance the stature of the risk management professional.
Advanced Credit - pending

THE INSURANCE INSTITUTE OF CANADA-INSURANCE FELLOWSHIP PROGRAMME (FIIC) (8996)
This ten-course programme is designed to encourage insurance professionals to broaden their general business education, while specializing in a selected major stream, such as risk management.
Advanced Credit - 12 units

PURCHASING MANAGEMENT ASSOCIATION OF CANADA (8961)
This eight-course programme, designed for those in or wishing to enter the materials management field, is comprised of business management courses.
Advanced Credit - 9 units

SOCIETY OF MANAGEMENT ACCOUNTANTS (8956)
Students may use courses under the Accounting Diploma Programme as course equivalencies towards the SMA's pre-professional programme.

For information concerning other Diploma programmes offered at the University, please see the Post-Professional Health Sciences Education Programmes 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 1999-2000 academic year. Not all courses in the approved curriculum will be offered during the year. Students are advised to refer to the course timetables published annually in March, May and August to determine which specific courses will be offered in the upcoming sessions.

ATHANOLNY

Faculty as of January 15, 1999

Chair
D. Ann Herring

Professors
Matthew Cooper/B.A. (Brooklyn College), M.Phil., Ph.D. (Yale)
Harvey Feil/B.A. (Queens), M.A. Ph.D. (McGill)
Edward V. Gianvitti/B.A., Ph.D. (Dublin)
William L. Rodman/B.A. (Sydney), M.A., Ph.D. (Chicago)

Shelley Saunders/B.A., M.A., Ph.D. (Toronto)

Adjunct Professors
Dorothy A. Counts/Waterloo B.A., M.A. (Southern Illinois) part-time
Regina Darnell/Western Ontario B.A. (Bryn Mawr), M.A., Ph.D. (Pennsylvania) part-time
Michael Spence/Western Ontario B.A., M.A. (Toronto), Ph.D. (Southern Illinois) part-time

Associate Professors
Ellen Badone/B.A., M.A. (Toronto), Ph.D. (California, Berkeley)
Aubrey Cannon/B.A. (Simon Fraser), Ph.D. (Cambridge)
Laura Finsten/B.A. (Western Ontario), M.A. (Calgary), Ph.D. (Purdue)
D. Ann Herding/B.A., M.A., Ph.D. (Toronto)
Trudy Nicks (Royal Ontario Museum)/B.A., M.A., Ph.D. (Alberta) part-time
Peter G. Ramsden/B.A., M.A. (Calgary), Ph.D. (Toronto)
Wayne Warr/B.A., M.A. (McMaster), Ph.D. (ANU)

Dennis Wills/Waterloo B.A., M.A. (McMaster), Ph.D. (British Columbia)

Adjunct Associate Professors
Christopher Ellis/Western Ontario B.A., M.A. (McMaster), Ph.D. (Simon Fraser) part-time
Dan W. Jorgenson/Western Ontario B.A. (California State), Ph.D. (British Columbia) part-time

Susan Pfeiffer/Guelph B.A. (Iowa), M.A., Ph.D. (Toronto) part-time

Assistant Professor
Petra Rothmann/B.A. (Vienna), M.A. (Munich), Ph.D. (McGill)

Associate Members
Henry Schwarz/Geography and Geology B.A. (Chicago), M.S., Ph.D. (California Institute of Technology), F.R.S.C.

Professors Emeriti
David R. Counts/B.A. (Texas), Ph.D. (Southern Illinois)
David J. Dames/A.B. (Toldeo), A.M., Ph.D. (Chicago)
Christopher Hallpike/B. Litt., M.A., Ph.D. (Oxford)

William C. Noble/B.A. (Toronto), Ph.D. (Calgary)

Richard J. Preston/M.A., Ph.D. (North Carolina)

Richard Slobodian/B.A., M.S. (City College of New York), Ph.D. (Canada)

Department Notes:
1. Not all Anthropology courses listed in this Calendar are taught every year. Students are advised to consult the department's brochure 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
A general introduction to the study of human culture and society in all of its aspects. Examples and illustrations will be drawn largely from non-Western societies.

Three hours (lectures and discussion); 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.

Three hours (lectures and discussion); one term

ANTHROP 1Z03 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.

Three hours (lectures and discussion); one term

ANTHROP 2A03 THE ANTHROPOLOGY OF 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

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 2D03 PRIMATE BEHAVIOUR
A survey of current issues in primate behaviour, including taxonomy, demography, social structure, reproduction, play cognition and sociobiology.

Students will conduct a zoo observation study.

Three hours (lecture and discussion); one term

Prerequisite: Six units of Level I Anthropology

ANTHROP 2E03 HUMAN VARIATION AND EVOLUTIONARY CHANGE
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 1A03 is strongly recommended.

This course is required of all students registered in an Honours Programme in Anthropology, and is a prerequisite for advanced courses in Physical Anthropology.

ANTHROP 2F03 CULTURAL ANTHROPOLOGY
An introduction to concepts, theories, and current debates in cultural anthropology. This course is designed to prepare students for more advanced courses in social and cultural anthropology.

Three hours (lectures and discussion); one term

Prerequisite: Six units of Level I Anthropology. ANTHROP 1A03 is strongly recommended.

This course is required of all students registered in an Honours Programme in Anthropology.

ANTHROP 2FF3 HUMAN OSTEOLOGY AND FORENSIC ANTHROPOLOGY
A study of human bones and teeth with a consideration of how to determine sex, age, stature and other individual characteristics from these remains alone.

Three hours (lectures and discussion); one term

Prerequisite: Registration in an Anthropology programme

Enrolment is limited.

ANTHROP 2HH3 ENVIRONMENT AND CULTURE
Relationships between human societies and their environments are examined. A focus is how culture shapes our ideas of nature and the consequence of our actions. Case studies explore both environmental movements and aboriginal societies.

Three hours (lectures and discussion); one term

Prerequisite: Six units of Level I Anthropology. ANTHROP 1A03 is strongly recommended.

This course is required of all students registered in an Honours Programme in Anthropology.
ANTHROP 2J3 HUMAN GROWTH AND CONSTITUTION
Variation in body form and composition examined in the context of normal growth and evolutionary development.
Three hours (lectures and discussion); one term

ANTHROP 2L03 PHONETICS
A study of the sounds of language and human articulatory capabilities.
Three hours (lectures); one term
Prerequisite: Registration in Level II and above

ANTHROP 2L3 LINGUISTICS AND CULTURE: STRUCTURALISM
A study of the application of linguistic models, particularly structuralism, to sociocultural anthropology and related disciplines.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level II and above
Antirequisite: ANTHROP 2Q03/LINGUIST 2Q03, ANTHROP 3L3

ANTHROP 2L3 LANGUAGE AND PREHISTORY
A survey of the language families of the world, emphasizing the historical implications of language distributions. Historical linguistic methods will be introduced and compared with archaeological findings for prehistoric Eurasia, Africa, Oceania and North America.
Three hours (lectures and discussion); one term

ANTHROP 2M03 PHONOLOGY
A study of the patterns of distinctive sounds in the world's languages.
Three hours (lectures); one term
Prerequisite: ANTHROP 2L03/LINGUIST 2L03

ANTHROP 2W03 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

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 and discussion); one term
Prerequisite: Three units of Anthropology. One of ANTHROP 1B03 or 2PA3 is strongly recommended.

ANTHROP 2P03 PEOPLES OF THE PACIFIC
An introduction to the ways of life and thought in Pacific island societies. The course will emphasize the material culture, networks of social relations, and systems of belief of the peoples of Melanesia, Polynesia, and Micronesia.
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 and discussion); one term
Prerequisite: Three units of Level I Anthropology
This course is required of all students registered in an Honours Programme in Anthropology.

ANTHROP 2R03 RELIGION, MAGIC, AND WITCHCRAFT
An introduction to the cross-cultural study of the relationship between the natural and supernatural, and between ideology and social action.
Three hours (lectures and discussion); one term
Prerequisite: ANTHROP 1A03 or 2F03

ANTHROP 2S03 PEOPLES OF INNER EURASIA
This survey course will examine the ethnology, languages and histories of the people that fall or once fell within the lands that make up or adjoin the territory that was once the Soviet Union. Where possible, discussion of present conflicts or future tensions will be couched in terms of historical influences.
Three hours (lectures); one term

ANTHROP 2U03 PLAGUES AND PEOPLE
A consideration of the role played by infectious disease in human evolution. The social and biological outcomes of major epidemics and pandemics, past and present, will be explored.
Two hours (lecture), one hour (tutorial); one term
Enrolment is limited.

ANTHROP 2V03 AZTECS, MAYA AND INKA
A survey of these three great prehistoric New World civilizations, using archaeological, ethnohistoric and colonial information. Topics will include religion, social structure, political and economic organization, as well as the similarities and differences among the Aztecs, Maya and Inka.
Three hours (lectures); one term

ANTHROP 2W03 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 2X03 CONFLICT, CULTURE AND THE QUEST FOR PEACE
An interdisciplinary introduction to everyday violence, ethnic conflict, non-violence, war and peace-building, from the perspectives of Anthropology and Peace Studies.
Three hours (lectures and discussion); one term

ANTHROP 2Z03 INTRODUCTION TO SOCIAL RESEARCH
This course is designed to develop those 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 an Anthropology programme
Cross-list: SOCIOG 2Z03
Antirequisite: GERONTOL 2C03 (or 3C03)

ANTHROP 3A03 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 3B03 ETHNOLOGY: EUROPE
A comparative ethnological survey of selected societies in Europe.
Three hours (lectures and discussion); one term
Prerequisite: Six units of Social/Cultural Anthropology

ANTHROP 3C03 HEALTH AND ENVIRONMENT: ANTHROPOLOGICAL APPROACHES
Biocultural models of the ways in which humans cope with features of their physical environment, such as hot and cold climates, high altitude, photoperiodicity and solar radiation.
Three hours (lectures and discussion); one term
Prerequisite: ANTHROP 2PA3 or an equivalent course in archaeological methods
Not open to students with credit in an equivalent field school from another university.
Enrolment is limited.

ANTHROP 3C3 ENTHOLOGY: EUROPE
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

ANTHROP 3C6A 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

ANTHROP 3CN3 CULTURE AND NATIONALISM
An examination of the interplay of culture and nationalism as found in today's wars. Current conflicts in the Balkans and Caucasus will serve as case studies.
Three hours (lectures and discussion); one term

ANTHROP 3DD3 ARCHAEOLOGY OF DEATH
Archaeological analysis and interpretation of burial practices and other death-related rituals.
Three hours (lectures and discussion); one term
Prerequisite: ANTHROP 2PA3
Not open to students with credit in either ANTHROP 3E03 SPECIAL TOPICS IN ARCHAEOLOGY I or ANTHROP 3E03 SPECIAL TOPICS IN ARCHAEOLOGY II if the topic was the Archaeology of Death.

ANTHROP 3E03 SPECIAL TOPICS IN ARCHAEOLOGY I
The topic varies with each instructor (e.g. one class may examine Ancient Mesoamerican Cities and another focuses on The Archaeology of Hierarchy). 1999-2000: Boundaries and Interaction in Prehistory.
Three hours (lectures and discussion); one term
Prerequisite: ANTHROP 2PA3

ANTHROP 3E03 SPECIAL TOPICS IN ARCHAEOLOGY II
1999-2000: Gender in Archaeology
As per ANTHROP 3E03.
Three hours (lectures and discussion); one term
Prerequisite: ANTHROP 2PA3

ANTHROP 3F03 CONTEMPORARY NORTHERN PEOPLES
An examination of current issues in relation to aboriginal peoples in selected northern regions of the world.
Three hours (lectures and discussion); one term
Prerequisite: ANTHROP 1A03 or registration in a Health Sciences programme

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
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 2E03

ANTHROP 3K03  ANTHROPAECOLOGICAL INTERPRETATION
Technique and methodology in the investigation of archaeological material.
Three hours (lectures and discussion); one term
Prerequisite: ANTHROP 2P43

Enrolment is limited.

ANTHROP 3L03  HISTORY OF ANTHROPOLOGY
Some of the major developments and personalities in the history of anthropology as a discipline, with emphasis upon the English-speaking world.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Honours Anthropology

This course is required of all students registered in an Honours Programme in Anthropology.
Antirequisite: ANTHROP 2L03

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: Registration in any programme in Anthropology

ANTHROP 3P03  RESEARCH METHODS IN CULTURAL ANTHROPOLOGY
Methodologies and techniques of research, especially field study, in sociocultural anthropology.
Three hours (lectures and discussion); one term
Prerequisite: ANTHROP 2P43

ANTHROP 3Q03  ANTHROPOLOGICAL APPROACHES TO THE STUDY OF AGING
An examination of the contribution of anthropology to the study of aging with an emphasis on cross-cultural comparisons, and including an assessment of the anthropological literature relating to the biological basis of aging in modern and prehistoric populations.
Three hours (lectures and discussion); one term
Prerequisite: ANTHROP 2F43

ANTHROP 3Q53  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 an Anthropology programme.

ANTHROP 3S03  CULTURAL PSYCHOLOGY
An introduction to concepts and topics in the anthropology of affect and emotion. The course attends to wider issues of depression, violence, trance, and identity.
Three hours (lectures and discussion); one term
Prerequisite: ANTHROP 2F03

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, or registration in any programme in Gerontology
Cross-list: GERONTOL 3Q03

ANTHROP 3V03  SPECIAL TOPICS IN ANTHROPOLOGY I
Reading and discussion of selected topics in Anthropology. 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 programme in Anthropology

ANTHROP 3W03  SPECIAL TOPICS IN ANTHROPOLOGY II
1999-2000: Readings in Myth
As per ANTHROP 3W03*
One term
Prerequisite: Registration in any programme in Anthropology

ANTHROP 3Y03  ABDINAL 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

ANTHROP 3Z03  MEDICAL ANTHROPOLOGY: THE BIOMEDICAL APPROACH
Patterns of stress and disease with emphasis on the modern biomedical 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 programme. ANTHROP 2E03 or 2F03 is highly recommended.

ANTHROP 3Z23  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 programme. ANTHROP 2E03 or 2F03 is highly recommended.

ANTHROP 4B03  CURRENT PROBLEMS IN ANTHROPOLOGY I
1999-2000: Visual Anthropology
The topic varies with each instructor.
Three hours (seminar); one term
Prerequisite: Registration in Level IV Honours Anthropology or permission of the instructor

ANTHROP 4B13  CURRENT PROBLEMS IN ANTHROPOLOGY II
1999-2000: Archaeology and Other Histories
As per ANTHROP 4B03.
Three hours (seminar); one term
Prerequisite: Registration in Level IV Honours Anthropology

ANTHROP 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.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level IV Honours Anthropology

ANTHROP 4F03  ARCHAEOLOGICAL THEORY
A seminar in current topics and issues in archaeological theory.
Three hours (lectures and discussion); one term
Prerequisite: ANTHROP 2P43 and registration in any honours programme

ANTHROP 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 programme in Anthropology

ANTHROP 4G03**  INDEPENDENT RESEARCH II
As per ANTHROP 4G03, but on a different topic.
One term
Prerequisite: Registration in Level IV Honours Anthropology

ANTHROP 4H03  ARCHAEOLOGY OF HUNTERS AND FORAGERS
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: ANTHROP 2P43

ANTHROP 4I03  CONTEMPORARY ANTHROPOLOGICAL THEORY
Seminar on selected recent developments in anthropological theory.
Three hours (seminar); one term
Prerequisite: Registration in Level IV Honours Anthropology
Enrolment is limited. Access will be provided to all Level IV Honours Anthropology students.
ANTHROP 4J03 ADVANCED TOPICS IN PHYSICAL ANTHROPOLOGY
Study at an advanced level of selected topics within the subdiscipline. Topics may change from year to year.
Three hours (lecture and discussion); one term
Prerequisite: ANTHROP 2E03

ANTHROP 4L3 ADVANCED TOPICS IN LINGUISTIC ANTHROPOLOGY
An advanced course which examines various topics including folklore, myth, etc. Students will conduct field and archival research on topics of their choosing.
Three hours (lecture and discussion); one term
Prerequisite: ANTHROP 3G03

ANTHROP 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 (lecture and discussion); one term
Prerequisite: Registration in an Honours programme in Social Sciences

ANTHROP 4P03 ANTHROPOLOGY OF SPACE AND PLACE
This course will consider recent research drawn from a number of disciplines concerned with the human environment as a social and cultural construction. Topics may include: experience and sense of place; the social construction of urban space; ideology and built form; spatial discourses.
Three hours (lecture and discussion); one term
Prerequisite: Registration in Level IV Honours Anthropology or permission of the instructor.

ANTHROP 4Q03 ANTHROPOLOGICAL PERSpectives ON GLOBAL SYSTEMS
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 systemic; 3) to develop hypotheses for the framework of global scale social theory.
Three hours (lecture and discussion); one term
Prerequisite: Registration in an Honours programme in Social Sciences

ANTHROP 4R03 SKELETAL BIOLOGY OF EARLIER HUMAN POPULATIONS
The analysis of human skeletal samples, including such topics as paleopathology, paleodemography, paleonutrition and biological distance analyses.
Three hours (lecture and discussion); one term
Prerequisite: ANTHROP 2F03
Antirequisite: ANTHROP 3006

ANTHROP 4S03 THE ANTHROPOLOGY OF INFECTIOUS DISEASE
An advanced course in the evolution of infectious disease and changing relationships between homo sapiens and infectious diseases in the course of human history.
Three hours (lecture and discussion); one term
Prerequisite: ANTHROP 2E03 and registration in Level IV Honours Anthropology
Not open to students with credit in ANTHROP 4J03 (ADVANCED TOPICS IN PHYSICAL ANTHROPOLOGY) if the topic was Infectious Disease and Human Evolution.

ANTHROP 4T03 LINGUISTICS AND CULTURE B: GENERATIVE GRAMMAR
An examination at an advanced level of Chomsky’s generative grammar as a paradigm for the study of minds and cultures.
Three hours (lecture and discussion); one term
Prerequisite: ANTHROP 3L03

ANTHROP 4U03 PREHISTORY OF THE BRITISH ISLES
A seminar course in the archaeology of Great Britain and Ireland from the Lower Palaeolithic to the Bronze Age. Within these limits, chronology and topical emphasis may vary.
Three hours (lecture and discussion); one term
Prerequisite: ANTHROP 2P03

ANTHROP 4Y03 DEVELOPING SOCIETIES
Topics may include, for example, the meaning of development, innovation and technological change, urbanization and protest movements.
Three hours (lecture and discussion); one term
Prerequisite: Registration in Level III or IV Honours Anthropology
ART HISTORY

Courses and programmes in Art History are administered within the School of Art, Drama and Music 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
Antirequisite: ART HIST 1A06

**ART HIST 1A06**  **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
Antirequisite: ART HIST 1A03

**ART HIST 2A06**  **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 and above

**ART HIST 2A03**  **GREEK ART**
The architecture, sculpture, and painting of the Greek and Hellenistic worlds.
Three lectures; one term
Prerequisite: Registration in Level II and above
Cross-list: CLASSICS 2B03

**ART HIST 2C03**  **ROMAN ART**
The architecture, sculpture, and painting of the Roman world.
Three lectures; one term
Prerequisite: ART HIST 2B03
Cross-list: CLASSICS 2G03

**ART HIST 2D03**  **19TH- AND 20TH-CENTURY ART AND ARCHITECTURE**
A study of the major movements and styles in painting and sculpture from c. 1780 to c. 1960.
Three lectures; one term
Prerequisite: Registration in Level II and above

**ART HIST 2E03**  **APPROACHES TO ART HISTORY**
A study of the various approaches which art historians of the last 100 years have taken in investigating the art of the past.
Three lectures; one term
Prerequisite: ART HIST 1A06 or 1A03 and 1A23

**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 and above. Prior completion of ART HIST 1A06 or 1A03 and 1A23 is recommended.
Cross-list: MMEDIA 2F03

**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 and above
Antirequisite: ART HIST 2M03 and/or 2N03

**ART HIST 3A03**  **CONTEMPORARY ART**
An examination of major developments in painting, sculpture, and other media from World War II to the present together with a review of related critical theory.
Three lectures; one term
Prerequisite: Registration in Level II and above. Prior completion of ART HIST 2D03 is recommended.
Offered in alternate years.

**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 programme
Alternates with ART HIST 3N03

**ART HIST 3D03**  **BAROQUE ART**
An examination of European art emerging in the period 1580-1750 with a special emphasis on the continuing evolution of the classical tradition.
Three lectures; one term
Prerequisite: Registration in Level II and above. Prior completion of ART HIST 2D03 is recommended.

**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 or ART HIST 3G03
Cross-list: CLASSICS 3G03
Alternates with ART HIST 3H03

**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.
ART HIST 3030  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 and above. Prior completion of ART HIST 2603 and/or ART HIST 2703 is recommended.
Alternates with ART HIST 3530.
ART HIST 3MO3  THE SENSE OF ORDER: DESIGN IN HISTORY
An introduction to the history of the decorative arts, with an emphasis on three-dimensional design as found in furniture, pottery and porcelain, silver, and architectural ornaments.
Three lectures; one term
Prerequisite: Registration in Level II and above. Prior completion of ART HIST 2603 and/or ART HIST 2703 is recommended.
ART HIST 3NO3  NEOCLASSICISM AND ROMANTICISM
A historical and critical investigation of selected issues and artists of the Neoclassical and Romantic traditions.
Three lectures; one term
Prerequisite: Registration in Level II and above. Prior completion of ART HIST 2603 and/or ART HIST 2703 is recommended.
Alternates with ART HIST 3530.
ART HIST 3PO3  ISSUES IN STUDIO 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 and above. Prior completion of ART HIST 3403 is recommended.
Alternates with ART HIST 3403.
ART HIST 34A3  SPECIAL STUDIES IN CONTEMPORARY ART
An in-depth examination of one or more significant movements in contemporary art, theory and criticism from c. 1970 to the present. Topics will include such movements as Minimal Art, Conceptual Art, Earthworks, Body Art, Photo-Realism, Pattern and Decoration, Neo-Expressionism, etc.
Seminar (two hours); one term
Prerequisite: Registration in Level II and above. Prior completion of ART HIST 2603 is recommended.
Alternates with ART HIST 3103.
ART HIST 35B3  SEMINAR IN ANCIENT ART
Consult the School of Art, Drama and Music concerning the topic to be offered.
Seminar (two hours); one term
Prerequisite: ART HIST 2603 and ART 203, and registration in Level III or IV of an Honours programme in Art History
Cross-list: CLASSICS 4803
ART HIST 35B3 may be repeated, if on a different topic, to a total of six units.
Enrolment is limited.
ART HIST 4G03  THE HIGH RENAISSANCE
A seminar devoted to consideration of selected themes relating to the High Renaissance in Italy.
Seminar (two hours); one term
Prerequisite: ART HIST 3103 or 3103
Alternates with ART HIST 4E03.
Enrolment is limited.
ART HIST 4E03  TOPICS IN EUROPEAN ART (1300-1750)
A course of readings and discussions, under the guidance of a faculty member, concerning European art and artists from 1300 to 1750. Consult the School for the topic to be offered.
Seminar (two hours); one term
Prerequisite: Registration in Level III or IV of an Art, Art History, or Multimedia programme
ART HIST 4E03 may be repeated, if on a different topic, to a total of six units.
Alternates with ART HIST 4C03.
ART HIST 4H03  TOPICS IN MODERN ART (1750-PRESENT)
A course of readings and discussions, under the guidance of a faculty member, concerning nineteenth- and twentieth-century art and artists. Consult the School for the topic to be offered.
Seminar (two hours); one term
Prerequisite: ART HIST 2603 and 3A03
Alternates with ART HIST 4A03.
ART HIST 4H03 may be repeated, if on a different topic, to a total of six units.
Enrolment is limited.
ART HIST 4006  THESIS
Supervised study of a problem in the history of art of special interest to the student.
Tutorials, two terms
Prerequisite: Registration in Level IV of any Honours programme in Art History, and a grade of at least A- in a previous course in the chosen field, and permission of the School of Art, Drama and Music.
ART HIST 4V03  THE STUDY, CRITICISM AND EVALUATION OF ART
A seminar to introduce students to the history, theory, and practice of connoisseurship. Its focus will be to develop skills in confronting the single work of art.
Seminar (two hours); one term
Prerequisite: Registration in Level III or IV of a programme in Art or Art History or Multimedia
Alternates with ART HIST 4C03.
ART HIST 4X03  INTRODUCTION TO ART GALLERIES AND MUSEUMS
A study of the history and methods of institutions created for the purpose of collecting, preserving, displaying and interpreting art objects.
Seminar (two hours); one term
Prerequisite: Registration in Level III or IV of a programme in Art or Art History Offered in alternate years.
Enrolment is limited.

ARTS AND SCIENCE

Director
Barbara M. Ferrier/Biochemistry, B.Sc., Ph.D. (Edinburgh)

Council of Instructors
John D. Browning/Modern Languages, B.A., M.Phil. (London), Ph.D. (Edin

Sylvia Bowden/Medical and Arts & Science, B.A., (McMaster), B.Ed., (Toronto), M.A., (Simon Fraser), Ph.D., (McMaster)


William E. Harris/Physics and Astronomy, B.Sc., (Alberta), M.Sc., Ph.D. (Toronto)

Robert J. Henderson/Kinesiology, B.P.E., (McMaster), M.A. (Alberta)


Graham K. Knight/Sociology, B.A., M.A., Ph.D., (Carleton)

Cyril H. Levitt/Sociology, B.A., M.A., (Waterloo), Ph.D., (Freie Universität, Berlin)

Miroslav Lovric/Mathematics and Statistics, B.S. (Zagreb), M.S., Ph.D. (Ohio State)

Alan Mandelson/Religious Studies, B.A., Kenyon College, M.A. (Brandeis), Ph.D. (Chicago)

Sara H. Mandelson/Arts & Science, B.A. (Chicago), D.Phil. (Oxford)

P.K. Ramachadtra/Medicine, M.B.B.S. (All India Institute of Medical Sciences, New Delhi), Ph.D. (Alberta)

Kochi Shinohara/Religious Studies, B.L., M.L. (Tokyo), Ph.D. (Columbia)

Roman Viveros-Aguilera, B.A. (Veracruzana, Mexico), M.A. (National Polytechnic Inst., Mexico), Ph.D. (Waterloo)

Mark Vorobok/B.A., (Carleton), M.A., Ph.D. (Toronto)


M. Jean Wilson/Modern Languages, B.A. (McMaster), B.Ed., M.A., Ph.D. (Toronto)
Department Notes:

1. Prerequisites: The prerequisite for all Level I, II, III and IV Arts & Science courses is registration in the Arts and Science Programme.

2. Limited Enrolment: Enrolment in Level I of the Arts and Science Programme is limited to approximately 80 students.

Courses

ARTS&SCI 1A06  WESTERN CIVILIZATION
An examination of some of the central themes in Western social, religious and cultural history, from classical Greece to late eighteenth-century Europe. Students will analyze selected texts from the Bible and from the works of such writers as Thucydides, Plato, and Shakespeare. Topics will include theories of historical change; the influence of such factors as class, race and gender on the evolution of social systems; the relationship between political movements and the rise of experimental science.

ARTS&SCI 1B06  WRITING AND INFORMAL LOGIC
The primary aim of this course is to develop the student's critical and analytical skills in writing. Students will examine the structure of selected texts, analyze various types of reasoning, and receive individual attention in expository writing.

ARTS&SCI 1C06  INQUIRY
Inquiry seminars are designed to develop skills basic to the systematic investigation of public issues. These skills include those involved in formulating questions, gathering and interpreting evidence from a variety of sources, evaluating arguments, and reaching well-considered conclusions. This inquiry course involves students in investigation of 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 1D06 serves as a prerequisite for all upper level Mathematics, Statistics, Computer Science and Physics courses, for which MATH 1A06 or MATH 1A3 is a prerequisite.

ARTS&SCI 2A06  MODERN WESTERN CIVILIZATION
Development of political, economic, religious and psychological thought in the writings of such major figures as Hobbes, Locke, Rousseau, Adam Smith, Burke, Tocqueville, Marx, Mill, Weber, von Hayek, Polanyi, Nietzsche, Schopenhauer, Freud and Skinner.

ARTS&SCI 2B06  PHYSICS
This course explores many of the great concepts of physics in a qualitative 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 and periods will be examined. The course will focus on the ways in which great writers have treated human ethical concerns. It will attempt to show how literary creativity involves the matching of formal and stylistic mastery, on the one hand, with ethical awareness on the other.

ARTS&SCI 3B03  TECHNOLOGY AND SOCIETY I
The Culture of Technology. Current technological practices and approaches are studied as a cultural activity with its own beliefs, values, social structures and institutions.

ARTS&SCI 3B03 is an alternative that fulfills the requirement in the Program in Applied Studies for students who have already completed Technology and Society I.

ARTS&SCI 3B03 serves as a prerequisite for Arts & Science 3B06.

ARTS&SCI 3C06  INQUIRY TOPIC: ENVIRONMENT
The so-called environmental crisis will be explored as a crisis of western culture's inability to live in a harmonious relationship with the earth. The central premise of this inquiry is that far from solving environmental crisis, we have yet to grasp the nature of the problem.
BIOCHEMISTRY

Associate Professors
Douglas W. Bryant/B.Sc. (McGill), M.Sc., Ph.D. (York)/part-time
Calvin B. Harley/B.Sc. (Waterloo), Ph.D. (McMaster)/part-time
Gerard D. Wright/B.Sc. Ph.D. (Waterloo)
Daniel S. Yang/B.Sc., M.Sc. (Alberta), Ph.D. (Pittsburgh)

Assistant Professors
Albert M. Berghuis/M.Sc. (Groningen), Ph.D. (British Columbia)
Eric D. Brown/M.Sc., Ph.D. (Guelph)
Justin R. Rodwell/B.Sc., Ph.D. (Toronto)

Associate Members
Stephanie A. Atkinson (Pediatrics)/B.A. (Western Ontario), Ph.D. (Toronto)
Jack Gaudet (Pathology)/B.Sc. (McMaster), Ph.D. (University College, London, UK)
Brian F. Leber (Medicine)/B.Sc., M.D.C.M. (McGill), F.R.C.P.C.
William J. Muller (Pathology)/B.Sc., Ph.D. (McGill)
Michael A. Rudnicki (Pathology)/B.Sc., P.D. (Ottawa)
Gurmit Singh (Pathology)/B.Sc., Ph.D. (Dalhousie)
Thillainathan Shukraman (Pathology)/B.Sc. (Ceylon), M.Sc., Ph.D. (Queen's), F.R.S.C. (London)
Bradley N. White (Biology)/B.Sc. (Nottingham), Ph.D. (McMaster)
Peter F. Whyte (Pathology)/B.Sc., M.Sc., Ph.D. (New York)

Professors Emeriti
Russell A. Bell/M.Sc. (Wallingford), M.S. (Wisconsin), Ph.D. (Stanford), F.C.I.C., Professor of Chemistry
Luis A. Branda/B.Sc., D.Sc. (Lima)
Barbara M. Ferrier/B.Sc., Ph.D. (Edinburgh)
Karl B. Freeman/A., Ph.D. (Toronto)
Ross H. Hall/B.A. (British Columbia), M.A. (Toronto), Ph.D. (Cambridge)
Dennis R. McCaff/B.Sc. (Alberta), M.Sc. (Saskatchewan), Ph.D. (California Inst. of Technology), F.C.I.C.

Courses
If no prerequisite is listed, the course is open.

BIOCHEM 2A06 PRINCIPLES OF BIOCHEMISTRY
An overview of biochemical processes emphasizing the importance of structure, function, reactivity and energetics of molecules in biological systems. Three lectures or tutorial; two terms
Prerequisite: Registration in an Honours Biochemistry or Honours Molecular Biology programme and credit or registration in CHEM 2A03 and 2B03, or CHEM 2B03 and 2BB3, or one of CHEM 2B06, 20A3
Antirequisite: BIOCHEM 2E03, 2EE3, 3E03, 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 2D03, 2E03 or credit or registration in one of CHEM 2B05, 2BA3, 20A3, 2A03
Antirequisite: BIOCHEM 2A06, 2E03, 3G03

BIOCHEM 3B03 NUCLEIC ACID STRUCTURE AND FUNCTION
Fundamental properties of DNA and RNA. Molecular mechanisms involved in the processing of genetic information. Related methods of investigation will be discussed.
Three lectures; first term
Prerequisite: One of BIOCHEM 2A06, 3G03
Antirequisite: BIOCHEM 3A03, 3H03

BIOCHEM 3BB3 PROTEIN STRUCTURE AND ENZYME MECHANISM
Fundamental aspects of protein structure including physical methods of investigation. Theoretical basis of enzyme catalysis and the experimental study of kinetics and mechanism.
Three lectures; second term
Prerequisite: One of BIOCHEM 2A06, 3G03
Antirequisite: BIOCHEM 3A03, 3H03

BIOCHEM 3C03 CELLULAR BIOCHEMISTRY
Biochemical basis of complex cellular processes such as compartmentalization, vesicular traffic, movement and programmed cell death. Emphasis is placed on the principles of evaluation of current research literature.
Three lectures; first term
Prerequisite: BIOCHEM 2A06, or both BIOCHEM 2E03 and 3G03

BIOCHEM 3E03 ENVIRONMENTAL BIOCHEMISTRY LABORATORY
Fundamental principles and techniques of environmental biochemistry relevant to environmental problems.
One lab (three hours), one tutorial (three hours); one term
Prerequisite: BIOCHEM 2E03 and registration in Level III of Honours Science (Environmental Science Option) or Honours Environmental Science
Antirequisite: BIOCHEM 3L03

BIOCHEM 3G03 BIOCHEMISTRY OF MACROMOLECULES
Chemical and conformational properties of proteins and relationships to their function including regulation of enzyme activity. Chemical and physical structure of DNA and RNA relevant to biological function.
Three lectures; first term
Prerequisite: CHEM 20A3 and 20B3; or CHEM 2BA3 and 2BB3; or one of CHEM 2B06, 20B6; or a grade of at least B+ in CHEM 2D03 or 2E03
Antirequisite: BIOCHEM 2A06, 2E03, 3A03, 3AA3

BIOCHEM 3H03 CLINICAL BIOCHEMISTRY
An outline of clinical chemistry; its relation to disease and relevance to health care.
Three lectures; one term
Prerequisite: BIOCHEM 2A06, or both BIOCHEM 2E03 and 3G03, or a grade of at least C+ in BIOCHEM 2E03

BIOCHEM 3L03 BIOCHEMISTRY LABORATORY
Illustration of fundamental principles and techniques of experimental biochemistry and molecular biology.
One lab (three hours), one tutorial (three hours); first term
Prerequisite: BIOCHEM 2A06, or both BIOCHEM 2E03 and 3G03, and registration in Honours Biological Chemistry
Antirequisite: BIOCHEM 3E03

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; one term
Prerequisite: BIOCHEM 2A06, or both BIOCHEM 2E03 and 3G03, or a grade of at least C+ in BIOCHEM 2E03

BIOCHEM 3P03 BIOCHEMISTRY LABORATORY PROJECTS
Research projects illustrating modern methods in biochemistry and molecular biology.
One lab (three hours), one tutorial (three hours); second term
Prerequisite: BIOCHEM 3L03 and either registration in Honours Biochemistry (Specialist) or permission of the Department. Application for permission must be received by March 31st of the previous year.
Antirequisite: BIOLOGY 3V03
Enrollment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

BIOCH 3BB6 SENIOR PROJECT IN MOLECULAR BIOLOGY
An extended research project using biochemical techniques and supervised by a member or associate member of the Department of Biochemistry. A formal report of the results will be required.
Three labs (three hours); two terms
Prerequisite: BIOCHEM 3P03, and in Honours Biochemistry (Specialist Option). Students must have a CA of at least 8.0.
Permission of the Department is required by March 31.
Antirequisite: BIOCHEM 4896, 4897, 4899, 4903, 4L03, 4P03
Enrollment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

BIOCH 4BB6 SENIOR PROJECT IN MOLECULAR BIOLOGY
An extended research project using a molecular biology approach and supervised by a member or associate member of the Department of Biochemistry. A formal report of the results will be required.
Three labs (three hours); two terms

Limited Enrolment Courses
Prerequisite: BIOCHEM 3P03, and registration in Honours Biochemistry (Biotechnology and Genetic Engineering Option) or in the Honours Biochemistry and Molecular Biology programme. Students must have a C.A of at least 8.0. Permission of the Department is required by March 31. Antirequisite: BIOCHEM 4B06, 4F09, 4G03, 4L03, 4P03
Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

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; one term
Prerequisite: Registration in Level IV of Honours Biochemistry (Complementary Studies Option)

BIOCHEM 4D03 BIOTECHNOLOGY I
Theory, methods and applications in genetic engineering and biotechnology. Gene cloning and expression in microbial and eukaryotic systems, protein engineering, molecular diagnostics, genomics and gene therapy.
Three lectures; first term
Prerequisite: One of BIOCHEM 3A03, 3B03, BIOLOGY 3H03 and one of BIOCHEM 2A06, 3G03

BIOCHEM 4D03 BIOTECHNOLOGY II
Use of plants and animals to produce novel commercial products, pharmaceuticals, vaccines etc. Use of cultured cells, engineered microorganisms for industry, bioremediation, and food processing. Industrial fermentation, downstream process recovery and bioinformatics.
Three lectures; second term
Prerequisite: BIOCHEM 4D03

BIOCHEM 4E03 GENE EXPRESSION I
Current concepts and strategies of molecular mechanisms of eukaryotic gene expression and regulation at the transcriptional, post-transcriptional, translational and post-translational levels.
Three lectures; first term
Prerequisite: One of BIOCHEM 3A03, 3B03, BIOLOGY 3H03 and one of BIOCHEM 2A06, 3G03

BIOCHEM 4E03 GENE EXPRESSION II
Mechanism of gene expression and regulation with emphasis on integrative strategies in complex systems relating to physiological homeostasis in normal and disease states.
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. The results will also be presented to the department in a seminar or as part of a poster session. Lab (12-14 hours); two terms
Prerequisite: One of BIOCHEM 3P03 and registration in an Honours Biochemistry programme. Permission of the department is required by March 31 and students are expected to have a C.A. of at least 9.5
Antirequisite: BIOCHEM 4B06, 4BB6, 4G03, 4P03, 4L03

BIOCHEM 4G03 BIOTECHNOLOGY AND GENETIC ENGINEERING LABORATORY
This lab is complementary to BIOCHEM 4D03. Experiments may involve cloning, engineered mutagenesis, DNA sequencing, expression of cloned genes and fermentation.
Two labs (four hours); second term
Prerequisite: BIOCHEM 3P03, one of BIOCHEM 3A03, 3B03 and registration in an Honours Biochemistry programme. Permission of the Department is required by March 31. Antirequisite: BIOCHEM 4B06, 4BB6, 4F09, 4L03
Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

BIOCHEM 4I03 STRUCTURAL AND MECHANISTIC ASPECTS OF MACROMOLECULES
Three lectures; second term
Prerequisite: BIOCHEM 3B83, one of BIOCHEM 3B03 or 3G03

BIOCHEM 4J03 BIOCHEMICAL IMMUNOLOGY
This advanced course applies small-group-based learning to immunological problems. Topics concern development of immunoassays, resistance to infection and immunity in health and disease.
One session (two hours), one tutorial; one term
Prerequisite: One of BIOLOGY 3X03, 4I03 and one of BIOLOGY 3H03, BIOCHEM 3A03, 3B03, 3G03

BIOCHEM 4L03 ADVANCED BIOCHEMISTRY LABORATORY
Fundamental principles of experimental biochemistry with emphasis on modern methods in enzymology and molecular biology. Two labs (four hours); first term
Prerequisite: BIOCHEM 3L03 and either BIOCHEM 3A03 or BIOCHEM 3B83 and one of BIOCHEM 3B03, BIOLOGY 3H03
Antirequisite: BIOCHEM 4B06, 4BB6, 4F09, 4G03, MOL BIOL 4R09

BIOCHEM 4M03 MEMBRANE STRUCTURE AND FUNCTION
Chemical structure and molecular organization of membrane constituents. Fundamental basis of the biological activity of membranes.
Three lectures; first term
Prerequisite: Registration in Level IV of an Honours Biochemistry or Honours Molecular Biology programme or Year 4 of the Honours Biochemistry Co-op programme or both BIOCHEM 2E03 and 3G03

BIOCHEM 4P03 RESEARCH PROJECT
A project involving laboratory or library research will be supervised by a member or associate member of the Department of Biochemistry.
Three labs (three hours); may be taken first or second term
Prerequisite: One of BIOCHEM 3P03, BIOLOGY 3P03 and either BIOCHEM 3A03, or 3B03 and 3BB3, or 3BB3 and 3G03, and registration in an Honours Biochemistry or Molecular Biology programme. Permission of the Department is required by March 31.
Antirequisite: BIOCHEM 4B06, 4BB6, 4F09; MOL BIOL 4R09
Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

BIOCHEM 4Q03 BIOCHEMICAL PHARMACOLOGY
Metabolism and biotransformation of drugs, drug-receptor interactions, chemical mutagenesis, mechanisms of action of antibacterial and antiviral drugs.
Three lectures; first term
Prerequisite: BIOCHEM 3B03

BIOLOGY

Faculty as of January 15, 1999

Chair
A.J. Rainbow

Professors
Turough Finn/B.Sc.; M.Sc. (Galway, Ireland), Ph.D. (Guelph)
G. Brian Golding/B.Sc. (Dalhousie), Ph.D. (Alberta)
Frank L. Graham (Pathology)/B.Sc. (Manitoba), M.A., Ph.D. (Toronto)
Delsworth G. Harnish (Pathology)/B.Sc., M.Sc. (Queen's), Ph.D. (McMaster)
John A. Hassell (Biochemistry)/B.Sc. (Brooklyn College), Ph.D. (Connecticut)
Jurek Kolasa/M.Sc., Ph.D. (Poznan)
John N.A. Lott/B.Sc. (British Columbia), M.S., Ph.D. (California, Davis)
D. Gordon McDonald/B.Sc. (Western Ontario), M.Sc., Ph.D. (Calgary)
Collin A. Nurse/B.Sc. (Western Ontario), Ph.D. (Harvard)
Michael J. O'Donnell/B.Sc., Ph.D. (Toronto)
Andrew J. Rainbow/B.Sc. (Manchester), M.Sc. (London), Ph.D. (McMaster)
C. David Roll/B.Sc., M.Sc. (Guelph), Ph.D. (British Columbia)
Rama S. Singh/B.Sc. (Agra), M.Sc. (Kanpur), Ph.D. (California, Davis)
George J. Sorger/B.Sc. (McGill), M.S., Ph.D. (Toronto)
Bradley N. White/B.Sc. (Nottingham), Ph.D. (McMaster)/Undergraduate Advisor
Christopher M. Wood/B.Sc., M.Sc. (British Columbia), Ph.D. (East Anglia)

Associate Professors
Ana Campos/B.A., M.A. (Rio de Janeiro), Ph.D. (Brandeis)
Patricia Chow-Fraser/B.Sc., M.Sc. (Waterloo), Ph.D. (Toronto)
Allan D. Dingle/B.Sc. (McMaster), M.Sc. (Illinois), Ph.D. (Brandeis)/Part-time
H. Lisle Gibbs/B.Sc. (Queen's), M.S., Ph.D. (Michigan), J. Roger Jacobs/B.Sc. (Calgary), M.Sc., Ph.D. (Toronto)
James S. Pringle (Royal Botanical Gardens), A.B. (Dartmouth), M.S. (New Hampshire), Ph.D. (Tennessee)/Part-time
Herbert E. Schellhorn,B.Sc., M.Sc. (Guelph), Ph.D. (North Carolina)
Elizabeth A. Weretilnyk/B.Sc., Ph.D. (Alberta)
Assistant Professors
Susan A. Dudley/B.Sc., M.Sc. (McGill), Ph.D. (Chicago)
Suleman A. Igudura/B.Sc. (Victoria), M.Sc. (Western), Ph.D. (McGill)
James S. Quinn/B.Sc. (Queen's), M.Sc. (Brock), Ph.D. (Oklahoma)

Instructional Assistants
Marvin Gunderman/B.Sc., M.Sc. (McMaster)
Thehra Lechth/B.Sc., M.Sc. (Guelph)
Beryl Piccinin/B.Sc. (McMaster), B.Ed. (Toronto)

Professors Emeriti
Stanley T. Bayley/B.Sc., Ph.D. (London)
Douglas Davidson/B.Sc., B.Com. (Durham), D.Phil. (Oxford)
Douglas M. Davies/A.B., Ph.D. (Toronto), F.E.S.C.
Kenneth A. Kershaw/B.Sc. (Manchester), Ph.D. (N. Wales), D.Sc. (Wales),
F.R.S.C.
Stanley MacK/M.Sc. (Saskatchewan), Ph.D. (Toronto)
Richard A. Morton/M.Sc., Ph.D. (Chicago)
B. Ant Oak/B.A. (Toronto), M.A., Ph.D. (Saskatchewan), F.R.S.C.
Ludvik A. Prevec/M.A., Ph.D. (Toronto)
Iwo Takahashi/B.A. (Hakodate), M.S.A. (Kyushu), Ph.D. (Montreal)
Stephan F.H. Threlkeld/M.Sc. (Alberta), Ph.D. (Cambridge)
Thelma Leech/B.Sc., M.Sc.
Ludvik A. Prevec/M.A., Ph.D. (Toronto)

Note:
No more than six units of Level II, III, IV Biology may be taken in any given Fall/Winter Session by students enrolled in a three year Baccalaureate degree programme.

Courses

If no prerequisite is listed, the course is open.

BIOLOGY 1A03 STRUCTURAL AND FUNCTIONAL RELATIONS IN LIVING SYSTEMS
Structure, molecular composition and function in sub-cellular and cellular systems and in whole organisms.
Three lectures, one lab (three hours); one term
Prerequisite: OAC Biology. Registration in one of Science I, Arts & Science I, any programme above Level I; or a grade of at least 80% in OAC Biology. Registration in or completion of CHEM 1A03, 1B03 (or 1A06) is strongly recommended. CHEM 1A03, 1B03 (or 1A06) are prerequisites for many Biology courses in Level II, III, and IV.
Corequisite: SCIENCE 1A00
Antirequisite: BIOLOGY 1A05

BIOLOGY 1A06 REPRODUCTION AND ADAPTATION IN LIVING SYSTEMS
Reproduction, cellular and whole organisms; an introduction to genetics and evolution, replication and function of DNA; adaptive strategies in ecological systems.
Three lectures, one lab (three hours); one term
Prerequisite: BIOLOGY 1A05
Antirequisite: BIOLOGY 1A06

BIOLOGY 1A03 HUMAN PHYSIOLOGY
Principles of homeostasis; physiology of respiration, circulation, kidney function, metabolism and nutrition in the human body.
Three lectures, one tutorial; one term
Not open to students registered in Science I or in any Biology, Biochemistry or Molecular Biology programme
Antirequisite: Registration or credit in KINESIOLOGY 1A06

Note:
No more than six units of Level II, III, IV Biology may be taken in any given Fall/Winter Session by students enrolled in a three year Baccalaureate degree programme.

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; two lectures, one lab (three hours); or two lectures, one tutorial; one term
Prerequisite: BIOLOGY 1A03 (or 1A06), CHEM 1A03 (or 1A06)

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, or two lectures and one tutorial (three hours); one term
Prerequisite: BIOLOGY 1A03 (or 1A06), CHEM 1A03 (or 1A06)

BIOLOGY 2D03 THE PLANT KINGDOM
An introduction to the major groups of green plants: Growth and development of vegetative parts and mechanisms of reproduction will be emphasized.
Two lectures, one lab (three hours); one term
Prerequisite: BIOLOGY 1A03 (or 1A06) or one of GEO 1A03, 1B03, or 1G03

BIOLOGY 2E03 THE ANIMAL KINGDOM
Form and function of the major animal lineages, with emphasis on evolution and ecological adaptations.
Two lectures, one lab (three hours); one term
Prerequisite: BIOLOGY 1A03 (or 1A06) or one of GEO 1A03, 1B03, or 1G03

BIOLOGY 2F03 FUNDAMENTALS OF ECOLOGY
A broad overview of ecology at the level of organisms, populations and communities.
Three lectures, or two lectures, one lab (three hours); one term
Prerequisite: BIOLOGY 1A03 (or 1A06) or one of GEO 1A03, 1B03, or 1G03

Note:
No more than six units of Level II, III, IV Biology may be taken in any given Fall/Winter Session by students enrolled in a three year Baccalaureate degree programme.

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; one term
Prerequisite: Credit or registration in one of BIOLOGY 3P03, 3U03, or 3V03, and credit in one of BIOCHEM 2A06, 2E03, 3A03 or 3G03.
Not open to students with registration in Honours Biology and Pharmacology.

BIOLOGY 3B03 PLANT PHYSIOLOGY
Principles of physiology and plant cell metabolism. Topics include: photosynthesis, photosynthesis, mineral nutrition, water relations and transpiration.
Two lectures, one lab (three hours); one term
Prerequisite: BIOLOGY 2B03 and 2E03

BIOLOGY 3B05 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 and 2E03

BIOLOGY 3C03 MICROBIAL PHYSIOLOGY AND REGULATION
Study of prokaryotic cellular functions including regulation of metabolism, basic energy-yielding pathways, morphogenesis and reproduction.
Three lectures, or two lectures, one tutorial; one term
Prerequisite: BIOLOGY 3E03

BIOLOGY 3E03 INTRODUCTORY MICROBIOLOGY
Biology of the prokaryotic cell including structure-function relationships, antimicrobial agents and bacterial taxonomy. Use of microorganisms in biotechnology.
Two lectures, one lab (three hours); one term
Prerequisite: BIOLOGY 2B03 and one of CHEM 2A03, 2E03, 2P03 or 2B03.
BIOCHEM 3G03 is strongly recommended.

BIOLOGY 3F03 VERTEBRATE ANATOMY
An introduction to the development of structure and function in vertebrates.
Two lectures, one lab (three hours); one term
Prerequisite: BIOLOGY 2E03
Enrollment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

BIOLOGY 3F03 EVOLUTION
An Introduction to macroevolution, with emphasis on speciation, biological diversity, rates of evolution and comparative methods (molecules vs. morphology).
Three lectures, or two lectures, one tutorial; one term
Prerequisite: BIOLOGY 2C03. BIOLOGY 3J03 is highly recommended.
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.
Three lectures, or two lectures and one lab (three hours); one term
Prerequisite: BIOLOGY 2B03
Antirequisite: BIOCHEM 3A03

BIOLOGY 3H3S  ORGANIZATION OF THE CYTOPLASM
A detailed examination of the molecular organization and function of cytoplasmic structures in metazoa, with particular focus on the differentiation and specialization of the cell surface and the cytoskeleton.
Three lectures, or two lectures, one tutorial; one term
Prerequisite: BIOLOGY 2B03

BIOLOGY 3I03  EUKARYOTIC GENETICS
The genetics of eukaryotic organisms. Experimental problems in gene transmission, interaction and polymorphism. Linkage, recombination and chromosome structure; sex determination.
Two lectures, one tutorial; or two lectures one lab (three hours); one term
Prerequisite: BIOLOGY 2B03 and 2C03

BIOLOGY 3J03  POPULATION GENETICS
Conceptual foundations of evolutionary theory and principles of population genetics.
Three lectures or two lectures, one tutorial; one term
Prerequisite: SCIENCE 2C09

BIOLOGY 3K03  ANIMAL HISTOLOGY
The structure, function, and organization of cells, tissues, organs and organ systems.
Two lectures, one lab (three hours); one term
Prerequisite: BIOLOGY 2E03

BIOLOGY 3L03  RADIOACTIVITY AND RADIATION INTERACTIONS
Radioactivity and radiation phenomena; interactions of raditions with matter, dosimetry, tracer methods, radiation in medicine, biological effects, radiation levels and regulations, radiation protection.
Three lectures, or two lectures and one tutorial; one term
Prerequisite: One of PHYSICS 1A06, 1B06, 1BA3, 1BB3, 1C06 or permission of the instructor
Cross-list: PHYSICS 3T03

BIOLOGY 3M03  FUNDAMENTAL CONCEPTS OF 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 and 2C03
Antirequisite: BIOLOGY 3N03

BIOLOGY 3M3S  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
Prerequisite: BIOLOGY 2E03

BIOLOGY 3N03  MOLECULAR GENETIC MECHANISMS OF DEVELOPMENT
The molecular genetic mechanisms of determination of cell identity and pattern formation are examined with a focus upon primary research literature.
Three lectures; or two lectures, one tutorial; one term
Prerequisite: BIOLOGY 2B03, 2C03, BIOLOGY 3M03 or 3N03 are strongly recommended.

BIOLOGY 3O03  MICROBIAL GENETICS
The genetics of bacteriophages, bacteria and fungi. Special emphasis will be placed on relationships between microbial genetics and general problems in genetics.
Two lectures, one tutorial; one term
Prerequisite: BIOLOGY 2C03, BIOLOGY 3E03 and one course in Biochemistry are strongly recommended.

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 epithelial transport.
Two lectures, one tutorial; one term
Prerequisite: BIOLOGY 2B03; credit or registration in BIOCHEM 3G03 or 2A06

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. Available modules are posted in January 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 1AA3 (or 1A06) or one of GEO 1A03, 1B03, or 1G03 and permission of the module instructor and course coordinator. Permission must be obtained by March 31st. Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

BIOLOGY 3S03  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; or two lectures, one tutorial; one term
Prerequisite: BIOLOGY 2F03

BIOLOGY 3T03  COMMUNITY ECOLOGY
Community structure; succession; 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. One of BIOLOGY 2D03 or 2E03 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 2B03 and permission of the instructor. Application for permission must be received by March 31st of the previous year. BIOCHEM 2E03 and 3G03 are recommended.
Antirequisite: ENGINEER 4X03
Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

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 3003
Antirequisite: BIOCHEM 3P03

BIOLOGY 3X03  INTRODUCTORY IMMUNOLOGY
An introduction to humoral and cellular immunity. The molecular and cellular basis of immunity, and an introduction to immunological techniques.
Two lectures, one tutorial (two hours); one term
Prerequisite: BIOLOGY 2B03 and 2C03

BIOLOGY 3Y03  PLANT RESPONSES TO THE ENVIRONMENT
Plants display many modifications in their development in response to their environment. This course will examine these phenotypic responses from metabolic, ecological and evolutionary perspectives.
Three lectures; one term
Prerequisite: BIOLOGY 2B03, 2C03 and 2D03. BIOLOGY 3BB3 is recommended.
Antirequisite: BIOLOGY 4H03

Note:
No more than six units of Level II, III, IV Biology may be taken in any given Fall/Winter Session by students enrolled in a three year Baccalaureate degree programme.

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 3J03, 3SS3 or 3T03
BIOLOGY 4AA3  CONSERVATION BIOLOGY
Examination of how biological principles, mainly from population biology and genetics, can be applied to conserving diversity in the natural world.
Two lectures, one tutorial (three hours); one term
Prerequisite: BIOLOGY 2C03 and one of BIOLOGY 3J03, 3SS3 or 3TT3.
Students with credit in BIOLOGY 4A03 must obtain permission of the instructor.

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: BIOCHEM 2A06 or 3G03. BIOLOGY 3B03 and 3F03 are recommended.
Offered in alternate years.
Offered in 1999-2000.

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 Faculty.
Prerequisite: Registration in Level IV of any Honours Biology programme and permission of the Chair. Arrangements to take BIOLOGY 4C09, including agreement of the supervisor and co-supervisor, should be made according to Departmental Guidelines before the end of March in Level III.
Antirequisite: 4F06, BIOLOGY 4F03, MOL BIOL 4R09, PHARMAC 4F09, PSYCH 4D06
Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

BIOLOGY 4DD3  MOLECULAR EVOLUTION
The study of how molecules change over time within and between species. The experimental data, techniques and theories will be examined.
Three lectures; two tutorials; one term
Prerequisite: BIOLOGY 3J03
Offered in alternate years.

BIOLOGY 4EE3  GENETIC DIVERSITY AND HUMAN NATURE
The nature of genetic diversity in humans; the nature versus nurture debate in relation to genetic determinism and biological basis of behaviour.
Two lectures and one tutorial; one term
Prerequisite: BIOLOGY 2C03 and one of BIOLOGY 3F03, 3J03, ANTHROP 2E03

BIOLOGY 4F06  SENIOR PROJECT
Students undertake an experimental or library project in a specialized area of biology under the direction of a member of the Faculty.
Prerequisite: Registration in a Level IV Biology or Molecular Biology programme and permission of the Chair.
Arrangements to take BIOLOGY 4F06, including the agreement of the supervisor and co-supervisor, should be made according to Departmental Guidelines before the end of March in Level III.
Antirequisite: BIOLOGY 4C09, 4F03, MOL BIOL 4R09, PHARMAC 4F09 or PSYCH 4D06
Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

BIOLOGY 4FF3  INQUIRY IN BIOLOGY
This course provides an opportunity to explore a specialized area of Biology in a small group setting. Several different modules are available in Terms I and II.
Lectures, seminars and discussions (three hours); one term
Prerequisite: Registration in Level IV Honours Biology (Complementary Studies Option), Honours Biochemistry (Complementary Studies Option), or Honours Biochemistry (Complementary Studies Option) and permission of the course coordinator.
Antirequisite: BIOLOGY 4C09, 4F06
Enrolment is limited. Module topics are posted in the Life Sciences Building before the beginning of each term. Permission of the Course Coordinator should be obtained by the end of March in Level III.
See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

BIOLOGY 4G06  HUMAN ANATOMY
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 at least B+ in BIOLOGY 2E03 and co-registration in BIOLOGY 3F03 or 3K03 and permission of the instructor. Application for permission must be received by March 31st of the previous year. These are minimum requirements, and final selection by the Chair of the Department of Biology will be based on academic merit.

Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.
Offered in alternate years.

BIOLOGY 4H03  GENETIC ANALYSIS OF BEHAVIOUR
Selected topics in behaviour will be examined at the genetic and molecular level. Topics will include circadian rhythms, courtship behaviour, twin studies, learning and memory.
Two lectures, one tutorial; one term
Prerequisite: BIOLOGY 3G03 or both 2B03 and 2C03. PSYCH 2F03, 3F03, and BIOLOGY 3H03 are recommended.
Offered in alternate years.
Offered in 1999-2000.

BIOLOGY 4I03  ADVANCED TOPICS IN IMMUNOLOGY
This course will build on previous knowledge of the immune system and cover selected topics such as allergy, autoimmunity, tumor, reproductive and viral immunity, and AIDS.
Two lectures, one tutorial (two hours); one term
Prerequisite: BIOLOGY 3X03 or 4I03

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. Available modules are posted in January 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 (or 1AA3) or one of GEO 1A01, 1B03, or 1G03 and permission of the module instructor and course coordinator. Permission must be obtained by March 31st.
Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

BIOLOGY 4M03  MOLECULAR ASPECTS OF CHROMOSOMES
Chromosome and chromatin structure, repeated DNA sequences, concerted evolution of gene families, teiomerons, centromeres, gene transfer, transposable elements.
Three lectures or two lectures, one tutorial; one term
Prerequisite: BIOLOGY 3G03 and either BIOCHEM 2A06 or both BIOCHEM 2E03 and 3G03

BIOLOGY 4P03  MEDICAL MICROBIOLOGY
Bacterial diseases: identification, epidemiology and treatment.
Three lectures, or two lectures, one tutorial; one term
Prerequisite: BIOLOGY 3E03
Offered in alternate years.
Offered in 1999-2000.

BIOLOGY 4PP3  ENVIRONMENTAL MICROBIOLOGY
Study of interactions of microorganisms with their environment with emphasis on topics of ecological significance including plant-microbe interactions, nutrient cycling and waste treatment.
Two lectures, one lab/tutorial (three hours); one term
Prerequisite: BIOLOGY 3E03
Offered in alternate years.

BIOLOGY 4R03  HUMAN GENETICS
The human genome and genetic medicine. Topics include normal and pathological cytology; the human genome project; gene mapping, linkage and therapy.
Two lectures, one tutorial (two hours); one term
Prerequisite: BIOLOGY 2B03, 2C03. BIOLOGY 3I03 is highly recommended.

BIOLOGY 4S03  TOXICOLOGY OF AQUATIC ENVIRONMENTS
Chemistry, mechanisms of toxicity, and ecotoxicology of environmental pollutants in aquatic environments.
Two lectures, one lab (three hours); one term
Prerequisite: Permission of the instructor. Application for permission must be received by March 31st of the previous year. Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.
Offered in alternate years.

BIOLOGY 4T03  NEUROBIOLOGY
Selected topics in neurobiology at the molecular and cellular level including growth factors and neuronal development, ion channels, neurotransmitter functions, learning and memory, and neurological disorders.
Two (or one) lecture(s), one (or two) tutorial(s); one term
CHEM ENG 2G02 PROBLEM SOLVING
Developing awareness, strategies, creativity, analysis and interpersonal skills in the context of solving homework problems and projects.
Two tutorials (two hours); first term.
Corequisite: CHEM ENG 2G02, 2F04

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 3E04 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

CHEM ENG 3G03 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.
One lecture, two tutorials (two hours); second term.
Prerequisite: CHEM ENG 2G02 and registration or credit in CHEM ENG 2A04, 3D03, 3E04, 3K04, 3M04

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: Registration or credit in CHEM ENG 3D03 or registration in Level IV Honours Applied Chemistry

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 2A04 and registration or credit in CHEM ENG 3D03, 3M04, 3004

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 submersed and conduit flow. Similarity, unsteady flow, measuring devices and fluid machinery.
Three lectures, one tutorial (three hours); first term.
Prerequisite: MATH 2M06, or MATH 2P04 and 2Q04, any of which may be taken concurrently and registration in a Chemical Engineering or Materials Engineering programme.

CHEM ENG 3P03 PROCESS CONTROL
Transient behaviour of chemical processes. Theory and practice of automatic control. Introduction to computer process control.
Two lectures, one tutorial (two hours); second term.
Prerequisite: MATH 2M06, and registration or credit in CHEM ENG 2A04, 3E04, 3K04, 3004

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: One of CHEM 2B06, 2D03, 2E03, 2006, 2W04

CHEM ENG 4B03 POLYMER REACTION ENGINEERING
Three lectures; first term.
Prerequisite: CHEM ENG 3K04 and 3Q03

CHEM ENG 4C03 STATISTICS FOR ENGINEERS
Linear regression analysis in matrix form, non-linear regression, multi-response estimation, design of experiments including factorial and optimal designs. Special emphasis on methods appropriate to engineering problems.
Three lectures; first term (1989-2000).
Prerequisite: STAT 3N03 or COMM 2Q03

CHEM ENG 4E03 MODELLING AND CONTROL OF CHEMICAL PROCESSES
Modelling, simulation and control of complex process structures (series, parallel, recycle, staged and multivariable) with consideration to applying control, including model-based algorithms, via digital computation.
Three lectures; first term.
Prerequisite: CHEM ENG 3E04, 3G03, 3K04, 3M04, 3P03

CHEM ENG 4K03 REACTOR DESIGN FOR HETEROGENEOUS SYSTEMS
Catalytic kinetics, mass transfer limitations, packed and fluidized bed reactors, two phase reactors.
Three lectures; second term.
Prerequisite: CHEM ENG 3K04

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 Chemical Engineering or Chemical Engineering and Management or Chemical Engineering and Society

CHEM ENG 4M03 SEPARATIONS
Distillation column design, transport phenomena, laminar and unsteady state mass transfer, analogies; absorption, extraction, adsorption, ion exchange, drying, humidification, crystallization.
Three lectures; first term.
Prerequisite: CHEM ENG 2A04, 3C04, 3M04

CHEM ENG 4N04 ENGINEERING ECONOMICS AND PROBLEM SOLVING
Three lectures, one tutorial (two hours); first term.
Prerequisite: CHEM ENG 3G03, 3M04, 3P03
Antirequisite: ENGINEER 2B03 or 4B03

CHEM ENG 4T03 APPLICATIONS OF CHEMICAL ENGINEERING IN MEDICINE
Applications of chemical engineering principles to biological systems and medical problems including examples from hemodynamics, blood oxygenation, artificial kidney systems, controlled drug release, biosensors and biomaterials.
Three lectures; second term (1999-2000 only).
Prerequisite: CHEM ENG 3C04 or MECH ENG 3004 or ENG PHYS 3003

CHEM ENG 4W04 CHEMICAL PLANT DESIGN AND SIMULATION
Projects, often in co-operation with industry, usually involve system simulation or related simulation of an existing process or design of a new process. Plant equipment may be tested to develop simulation models.
Two lectures and two tutorials (two hours); second term.
Prerequisite: Registration in Level IV Chemical Engineering or Level V Chemical Engineering and Management or Level V Chemical Engineering and Society

CHEM ENG 4X03 POLYMER PROCESSING
An introduction to the basic principles of polymer processing, stressing the development of models. Rheology of polymers, extrusion, molding, films, fibers, and mixing. Reactive processing.
Three lectures; second term (1999-2000 only).
Prerequisite: One of CHEM ENG 2A04 or MECH ENG 3R03 or MATHS 3E04, and one of CHEM ENG 3004 or MECH ENG 3004

CHEM ENG 4Y04 SENIOR INDEPENDENT PROJECT
A research and design project with students working independently under the direction of a Faculty member.
Two labs (three hours); both terms. The hours assigned can be freely scheduled to suit those involved in a particular project and may include computation classes, laboratory work, discussions, or individual study.
Prerequisite: Registration in Level IV Chemical Engineering or Level V Chemical Engineering and Management or Level V Chemical Engineering and Society, and a CA of at least 9.5
CHEM ENG 4Z03  COLLOIDS, SURFACE PHENOMENA AND UNIT OPERATIONS
The properties of colloids and surfaces and their use in the design of reactors and separators. Includes stability of colloids, double layer phenomena, wetting, flocculation coagulation, surface equations of change, particle size measurements.
Three lectures; second term
Prerequisite: Registration in final level of an Engineering programme

CHEMISTRY

Faculty as of January 15, 1999

Chair
M.J. McGlinchey

Associate Chair
W.J. Leigh

Professors
Alexander D. Bain/B.Sc. (Toronto), M.Sc. (British Columbia), Ph.D. (Cambridge)
Michael A. Brook/B.Sc. (Toronto), Ph.D. (McGill)
Ronald F. Childs/B.Sc. (Bath University of Technology), Ph.D., D.Sc. (Nottingham)
Peter T. Dawson/B.Sc. (Birmingham), Ph.D. (Cambridge)
John E. Greedan/B.A. (Bucknell), Ph.D. (Tufts), F.C.I.C.
Adam P. Hitchcock/B.Sc. (McMaster), Ph.D. (British Columbia), F.C.I.C.
Joseph D. Laposa/B.Sc. (St. Louis), M.S. (Chicago), Ph.D. (Loyola)/Undergraduate Advisor
William J. Leigh/B.Sc., M.Sc., Ph.D. (Western Ontario), F.C.I.C
Brian E. McCurry/B.Sc. (British Columbia), Ph.D. (Stanford), F.C.I.C.
Michael J. McGlinchey/B.Sc., Ph.D. (Manchester), F.C.I.C.
Gary J. Schrobilgen/B.Sc. (Loras College, Iowa), M.Sc. (Brock), Ph.D. (McMaster)
John K. Tiertou/B.Sc., M.Sc., Ph.D. (Utrecht)
Nick H. Werstuk/B.Sc. (Alberta), M.A., Ph.D. (Johns Hopkins), F.C.I.C.

Adjoint Professor
John R. Thoma/B.Sc., Ph.D., (London)

Associate Professors
Jacques Barbier/M.Sc. (Toronto), Ph.D. (ANU)
Randall S. Dumont/B.Sc. (Western Ontario), Ph.D. (Toronto)
Harald D.H. Stover/B.Sc. (Darmstadt), Ph.D. (Ottawa)
Francoise M. Wrinik/Dipl. d'Ing. Chimie (Mulhouse), M.Sc., Ph.D. (Torrnt)

Assistant Professors
Pierre Brassard/B.Sc., M.Sc. (Concordia), Ph.D. (INRS)
John D. Brennan/B.Sc., M.Sc., Ph.D. (Toronto)
Paul H.M. Harrison/B.A. (Oxford), Ph.D. (Alberta)
Lijuan Li/B.Sc., M.Sc. (Jilin), Ph.D. (McMaster)

Associate Members
Raman Chirikul/(Radiology)/B.Sc. (Kerala, India), M.Sc. (Brock), Ph.D. (McMaster)
Richard M. Epand/(Biochemistry)/AB (Johns Hopkins), Ph.D. (Columbia)
Robert H. Pelton/(Chemical Engineering)/M.Sc. (Geuel), Ph.D. (Bristol)
Gerald D. Wright/(Biochemistry)/B.Sc. (Waterloo)
Daniel S. Yang/(Biochemistry)/B.Sc., M.Sc. (Alberta), Ph.D. (Pittsburgh)
Shiping (Stephen) Zhu/(Chemical Engineering/Materials Science)/B.Eng. (Zhejiang), Ph.D. (McMaster)

Professors Emeriti
Russell A. Bell/B.Sc. (Bolington), M.S. (Wisconsin), Ph.D. (Stanford), F.C.I.C.
Donald R. Eaton/M.A., D.Phil. (Oxford)

Department Notes
1. Course codes ending with * indicate that course is not necessarily offered every session.
2. Students not in a Science programme should note that CHEM 1A03 is a prerequisite for CHEM 2E03 and CHEM 2E03 is a prerequisite for BIOCHEM 2E03.

Courses
If no prerequisite is listed, the course is open.

CHEM 1A03  INTRODUCTORY CHEMISTRY I
An introduction to inorganic chemistry, molecular structure and gaseous equilibrium.
Three lectures, one tutorial, one lab (three hours) every other week; first term
Prerequisite: OAC Chemistry
Corequisite: CHEM 1AA3 (or 1
CHEM 1A03 or 1E03
Antirequisite: CHEM 1A03, 1A06

CHEM 1E03  GENERAL CHEMISTRY FOR ENGINEERING I
An introductory course for Engineering students, emphasizing molecular structure and equilibria. A laboratory provides experience in experimental techniques and accurate measurement.
Three lectures, one tutorial; one lab (three hours) every other week; second term
Prerequisite: CHEM 1A03 or 1E03
Antirequisite: CHEM 1A03, 1A06

CHEM 2A03  ANALYTICAL CHEMISTRY I
An introduction to the basic principles of analytical chemistry, with particular emphasis on solution equilibria and classical methods of analysis.
Two lectures, two labs (three hours); second term
Prerequisite: Credit or registration in CHEM 2P06 or 2R03 or 2PB3, or registration in a Chemical Engineering programme
Antirequisite: CHEM 2M05, 2N03

CHEM 2B03  ORGANIC CHEMISTRY A
Bonding, Alkane, Alkenes, Alkenes, Aldehydes, and Amines. Stereochemistry. Reaction Intermediates and reaction mechanisms.
Three lectures; first term
Prerequisite: CHEM 1A03 (or 1A06); registration in an Honours Chemistry programme, B.Sc. Physical Science, or the Honours Science (Complementary Studies Option) Stream D programme
Antirequisite: CHEM 2B06, 2D03, 2E03, 2W06, 2A03, 2W04

CHEM 2BB  ORGANIC CHEMISTRY B
Three lectures; second term
Prerequisite: CHEM 2B03
Antirequisite: CHEM 2B06, 2B03

CHEM 2E03  INTRODUCTORY ORGANIC CHEMISTRY
An introduction to the chemistry of monofunctional aliphatic and aromatic compounds.
Three lectures; first term
Prerequisite: CHEM 1A03 (or 1A06)
Antirequisite: CHEM 2B06, 2B03, 2D03, 2006, 20A3, 2W04
CHEM 2E03 is not a prerequisite for further courses in Organic Chemistry.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Description</th>
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<tbody>
<tr>
<td>CHEM 2I03</td>
<td>STRUCTURE AND REACTIONS OF THE MAIN GROUP ELEMENTS</td>
<td>Comparative chemistry of the non-transition elements; introduction to symmetry. Three lectures; first term. Prerequisite: Registration in a Biochemistry, Chemistry, Honours Science (Complementary Studies) Stream D, B.Sc. Honours Materials Science or B.Sc. Physical Science programme, or permission of the instructor. Antirequisite: CHEM 2C05, 2F03, 2W03, 2W04.</td>
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<tr>
<td>CHEM 2L03</td>
<td>CHEMISTRY LABORATORY</td>
<td>An introduction to experimental organic and inorganic chemistry. Two labs (three hours) first term; one lab (three hours) second term. Prerequisite: Credit or registration in CHEM 2B03, 2E03, 2I03. Antirequisite: CHEM 2B06, 2C03.</td>
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<tr>
<td>CHEM 2N03</td>
<td>ANALYTICAL CHEMISTRY</td>
<td>An introduction to the basic principles of analytical chemistry with application to selected classical and instrumental methods of analysis. Two lectures, one lab (three hours); first term. Prerequisite: Registration or credit in CHEM 2P06, or 2P03 and 2B03. Two lectures, one lab (three hours); second term. Prerequisite: CHEM 2L03 and one of CHEM 2B06, 2006, 2B03, 2B03. Antirequisite: CHEM 3F03.</td>
</tr>
<tr>
<td>CHEM 2P03</td>
<td>ORGANIC CHEMISTRY I</td>
<td>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 (or 1A06) with a grade of at least C+, or registration in Honours Biochemistry, Honours Biology and Psychology, Honours Science (Environmental Science Option), Honours Molecular Biology or Honours Molecular Biology and Biotechnology. Antirequisite: CHEM 2B06, 2B03, 2D03, 2E03, 2006, 2W04. Students who receive special permission to register in this course after completing CHEM 2D03 (or 2E03) will not retain credit for CHEM 2D03 (or 2E03) on completion of this course.</td>
</tr>
<tr>
<td>CHEM 2Q03</td>
<td>ORGANIC CHEMISTRY II</td>
<td>Nucleophilic 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, 2B06, 2006.</td>
</tr>
<tr>
<td>CHEM 2R03</td>
<td>THERMODYNAMICS AND PHASE EQUILIBRIA</td>
<td>An introduction to macroscopic and microscopic aspects of thermodynamics and their application to physical transformations. Three lectures, one lab (three hours) or tutorial; first term. Prerequisite: CHEM 1A03 (or 1A06) and MATH 1A03. Antirequisite: CHEM 2P06, 2R03, PHYSICS 2H03, 2H04.</td>
</tr>
<tr>
<td>CHEM 2S03</td>
<td>CHEMICAL THERMODYNAMICS AND KINETICS</td>
<td>Thermodynamics of equilibrium chemical and electrochemical systems, and macroscopic and microscopic aspects of kinetics. Three lectures, one lab (three hours) or tutorial; second term. Prerequisite: CHEM 2P03. Antirequisite: CHEM 2P06.</td>
</tr>
<tr>
<td>CHEM 2T03</td>
<td>GENERAL PHYSICAL CHEMISTRY</td>
<td>A survey of thermodynamic and kinetic principles and their application to biological and environmental systems. Three lectures; one term. Prerequisite: CHEM 1A03 (or 1A06) and one of MATH 1A03, ARTS &amp; SCI 1006. Antirequisite: CHEM 2P06, 2P03, PHYSICS 2H03, 2H04.</td>
</tr>
<tr>
<td>CHEM 2W04</td>
<td>INTRODUCTORY ORGANIC AND INORGANIC CHEMISTRY</td>
<td>An introduction to the chemistry of monofunctional aliphatic and aromatic compounds, silicates, metals, their oxides and sulphides. Two lectures; two terms. Prerequisite: CHEM 1A03 (or 1A06) or registration in a Ceramic, Chemical, Materials or Metallurgical Engineering programme. Antirequisite: CHEM 2B06, 2B03, 2C03, 2D03, 2E03, 2I03, 2006, 2A03, 2W03, 3B03, 3Q03.</td>
</tr>
<tr>
<td>CHEM 3A03</td>
<td>ANALYTICAL CHEMISTRY II</td>
<td>An introduction to modern instrumental methods of analysis. Three lectures, one lab (three hours); first term. Prerequisite: CHEM 2A03, or both CHEM 2N03 and CHEM 2P06 or 2P03 or 2R03. Antirequisite: ENVIR SC 3A03.</td>
</tr>
<tr>
<td>CHEM 3B03</td>
<td>QUANTUM MECHANICS AND SPECTROSCOPY I</td>
<td>An introduction to quantum chemistry, group theory and symmetry, and vibrational and rotational spectroscopy. Three lectures, one lab (three hours) or tutorial; first term. Prerequisite: CHEM 2P06 or 2B03 (or 2R03 with a grade of at least B) and one of MATH 2A03, 2B03. Antirequisite: CHEM 3B03, 3B06, 3S03.</td>
</tr>
<tr>
<td>CHEM 3C03</td>
<td>QUANTUM MECHANICS AND SPECTROSCOPY II</td>
<td>An introduction to the electronic structure and spectroscopy of atoms and molecules. Three lectures, one lab (three hours) or tutorial; second term. Prerequisite: CHEM 3A03. Antirequisite: CHEM 3D03, 3E06, 3S03.</td>
</tr>
<tr>
<td>CHEM 3D03</td>
<td>ORGANIC CHEMISTRY</td>
<td>A mechanistically oriented discussion of mono- and polyfunctional organic compounds with emphasis on applications to synthesis. Three lectures, one lab (three hours); second term. Prerequisite: CHEM 2L03 and one of CHEM 2B06, 2006, 2B03, 2B03. Antirequisite: CHEM 3F03.</td>
</tr>
<tr>
<td>CHEM 3E03</td>
<td>BIO-ORGANIC CHEMISTRY</td>
<td>Topics in Bio-organic chemistry; a sequel to Chemistry 2006 or 2B03. Two lectures, one lab (three hours); second term. Prerequisite: One of CHEM 2B06, 2B03, 2006, 2B03; registration in an Honours Biochemistry programme, Honours Molecular Biology and Biotechnology programme, or Honours Arts &amp; Science and Biochemistry, or permission of the instructor. Antirequisite: CHEM 3D03.</td>
</tr>
<tr>
<td>CHEM 3F03</td>
<td>INDUSTRIAL CHEMISTRY</td>
<td>A survey of the chemical industry. Products obtained from petroleum, natural gas and soda ash. Petrochemicals, synthetic and natural polymers. Three lectures; one term. Prerequisite: One of CHEM 2B06, 2B03, 2D03, 2I03, 2006, 2B03 and one of CHEM 2C03, 2I03, 2W03, 2W04, or registration in Level III or IV of a Chemical Engineering programme.</td>
</tr>
<tr>
<td>CHEM 3G03</td>
<td>TRANSITION METAL CHEMISTRY</td>
<td>The chemistry of the heavier transition elements. An introduction to organometallic chemistry and bio-Inorganic chemistry. Two lectures, one lab (three hours); second term. Prerequisite: CHEM 3C03. Antirequisite: CHEM 3E06.</td>
</tr>
<tr>
<td>CHEM 3H03</td>
<td>INORGANIC CHEMISTRY</td>
<td>The properties, structures and reactions of inorganic compounds with emphasis on transition metal chemistry. Two lectures, one lab (three hours); first term. Prerequisite: Both CHEM 2I03 and 2L03; or CHEM 2C03. Antirequisite: CHEM 3E06.</td>
</tr>
<tr>
<td>CHEM 3I03*</td>
<td>DIRECTED READING IN PHYSICAL CHEMISTRY</td>
<td>The linkage of microscopic and macroscopic descriptions of physical and chemical phenomena. Applications to molecules, macromolecules and solids. Three lectures; one term. Prerequisite: CHEM 2P06 or 2P03 and registration or credit in CHEM 3B06 or 3B03. Antirequisite: CHEM 3K06.</td>
</tr>
<tr>
<td>CHEM 3J03*</td>
<td>ADVANCED ORGANIC CHEMISTRY</td>
<td>A discussion of the mechanisms of stepwise organic reactions, particularly concerted reactions, such as electrocyclic and sigmatropic processes, in ground and excited states of molecules. Two lectures; one term. Prerequisite: CHEM 3O03 or 3F03.</td>
</tr>
<tr>
<td>CHEM 4B03</td>
<td>CHEMICAL APPLICATIONS OF SPECTROSCOPY</td>
<td>Aspects of molecular spectroscopies and their application to the solution of chemical problems. Two lectures; one term. Prerequisite: CHEM 3B06 or 3BB3 or both CHEM 3B03 and 3S03.</td>
</tr>
</tbody>
</table>
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.
Two lectures; one term
Prerequisite: CHEM 3E06 or 3Q03

CHEM 4D03 ORGANIC STRUCTURE AND SYNTHESIS
Application of spectroscopic methods to structure determination. Synthetic methodology in organic chemistry.
Two lectures; one term
Prerequisite: CHEM 3D03 or 3F03

CHEM 4D03 MECHANISTIC BIOLOGICAL CHEMISTRY
Amino acid, nucleic acid, enzyme and coenzyme chemistry with emphasis on molecular reaction mechanisms.
Two lectures; one term
Prerequisite: CHEM 3D03 or 3F03

CHEM 4F03* SURFACE CHEMISTRY
Current topics in surface science; surface characterization, adsorption and heterogeneous catalysis.
Two lectures; one term
Prerequisite: CHEM 2P06 or 2P33

CHEM 4G06 SENIOR THESIS
A thesis based on a project under the direction of a Chemistry Department faculty member.
Prerequisite: Students registered in Level IV of any Honours Chemistry programme (with the exception of Honours Chemistry (Complementary Studies Option)) with a CA of at least 6.0 do not need to apply for permission. Students who are registered in Level IV of Honours programmes in the Faculty of Science who have a CA of at least 6.0 must apply for permission for the Department and will be considered, subject to the availability of suitable projects. Application for permission must be received by March 31st of the previous year.
Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

CHEM 4I03 INQUIRY IN CHEMISTRY
Seminars and directed readings dealing with the impact of Chemistry on society.
Two lectures; one term
Prerequisite: Registration in Level IV of an Honours programme in the Faculty of Science which requires Science Inquiry and permission of the Instructor. Students registered in Honours Chemistry (Complementary Studies Option) or Honours Chemistry (Co-op) will be given preference. Application for permission must be received by March 31st of the previous year.
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.
Two lectures; one term
Prerequisite: One of CHEM 2M05, 2N03, 3A03, and CHEM 2P06 or 2P33 or

CHEM 4Q03* ADVANCED QUANTUM MECHANICS
Applications of quantum mechanics to problems of chemical interest.
Two lectures; one term
Prerequisite: CHEM 3B03 or 3E06 or 3S03 or both PHYSICS 3M03 and 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.
Two lectures; one term
Prerequisite: CHEM 3E06 or 3Q03

CHEM 4S03* ADVANCED MAIN GROUP CHEMISTRY
A selection from the following topics: chemistry of selected main group elements, electron deficient compounds, Mossbauer spectroscopy, theory and application of nuclear and radiation chemistry.
Two lectures; one term
Prerequisite: CHEM 3E06 or 3Q03

CHEM 4T03 INSTRUMENTATION AND RADIOCHEMISTRY
Instrumentation, interfacing and measurement system theory. Radiochemistry.
Two lectures, one lab (four hours); first term
Prerequisite: CHEM 3A03 or registration in Level IV of Honours Applied Chemistry

CHEM 4Y03* STATISTICAL THERMODYNAMICS
Principles of statistical mechanics and their applications in chemistry.
Two lectures, one term
Prerequisite: One of CHEM 3B06, 3BB3, 3C03, 3KK6, 3S03
Antirequisite: PHYSICS 3K03, 3K04

CIVIL ENGINEERING
Faculty as of January 15, 1999
Chair
D.F. E. Stolle
Professors
Brian Baetz/B.A.Sc., M.A.Sc. (Toronto), Ph.D. (Duke), P.Eng.
Ahmed Ghorabah/B.Sc. (Cairo), M.Eng., Ph.D. (McMaster), P.Eng.
Frederick L. Hall/B.A. (Amherst), M.Sc. (M.I.T.), Ph.D. (Chicago)

Associate Professors
Brian L. Allen/B.Sc. (Alberta), M.S., Ph.D. (California, Berkeley), P.Eng.

Adjunct Assistant Professor
Syed Moin/b.S. (Osmania), M.S. (Nevada), Ph.D. (McMaster)

Professors Emeriti
Gunhard, AE. Oravas/B.Eng., M.S., Ph.D. (Michigan)

Wai K. Tso/B.Sc. (Toronto), M.Eng. (Caltech), P.Eng.

Department Note:
All civil engineering courses are open to students registered in a civil engineering programme, subject to prerequisite requirements. Prior permission of the Department is necessary for students from other engineering departments and other faculties.

Courses
CIV ENG 2A02 SURVEYING AND MEASUREMENT
Introduction to measurement and computational techniques of surveying, the theory of measurement and errors, adjustment of observations.
One lecture, one lab (three hours); or one tutorial (two hours); first term

CIV ENG 2C04 STRUCTURAL MECHANICS
Mechanics of materials; plastic deformation and residual stresses due to axial loading and bending; torsion 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; yield and fracture criteria; energy methods; stability of columns.
Three lectures, one lab (three hours); second term
Prerequisite: Credit or registration in CIV ENG 2P04

CIV ENG 2E03 COMPUTER APPLICATIONS IN CIVIL ENGINEERING
Computers in analysis and design; computer languages, numerical techniques including error analysis, root finding and interpolation; matrix manipulation, eigenvalues and differential equations.
Two lectures, one tutorial (two hours); first term
Prerequisite: CIV ENG 1D04, and PHYSICS 1D03, and credit or registration in CIV ENG 2P04

CIV ENG 2L03 COMMUNICATIONS IN CIVIL ENGINEERING
Oral and written communication in context of civil engineering activity. A professional liaison programme involving site visits.
Two lectures, one lab or one tutorial; first term
CIV ENG 2J04 ECOLOGICAL AND GEOLOGICAL ASPECTS OF CIVIL ENGINEERING
Three lectures, one tutorial or lab; second term

CIV ENG 2K04 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.
Three lectures, one tutorial or lab; second term
Prerequisite: CIV ENG 2K03 and registration in MATH 2M06

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; numerical solutions.
Two lectures, one lab (three hours) or one tutorial (two hours) every other week; first term
Prerequisite: CIV ENG 2K03

CIV ENG 3B03 GEOTECHNICAL ENGINEERING II
Shear strength characteristics and failure criteria for soils; direct shear, triaxial, plane strain and field tests; earth pressure theory; bearing capacity theories; type stability and embankment analysis.
Two lectures, one lab (three hours) or one tutorial (two hours), every other week; second term
Prerequisite: CIV ENG 2E03 and credit or registration in MATH 3J04
Antirequisite: CIV ENG 4B03

CIV ENG 3G03 STRUCTURAL ANALYSIS
Structural analysis and modeling of linear elastic structures; stress resultants and deformations of statically determinate trusses, beams, and frames; force and displacement methods for analysis of indeterminate beams and frames; introduction to stiffness matrix method; analysis of arches and arches.
Two lectures, one lab (two hours); first term
Prerequisite: CIV ENG 2C04

CIV ENG 3J04 REINFORCED CONCRETE DESIGN
Introduction to concrete technology; 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 or behavior of reinforced concrete.
Three lectures, one lab (three hours); second term
Prerequisite: CIV ENG 3G03

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, interactions, and travel demand forecasting. Safety; flow on freeways.
Two lectures, one tutorial (two hours); first term

CIV ENG 3M04 MUNICIPAL HYDRAULICS AND INTRODUCTION TO WATER QUALITY
Analysis/design of water distribution networks; analysis and design of wastewater collection systems; pumps; water quality standards; water quality modeling of physical systems.
Three lectures, one tutorial or lab; second term
Prerequisite: CIV ENG 2003 and credit or registration in MATH 3J04

CIV ENG 3S03 STEEL STRUCTURES
Introduction to design in steel, tension and compression members, plate buckling aspects, beam instability, beam design, beam-columns, bolted and welded connections. Applications employing steel structures building code.
Two lectures, one tutorial (two hours); second term
Prerequisite: Credit or registration in CIV ENG 3G03

CIV ENG 4A04 ENGINEERING HYDRAULICS AND HYDROLOGY
Hydrolologic cycle; climate; hydrolologic processes, precipitation; unit hydrograph; hydrologic statistic mathematical modelling of hydraulic systems; unsteady free surface flow; hydraulic routing; groundwater flow.
Three lectures, one tutorial (three hours); first term
Prerequisite: CIV ENG 3M04

CIV ENG 4B03 ENGINEERING SYSTEMS (1999-2000 ONLY)
Mathematical models and systems; economic comparison of projects; optimization; linear, non-linear and dynamic programming; simulation modelling.
Two lectures, one tutorial (two hours) or lab (three hours); first term
Prerequisite: CIV ENG 2E03 and registration in final level of a Civil Engineering programme
Antirequisite: CIV ENG 3C03

CIV ENG 4C03 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.
Two lectures, one tutorial (two hours); first term

CIV ENG 4D04 GEOMETRIC HIGHWAY DESIGN
Design of various types and classes of streets and highways. Theory and practice of design of intersections, interchanges, arterial highways, and freeways. Design concepts.
Three lectures, one lab (two hours); first term
Prerequisite: CIV ENG 3K03

CIV ENG 4K03 LAND USE AND TRANSPORTATION
Methods for the analysis and prediction of transportation and land use patterns in cities, with attention to urban planning and pollution problems.
Three lectures; second term
Prerequisite: MATH 3J04
Cross-list: GEO 4D03 (formerly GEOG 4H03)

CIV ENG 4L04 MODERN METHODS OF STRUCTURAL ANALYSIS
Stiffness method; development and applications in structural analysis. Introduction to finite element method. Influence lines, elastic stability analyses of frames with and without sway effects. Application of computer programs.
Three lectures, one tutorial (two hours); second term
Prerequisite: CIV ENG 3G03 and MATH 3J04

CIV ENG 4M04 DESIGN OF WATER RESOURCES SYSTEMS
Investigation, planning, analysis and design of water resource systems. Frequency analysis, design storms, urban drainage and analysis, floodplain analysis and flood control.
Two lectures, one tutorial, one lab (three hours); second term
Prerequisite: CIV ENG 3M04

CIV ENG 4R04 STRUCTURAL SYNTHESIS
Structural design process, gravity and lateral loading requirements, structural performance criteria, choice of structural systems. Approximate analysis of different structural systems, such as frames and shear walls and slabs. Analysis of actual buildings.
Three lectures, one lab (three hours); second term
Prerequisite: CIV ENG 3G03, 3J04, 3S03

CIV ENG 4S04 FOUNDATION ENGINEERING
Principles of foundation design; bearing capacity, settlement and location, footings, deep foundations, piles, pile groups and drilled piers; geotechnical techniques and case histories.
Three lectures, one tutorial (two hours); first term
Prerequisite: CIV ENG 3G03

CIV ENG 4V04 DESIGN OF LOW RISE BUILDINGS
Structural systems and load distribution, design of masonry, wood, cold-formed steel and braced and unbonded steel frames.
Three lectures, one tutorial (two hours); first term
Prerequisite: CIV ENG 3G03, 3J04, 3S03

CIV ENG 4Y04 BRIDGES AND OTHER STRUCTURAL SYSTEMS
Three lectures, one lab (three hours) or one tutorial (two hours); second term
Prerequisite: CIV ENG 3G03, 3J04, 3S03
CIV ENG 4Z04 INDEPENDENT STUDY
An experimental and/or analytical investigation related to any branch of civil engineering, under the direction of a faculty member. Students may choose a project for study from a list of department approved projects, which will be circulated in February. The student may be required to present a seminar, and will submit a final written report on the project before April 1.
Two labs (three hours); two terms. The hours assigned can be freely scheduled to suit those involved in a particular project and may include computation classes, laboratory work, discussion or individual study.
Prerequisite: Registration in a final level of a Civil Engineering programme, and a SA of at least 9.5.
Enrolment is limited.

CLASSICS

Faculty as of January 15, 1999

Chair
Howard Jones

Professors
Katherine M. D. Dunbabin/M.A., D. Phil. (Oxford)
Howard Jones/B.A. (London), M.A., Ph.D. (Indiana)
William J. Slater/M.A., Ph.D. (St. Andrews)

Associate Professors
Evans Haley/A.B. (Dartmouth), Ph.D. (Columbia)
Peter Kingston/B.A., Ph.D. (London)

Assistant Professors
Claude Ellers/B.A. (Sask.), M.A., Ph.D. (McMaster), D. Phil. (Oxford)
Michael G. Georgala/B.A. (Toronto), M.A., Ph.D. (McMaster)
Gretchen Umholtz/A.B. (Bryn Mawr), M.A. (Buffalo), Ph.D. (Berkeley)

Associate Member
D. Geagan/History A.B. (Boston), Ph.D. (Johns Hopkins)

Professors Emeriti
George M. Paul/M.A., Ph.D. (Oxford), Ph.D. (London)
Donald M. Stephenson/M.A. (Queen's), Ph.D. (Chicago)

Department Note:
The following courses are available as electives to qualified students in any programme:

a) Classical Archaeology and Art History
CLASSICS 2A03, 2B03, 2C03, 2D03, 2E03, 3G03, 3H03, 3Q03, 3S03

b) Ancient History and Society
CLASSICS 2K03, 2L03, 2LL3, 2Z03, 3C03, 3CC3, 3E03, 3EE3, 3LL3, 3T03

(c) Ancient Philisophy
CLASSICS 2P06, 4K03

d) Classical Literature in Translation
CLASSICS 2D03, 2E03, 2H03, 3EE3, 3I03, 3II3, 3T03

e) Greek Language and Literature
GREEK 1Z06, 2A03, 2AA3, 3A03, 3B03, 4B03, 4BB3, 4C03

f) Latin Language and Literature
LATIN 1Z06, 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 1106 MYTHOLOGY AND LITERATURE OF GREECE AND ROME
A study of ancient literature based on myth and legends such as the Trojan War, tales of heroes such as Hercules, and other aspects of life in the Classical World. Readings in English translation from a variety of Greek and Roman authors, with special attention to epic poetry and drama.
Two lectures, one tutorial; two terms

CLASSICS 1L06 HISTORY AND ARCHAEOLOGY OF THE ANCIENT WORLD
The history of the Ancient Near East, Greece, and Rome based on documentary sources and archaeological evidence.
Two lectures, one tutorial; two terms
Cross-list: HISTORY 1L06

CLASSICS 2A03 INTRODUCTION TO CLASSICAL ARCHAEOLOGY
A study of the history and methodology of Greek and Roman archaeology illustrated with materials from excavated sites.
Three lectures; one term

CLASSICS 2B03 GREEK ART
The architecture, sculpture and painting of the Greek and Hellenistic world.
Three lectures; one term
Prerequisite: Registration in Level II and above
Cross-list: ART HIST 2B03

CLASSICS 2C03 ROMAN ART
The architecture, sculpture, and painting of the Roman world.
Three lectures; one term
Prerequisite: Classics 2B03
Cross-list: ART HIST 2C03

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.
Three lectures; one term
Prerequisite: Registration in Level II and above
Cross-list: COMP LIT 2D03

CLASSICS 2E03 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 and above

CLASSICS 2H03 GREEK AND ROMAN DRAMA
Selected Greek and Roman Tragedies and Comedies will be read in translation. The course will concentrate on characterization and the philosophical and religious aspects of ancient drama.
Three lectures; one term
Prerequisite: Registration in Level II and above
Cross-list: COMP LIT 2H03

CLASSICS 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 and above
Cross-list: HISTORY 2K03

CLASSICS 2L03 HISTORY OF CLASSICAL GREECE
Greece from the rise of the city-states to Alexander, 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 and above
Cross-list: HISTORY 2L03

CLASSICS 2LL3 HISTORY OF CLASSICAL ROME
Rome from the middle Republic through the Empire, 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 and above
Cross-list: HISTORY 2LL3

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: Registration in Level II and above
Cross-list: PHILOS 2A06

CLASSICS 2Z03 GREEK AND ROMAN RELIGION
A study of the role of religion in Greek and Roman public and private life.
Three lectures; one term
Prerequisite: Registration in Level II and above
Cross-list: RELIG ST 2Z03
CLASSICS 3C03 THE LATE REPUBLIC
An examination and analysis of major themes in the political, social, and economic history of Rome from the mid-second century B.C. to the assassination of Caesar.
Three lectures; one term
Prerequisite: Six units of Classics, and registration in Level III and above
Not open to students with credit in CLASSICS 3M03 if the topic was THE LATE REPUBLIC.
Cross-list: HISTORY 3C03
Alternates with CLASSICS 3C33.

CLASSICS 3C33 THE EARLY EMPIRE
An examination and analysis of major themes in the political, social, and administrative history of Rome under the early emperors.
Three lectures; one term
Prerequisite: Six units of Classics, and registration in Level III and above
Not open to students with credit in CLASSICS 3M03 if the topic was THE EARLY EMPIRE.
Cross-list: HISTORY 3C33
Alternates with CLASSICS 3C33.

CLASSICS 3E03 THE ROMAN FAMILY
The ancient Roman family, including social, economic and legal aspects.
Three lectures; one term
Prerequisite: One of CLASSICS 1L02, 2K03, 2LL3, 3C03, 3CC3 and registration in Level III and above
Alternates with CLASSICS 3EE3.

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 contribution to the development of historiography.
Three lectures; one term
Prerequisite: Registration in Level III and above
Cross-list: HISTORY 3E33
Alternates with CLASSICS 3EE3.

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: One of CLASSICS 2G03 or ART HIST 2G03
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. 1000-480 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 3I03 TOPICS IN GREEK AND ROMAN LITERATURE I
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 Poeti 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
Alternates with CLASSICS 3I13.
CLASSICS 3I13 may be repeated, if on a different topic, to a total of six units.

CLASSICS 3I3 TOPICS IN GREEK AND ROMAN LITERATURE II
Consult the Department concerning the topic to be offered.
Three lectures; one term
Prerequisite: Six units of Classics
Cross-list: COMP LIT 3I13
Alternates with CLASSICS 3I03.
CLASSICS 3I3 may be repeated, if on a different topic, to a total of six units.

CLASSICS 3LL3 THE HELLENISTIC AGE
The successors of Alexander, the world of the monarchies and their absorption into the Roman Empire. Political, cultural and social achievements in the light of modern historical research will be emphasized.
Three hours (lectures and discussion groups); one term
Prerequisite: CLASSICS 2L03 or six units of Classics
Cross-list: HISTORY 3LL3

CLASSICS 3M03 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 2M03 or 2M03
Alternates with CLASSICS 3M03.

CLASSICS 3R03 THE ARCHAEOLOGY OF THE CITY OF ROME AND ROMAN ITALY
The growth of the city of Rome, from its origins to the triumph of Christianity, and an examination of the archaeological remains of Pompeii, Oetia and other cities of Roman Italy.
Three lectures; one term
Prerequisite: CLASSICS 2M03 or 2M03
Alternates with CLASSICS 3R03.

CLASSICS 3T03 THE THEATRE OF GREECE AND ROME
The history of theater and theatrical production in Greece and Rome with consideration of the social significance of drama in antiquity. The course will also include archaeological material.
Three lectures; one term
Prerequisite: CLASSICS 2T03 or six units of Classics
Antirequisite: CLASSICS 2T06
Cross-list: COMP LIT 3T03

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 2A03, 3Q03, 3R03, 3S03, and registration in Level III or IV of an Honours programme in Classics (A)
Enrolment is limited.
CLASSICS 4B03 may be repeated, if on a different topic, to a total of six units.

CLASSICS 4BB3 SEMINAR IN ANCIENT ART
Consult the Department concerning the topic to be offered.
Seminar (two hours); one term
Prerequisite: CLASSICS 2B03 and 2C03, and registration in Level III or IV of an Honours programme in Classics (A)
Cross-list: ART HIST 4BB3
Enrolment is limited.
CLASSICS 4BB3 may be repeated, if on a different topic, to a total of six units.

CLASSICS 4D06 SPECIAL TOPICS IN GREEK HISTORY
Investigations into Greek social history and its interpretation.
Seminar (two hours); two terms
Prerequisite: Six units from CLASSICS 2K03, 2L03, 3EE3, 3LL3, CLASSICS 3U03, and registration in Level III or IV of any Honours programme in Classics (A)
Cross-list: HISTORY 4D06
Enrolment is limited.

CLASSICS 4E03 SEMINAR IN GREEK AND ROMAN SOCIETY
Consult the Department for the topic to be offered.
Seminar (two hours); one term
Prerequisite: Six units from CLASSICS 2K03, 2L03, 2LL3, 3C03, 3CC3, 3E03, 3U03, 3VV3, and registration in Level III or IV of any Honours programme in Classics (A)
Enrolment is limited.
CLASSICS 4E03 may be repeated, if on a different topic, to a total of six units.

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 IV of any programme
Antirequisite: CLASSICS 4C03, 4J03
Cross-list: PHILOS 4K03
Offered in alternate years.

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; one term
Prerequisite: Registration in Level IV of any Honours programme in Classics, and permission of the Department
Notes:
1. Students should note that the Department has classified its Greek language courses under the following categories:
   - Introductory Level Language Course
     GREEK 1Z06
   - Intermediate Level Language Courses
     GREEK 2A03, 2A3
2. Students with OAC Ancient Greek should normally register in GREEK 2A03, but with special permission, may register in GREEK 1Z06.

Courses If no prerequisite is listed, the course is open.

GREEK 1Z06 BEGINNER’S INTENSIVE GREEK
- A rapid introduction to the grammar of Classical Greek. Passages of simple Greek are read in the second term.
  - Five hours (lectures and tutorials); two terms
  - Prerequisite: Open except to graduates of OAC Ancient Greek, who must have 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 programme in Classics, or, with a grade of at least C-, for admission to the B.A. programme in Classics.

GREEK 2A03 INTERMEDIATE GREEK I
- A study of selected passages from Greek authors designed to develop the student’s proficiency in reading Greek. This course will also include grammatical exercises.
  - Three lectures; one term
  - Prerequisite: GREEK 1Z06, 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.
  - Three lectures; one term
  - Prerequisite: GREEK 2A03

GREEK 3A03 GREEK HISTORIANS
- Selected readings from Greek historical authors, such as Herodotus and Thucydides. The course will also include grammatical exercises.
  - Three lectures; one term
  - Prerequisite: Six units of Level II Greek
  - Alternates with GREEK 4C03.

GREEK 3B03 HOMER
- Selected readings from Homer’s Iliad or Odyssey.
  - Three lectures; one term
  - Prerequisite: Six units of Level II Greek
  - Alternates with GREEK 4B03.

GREEK 4B03 GREEK TRAGEDY
- Selected readings from Sophocles, Euripides, or Aeschylus.
  - Three lectures; one term
  - Prerequisite: Six units of Level II Greek.
  - Alternates with GREEK 3B03.

GREEK 4BB3 TOPICS IN GREEK LITERATURE II
- Consult the Department for the topic to be offered.
  - Three lectures; one term
  - Prerequisite: Six units of Level II Greek
  - Alternates with LATIN 4BB3.
  - GREEK 4BB3 may be repeated, if on a different topic, to a total of six units.

GREEK 4C03 PLATO
- Selected readings from the dialogues of Plato. The course will also include grammatical exercises.
  - Three lectures; one term
  - Prerequisite: Six units of Level II Greek
  - Alternates with GREEK 3A03.

GREEK 4K03 GUIDED READING IN GREEK AUTHORS
- 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 programme in Classics, and permission of the Department
  - GREEK 4K03 may be repeated, if on a different topic, to a total of six units.

Latin If no prerequisite is listed, the course is open.

LATIN 1Z06 BEGINNER’S INTENSIVE LATIN
  - Five hours (lectures and tutorials); two terms
  - Prerequisite: Open except to graduates of OAC Latin who must have 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 programme in Classics, or, with a grade of at least C-, for admission to the B.A. programme in Classics.

LATIN 2A03 INTERMEDIATE LATIN I
- A study of selected passages designed to develop the student’s proficiency in reading Latin. This course will also include grammatical study.
  - Three lectures; one term
  - Prerequisite: LATIN 1Z06, Students using this course as a Humanities I requirement will register for LATIN 2A03 and 2A3

LATIN 2A3 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.
  - The course will also include grammatical exercises.
  - Three lectures; one term
  - Prerequisite: LATIN 2A03 and 2A3
  - Alternates with LATIN 4A03.

LATIN 3BB3 CICERO
- Readings from the works of Cicero. The course will also include grammatical exercises.
  - Three lectures; one term
  - Prerequisite: LATIN 2A03 and 2A3
  - Alternates with LATIN 3A03.

LATIN 3K03 LATIN LOVE POETRY
- Readings in Latin Love Poetry.
  - Three lectures; one term
  - Prerequisite: LATIN 2A03 and 2A3
  - Alternates with LATIN 3K03.

LATIN 4BB3 TOPICS IN LATIN LITERATURE II
- Consult the Department for the topic to be offered.
  - Three lectures; one term
  - Prerequisite: LATIN 2A03 and 2A3
  - Alternates with LATIN 3BB3.

LATIN 4K03 GUIDED READING IN LATIN AUTHORS
- 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 programme in Classics, and permission of the Department
  - LATIN 4K03 may be repeated, if on a different topic, to a total of six units.
Faculty as of January 15, 1999

Chair, Marketing, Business Policy and International Business Area
D. Wayne Taylor

Chair, Finance and Business Economics Area
Dean Mountain

Chair, Accounting Area
Y.C. Lilian Chan

Chair, Human Resources and Management Area
Willi Wiesner

Chair, Management Science and Information Systems Area
Yufei Yuan

Professors
Nareesh C. Agarwal/B.A, M.A (Delhi), Ph.D. (Minnesota)/(Human Resources)/Coordinator, Ph.D. Programme (Human Resources)
Norman P. Archer/B.Sc. (Alberta), Ph.D. (McMaster), M.S. (New York)/(Management Science and Information Systems)
Christopher K. Bart/B.A, M.B.A. (York), Ph.D. (Western Ontario), C.A/ (Business Policy)/Director of the Management of Innovation and Technology Programme
Min S. Basudur/B.Sc. (Toronto), M.B.A. (Xavier), Ph.D. (Cincinnati), P.Eng./ (Organizational Behaviour)
Trevor W. Chamberlain/B.Sc. (California, Berkeley), M.B.A. (McGill), Ph.D. (Toronto), C.A/(Finance)
M.W. Luich Chen/ B.Sc. (Prince Edward Island), M.A., Ph.D. (McMaster) (Finance and Business Economics)/Executive Director, Office of International Affairs
C. Sherman Cheung/B.Sc. (Louisiana State), M.S., Ph.D. (Illinois)/(Finance and Business Economics)
David W. Conrath/B.A. (Stanford), M.S. (Carnegie-Mellon), M.A., Ph.D. (California, Berkeley), P.Eng./Management Science and Information Systems/Dean
Robert G. Cooper/B.Eng., M.Eng. (McGill), M.B.A., Ph.D. (Western Ontario)/(Marketing)
Rick D. Hackett/B.Sc. (Toronto), M.A. (Windsor), Ph.D. (Bowling Green State)/(Human Resources)/Associate Dean (Academic)
Harish C. Jain/B.Com. (Delhi), M.B.A. (Indiana), Ph.D. (Wisconsin)/(Human Resources and Labour Relations)
Ekko J. Kleinschmidt/Dip.Ing. (Staatliche Ingenieurschule, Hannover), M.B.A., Ph.D. (McGill)/(Marketing and International Business)/Director, Engineering and Management Programmes
Itzhak Klinessky/B.A., M.A. (Tel Aviv), Ph.D. (McMaster)/(Finance and Business Economics)
Clarence C.Y. Kwan/Ph.D. (Ottawa), M.B.A. (McMaster), Ph.D. (Toronto), P.Eng./ (Finance)
Robert F. Love/B.Sc. (Toronto), M.B.A. (Western Ontario), Ph.D. (Stanford), P.Eng./ (Management Science)
G. John Millen/B.Engr., M.B.A. (McMaster), M.Eng. (Toronto), Ph.D. (Waterloo), P.Eng./ (Production and Management Science)
Dean G. Mountain/B.A. (McMaster), M.A., Ph.D. (Western Ontario)/(Finance and Business Economics)/Chair, Finance and Business Economics Area
Mahmut Parlar/B.Sc., M.Sc. (Middle East Technical University), Ph.D. (Waterloo)/(Management Science)/Coordinator, Ph.D. Programme (Management Science)/Systems
Joseph B. Rose/B.A. (Adelphi), M.B.A. (California), Ph.D. (State University of New York at Buffalo)/(Industrial Relations)
George Steiner/M.Sc. (Budapest), Ph.D. (Waterloo)/(Production and Management Science)
George O. Wesolowsky/B.Sc. (Toronto), M.B.A. (Western Ontario), Ph.D. (Wisconsin)/(Management Science)
Yufei Yuan/B.S. (Fudan), Ph.D. (Michigan)/(Information Systems)/Chair, Management Science and Information Systems Area
F. Isik Zeytnoglu/B.A., M.A. (Bogazici), M.S., Ph.D. (Pennsylvania)/(Industrial Relations)

Associate Professors
Y.C. Lilian Chan/B.B.A. (Chinese Univ. of Hong Kong), Ph.D. (Virginia Polytechnic Institute and State University)/(Accounting)/Chair, Accounting Area
Kenneth R. Deal/B.S., M.B.A., Ph.D. (SUNY—Buffalo)/(Marketing and Management Science)
Richard W. Deaves/B.A., M.A., Ph.D. (Toronto)/(Finance and Business Economics)
Scott J. Edgett/B.B.A. (Prince Edward Island), M.B.A. (McMaster), Ph.D. (Bradford)/(Marketing)
Diwakar Gupta/B.Tech. (Indian Institute of Technology) M.A.Sc. (Windsor), Ph.D. (Waterloo)/(Production and Management Science)
Bernardette E. Lynn/B.A (Carlow College), M.A. (Pittsburgh), Ph.D. (M.B.A. (McMaster), C.A.(Accounting)
John W. Medcalf/ B.A. (New Brunswick), M.A., Ph.D. (Toronto)/(Organizational Behaviour)
Ali P. Montazemi/H.N.D. (Taesside Polytechnic), M.Sc. (Southampton), Ph.D. (Waterloo)/(Information Systems)
S.M. Khalid Naimar, B.A, M.A (Delhi), Ph.D. (Florida)/(Accounting)
D. Wayne Taylor/B.A. (Toronto), M.A., Ph.D. (York)/(Business and Public Policy)/Chair, Marketing, International Business and Policy Area/Director, Health Services Management Programme
Hugh A.L. Thomas/B.A. (Alberta), M.B.A. (Hong Kong), Ph.D. (New York)/(Finance)
Willi Wiesner/ B.A. (Wiltfird Laurier), M.A.Sc., Ph.D. (Waterloo)/(Human Resources)/Chair, Human Resources and Management Area

Assistant Professors
Narat Charupat/B.A. (Thammasat), M.B.A. (Drexel), Ph.D. (York)/(Finance)
Tim DeGroot/B.S.B., M.B.A., Ph.D. (Florida State)/(Human Resources and Labour Relations)
Milena Head/B.Math. (Waterloo), M.B.A., Ph.D. (McMaster)/(Management Science/Information Systems)
Nick Bontis/B.A. (Western Ontario)
Viswanath Trevidi/B.Sc. (Andhra), Ph.D. (Arizona State)/(Accounting)

Lecturers
Marilyn Adams/B.Sc. (Carnegie-Mellon), M.Ed. (Pennsylvania State), C.A/(Accounting)
Carolyn Davis/B.Sc. (Guelph), M.B.A. (McMaster), C.A/(Accounting)
Teal McMaster-Earl B.Com. (Queens), M.I.R., Ph.D. (Toronto)/(Marketing and Business Policy)
Pam Pringle/B.A. (McMaster)/(Accounting)

Visiting Professors Emeriti
Roy J. Adams/B.A. (Pennsylvania State), M.A., Ph.D. (Wisconsin)/(Industrial Relations)
Peter M. Banting/B.A., M.B.A. (McMaster), Ph.D. (Michigan State)/(Marketing)
Robert C. Joyner/B.A., M.A., Ph.D. (Toronto)/(Organizational Behaviour)
William J. Schlatter/A.B., M.A., Ph.D. (Illinois), C.P. (Accounting)
Andrew Z. Szendrovits/M.A., Ph.D. (Kolozsvvar)/(Production and Management Science)
George W. Torrance/B.Sc., M.B.A. (Toronto), Ph.D. (SUNY—Buffalo), P.Eng./ (Management Science)
William G. Truscott/B.Sc. (Princeton), M.B.A (McMaster), D.B.A. (Indiana), P.Eng./Production and Management Science

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 degree programme. For these students, enrolment will be limited to 40 spaces per course on a first-come, first-served basis in the following courses: COMMERCE 2A3A,
2AB3, 2FA3, 2MA3, 2QA3, 2QB3, 3BC3, 3FA3, 3MC3. Please note that all prerequisites for these courses must also be satisfied. Students registered in a McMaster Commerce, Engineering Management or Labour Studies programme (where applicable) will be guaranteed enrolment in those courses. See Minor in Business in the Faculty of Business section of this Calendar.

Effective September 1999, students taking COMMERCE 2AA3, 2FA3 and 2MA3 as Business Minor courses will also be required to have obtained a minimum grade of B- in ECON 1A06 or 1B03 as a prerequisite.

3. Graduates of McMaster’s Commerce programs or one of the Engineering and Management programmes may take, as part-time students, Level III and IV Commerce courses (not previously taken, to a maximum of 18 units), excluding COMMERCE 4AG3*, 4AH3*, 4AI3*, with the permission of the Academic Programmes Office. Such permission will be given only if normal prerequisites are satisfied and if space permits after meeting the requirements of in-course students. Registrations will be approved after classes start. (See the Admission Requirements section of this Calendar under the heading Continuing Students.)

*These courses are available as ACC 500, ACC 501, ACC 502, through the School of Business, subject to sufficient enrolments and availability of qualified instructors. For details concerning these courses, please see the McMaster University Spring/Summer Calendar.

Other than those graduates specified above, Commerce courses are not open to Continuing Students.

4. Level II and Level III Commerce courses are generally scheduled for three one-hour lectures per week; one term. Level IV Commerce courses are scheduled for two lectures per week (a two-hour lecture and a one-hour lecture); one term.

Courses

COMMERCE 15705 INTRODUCTION TO BUSINESS

Broad integrative course covering all functional areas of business; finance, human resources, management sciences and information systems, accounting and marketing. Relationships among business, government and society considered.

Prerequisite: Registration in Business I or Engineering I

COMMERCE 2AA3 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 a Commerce or Engineering and Management programme; or ECON 1A06 or 1B03 with a grade of at least B- and registration in a four or five-level non-Commerce programme.

Enrolment is limited. (See Note 2 above)

COMMERCE 2BA3 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 2AA3 and registration in a Commerce or Engineering and Management programme or any four or five-level non-Commerce programme.

Enrolment is limited. (See Note 2 above.)

COMMERCE 2BA3 ORGANIZATIONAL BEHAVIOUR AND HUMAN RESOURCES

This course provides an overview of the field. Topics include: creativity, problem solving, decision-making, systems approaches, organizational effectiveness, motivation, work reorganization and organizational structures.

Prerequisite: Registration in a Commerce, Engineering and Management or Labour Studies programme or any four or five-level non-Commerce programme.

Enrolment is limited. (See Note 2 above.)

COMMERCE 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 COMMERCE 2AA3 and registration in a Commerce or Engineering and Management programme, or registration in a four or five-level non-Commerce programme and completion of ECON 1A06 or 1B03 with a grade of at least B-, COMMERCE 2AA3 and one of MATH 1M03, 1A03, 1B03

Enrolment is limited. (See Note 2 above.)

COMMERCE 2MA3 INTRODUCTION TO MARKETING

This course introduces the conceptual underpinnings and operational facets of marketing with a primarily consumer (as opposed to industrial) focus.

Prerequisite: ECON 1A06 or 1B03 and registration in a Commerce or Engineering and Management programme; or ECON 1A06 or 1B03 with a grade of at least B- and registration in a four or five-level non-Commerce programme.

Enrolment is limited. (See Note 2 above.)

COMMERCE 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: QAC FINITE MATH or STATS 1L03 and registration in a Commerce or Engineering and Management programme or any four or five-level non-Commerce programme.

Antirequisite: STATS 1CC3

Enrolment is limited. (See Note 2 above.)

COMMERCE 2QB3 INFORMATION SYSTEMS IN MANAGEMENT

This course emphasizes 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 1BA3, 1SA3, 1ZA3 and registration in a Commerce or Engineering and Management programme or any four or five-level non-Commerce programme.

Antirequisite: COMMERCE 3Q03

Enrolment is limited. (See Note 2 above.)

COMMERCE 2SP3 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 or Engineering and Management programme.

COMMERCE 3AB3 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: COMMERCE 2AA3 and registration in an Honours Commerce or Engineering and Management programme.

COMMERCE 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: COMMERCE 3AB3 and registration in an Honours Commerce or Engineering and Management programme.

Antirequisite: COMMERCE 4AB3

COMMERCE 3BC3 HUMAN RESOURCE MANAGEMENT AND LABOUR RELATIONS

This course builds on COMMERCE 2BA3, focusing on human resource management and labour relations issues and practices from a general management education perspective.

Prerequisite: COMMERCE 2BA3 or KINESIOL 3L03 and registration in a Commerce, Labour Studies, or Engineering and Management programme or a four or five-level non-Commerce programme.

Antirequisite: COMMERCE 3BA3, 3SB3

Enrolment is limited. (See Note 2 above.)
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 policy, leasing, mergers and acquisitions, working capital management, effects of taxation on financial decisions and international aspects of finance.
Prerequisite: COMMERC 2FA3 and registration in a Commerce or Engineering and Management programme or any four or five-level non-Commerce programme.
Enrolment is limited. (See Note 2 above.)
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 and registration in Honours Commerce or an Engineering and Management programme.
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 Honours Commerce or an Engineering and Management programme.
COMMERC 3FN0 COMMERCE INTERNSHIP PROGRAMME
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 all required Level III Commerce courses before embarking on work place opportunity.
COMMERC 3MA3 COMPETITIVE AND MARKET INTELLIGENCE
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 and 2QA3 or STATS 3Y03 and registration in Honours Commerce or an Engineering and Management programme.
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 Honours Commerce or an Engineering and Management programme.
COMMERC 3MC3 APPLIED MARKETING MANAGEMENT
This course builds upon material in COMMERC 2MA3 but is more applied in nature and covers the 4 Ps 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 a Commerce or Engineering and Management programme, or any four or five-level non-Commerce programme.
Enrolment is limited. (See Note 2 above.)
COMMERC 3OA3 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: COMMERC 2QA3 and registration in a Commerce or Engineering and Management programme.
COMMERC 3OC3 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: COMMERC 3QA3 and registration in a Commerce programme; or in an Engineering and Management programme.
Antirequisite: COMMERC 4QA3, MECH ENG 4C03
COMMERC 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: COMMERC 2AB3 or 3AA3 and registration in Honours Commerce or an Engineering and Management programme.
COMMERC 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 COMMERC 3AC3 or 4AB3 and registration in Honours Commerce or an Engineering and Management programme.
COMMERC 4AD3 INTRODUCTION TO AUDITING
An examination of the attestation function in accounting including ethical, legal, and statutory influences in the development of auditing standards. Control structure and audit evidence will be examined.
Prerequisite: COMMERC 3AB3 and registration in Honours Commerce or an Engineering and Management programme.
COMMERC 4AE3 ACCOUNTING INFORMATION SYSTEMS
This course emphasizes the understanding of the roles of accounting information and information technology in managerial decision-making, organizational support, stewardship, and organizational competitiveness. Applications of concepts will be emphasized.
Prerequisite: COMMERC 3AB3 and registration in Honours Commerce or an Engineering and Management programme.
COMMERC 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 COMMERC 3AC3 or 4AB3 and registration in Honours Commerce or an Engineering and Management programme.
COMMERC 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: COMMERC 4AC3, 4AF3 and registration in Honours Commerce or an Engineering and Management programme or graduation from a Commerce programme.
Available Summers 1999-2002 subject to sufficient enrolments and availability of qualified instructors.
Continuing Students see Note 3 above.
COMMERC 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: COMMERC 4AC3, 4AD3 and registration in Honours Commerce or an Engineering and Management programme or graduation from a Commerce programme.
Available Summers 1999-2002 subject to sufficient enrolments and availability of qualified instructors.
Continuing Students see Note 3 above.
COMMERC 4AI3 COMPUTER CONTROL AND AUDITING
This course introduces the student to the field of EDP auditing through lectures, readings and hands-on experience with EDP audit software.
Prerequisite: COMMERC 4AC3, 4AD3 and registration in Honours Commerce or an Engineering and Management programme or graduation from a Commerce programme.
Available Summers 1999-2002 subject to sufficient enrolments and availability of qualified instructors.
Continuing Students see Note 3 above.
COMMERC 4AJ3 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 COMMERC 4AX3 may be repeated, if on a different topic, to 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 Honours Commerce or an Engineering and Management programme.

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 Honours Commerce or an Engineering Management programme.

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: COMMERCE 3BA3 or 3BC3, or LABR ST 2A03 or 2A06; and registration in Honours Commerce or a programme in Engineering and Management or Labour Studies.

COMMERCE 4BF3  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: COMMERCE 3BA3 or 3BC3, or LABR ST 2A03 or 2A06; and registration in Honours Commerce or a programme in Engineering and Management or Labour Studies. COMMERCE 4BC3 is recommended.

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 Honours Commerce or an Engineering and Management programme.

COMMERCE 4BG3  LABOUR LAW AND POLICY
An analysis of the concepts and fundamentals of Canadian labour law and analysis of Canadian labour policy.
Prerequisite: COMMERCE 3BA3 or 3BC3, and registration in Honours Commerce or an Engineering and Management programme and subject to space availability. Cross-list: LABR ST 3C03

COMMERCE 4BH3  PUBLIC SECTOR COLLECTIVE BARGAINING
This course examines unionization and collective bargaining for employees in the public sector. Topics include: bargaining issues, bargaining outcomes and impact on the public service.
Prerequisite: COMMERCE 4BC3 and registration in Honours Commerce or an Engineering and Management programme and subject to space availability. Cross-list: LABR ST 4C03

COMMERCE 4BI3  COMPARATIVE INDUSTRIAL RELATIONS
A discussion of industrial relations policies and practices in several selected countries. Topics will include: the development, structure, objectives and strategies of labour-management organizations.
Prerequisite: COMMERCE 3BA3 or 3BC3 and registration in Honours Commerce or an Engineering and Management programme and subject to space availability. Cross-list: LABR ST 4D03

COMMERCE 4B13  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 Honours Commerce or an Engineering and Management programme.

COMMERCE 4BJ3  WOMEN 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 Honours Commerce or an Engineering and Management programme.
Cross-list: WOMEN ST 4BJ3
Not open to students with credit in COMMERCE 4X3, 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 and registration in Honours Commerce or an Engineering and Management programme.
Not open to students with credit in COMMERCE 4BX3, SPECIAL TOPICS IN HUMAN RESOURCES/LABOUR RELATIONS, if taken in January 1998 or 99.

COMMERCE 4B3X  SPECIAL TOPICS IN HUMAN RESOURCES/ LABOUR RELATIONS
1999-2000: Nonstandard Work Relationships
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: COMMERCE 3BC3 and registration in Honours Commerce or an Engineering and Management programme. COMMERCE 4B3X may be repeated, if on a different topic, to a total of six units.

COMMERCE 4FA3  CASES IN MANAGERIAL FINANCE
This course covers the application of basic financial theory and analysis, from a managerial point of view, to specific cases. Consideration is given to the strategic, marketing, operational and personal factors which interact with financial factors.
Prerequisite: COMMERCE 3FA3 and registration in Honours Commerce or an Engineering and Management programme.

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 Honours Commerce or an Engineering and Management programme.

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 options and futures and the application of the theory to instruments currently traded in financial markets are discussed.
Prerequisite: COMMERCE 3FA3 and registration in Honours Commerce or an Engineering and Management programme.
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: portfolio selection models, the institutional environment of investment decisions, and investment and asset pricing theory.
Prerequisite: COMMERCE 3FA3 and registration in Honours Commerce or an Engineering and Management programme.
Antirequisite: COMMERCE 4FC3

COMMERCE 4FX3  SPECIAL TOPICS IN FINANCE
1999-2000: Financial Statement Analysis
Various topics in Finance are considered. They will vary depending upon recent developments in the field and upon the research interests of the instructor.
Prerequisite: COMMERCE 3AB3 and 3FA3 and registration in Honours Commerce or an Engineering and Management programme. 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 Honours Commerce or an Engineering and Management programme.

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 3MD3 and registration in Honours Commerce or an Engineering and Management programme.

COMMERCE 4MX3  SPECIAL TOPICS IN MARKETING, POLICY AND INTERNATIONAL BUSINESS
1999-2000: Sales Management
Various topics in Marketing, Policy and International Business are considered. They will vary depending upon recent developments in the field and upon the research interests of the instructor.
Prerequisite: COMMERCE 3MA3 and 3MC3 and registration in Honours Commerce or an Engineering and Management programme. COMMERCE 4MX3 may be repeated, if on a different topic, to a total of six units.
COMMERCE 4PA3  BUSINESS POLICY: STRATEGIC MANAGEMENT
As the capstone to the programme, this case course is designed to unify the student's learning experience by exploring the formulation and implementation of corporate strategy.
Prerequisite: Registration in Level IV of a Commerce programme or Level V of an Engineering and Management programme.

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. These topics may be selected from among: layout and location of facilities, scheduling, inventory control and materials handling.
Prerequisite: COMMERCE 3GQ3 or 4GQ3, or MECH ENG 4GQ3 and registration in Honours Commerce or an Engineering and Management programme.

COMMERCE 4QC3  OPTIMIZATION APPLICATIONS IN BUSINESS
An examination of the techniques of management science and their application to business problems. Topics include: linear programming, integer programming, and optimization problems on networks.
Prerequisite: Registration in an Honours Commerce programme and COMMERCE 3QA3, or registration in an Engineering and Management programme.

COMMERCE 4QD3  MANAGEMENT SUPPORT SYSTEMS
This course examines the database approach and model building, in supporting managerial decision making processes.
Prerequisite: COMMERCE 3QB3 and registration in Honours Commerce or an Engineering and Management programme.

COMMERCE 4QE3  TELECOMMUNICATION AND ELECTRONIC COMMERCE
The new trends and issues on telecommunication networks and their business applications including: wireless telecommunication, Web technology, Electronic commerce, Network security, Smart cards, intelligent agents and the use of Intranet and Extranet.
Prerequisite: Registration in Honours Commerce and COMMERCE 2QB3, or registration in an Engineering and Management programme.

Not open to students with credit in COMMERCE 4QX3. SPECIAL TOPICS IN MANAGEMENT SCIENCE/INFORMATION SYSTEMS if the topic was Specific Topics in Business Data Communication (if taken in September 1997).

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: Registration in Honours Commerce and COMMERCE 2BA3 and 3QA3 or registration in an Engineering and Management programme.

COMMERCE 4QG3  TOTAL QUALITY MANAGEMENT
TQM topics include: strategic quality planning, quality in design and processes, tools for quality improvement and control, and standards such as ISO 9000.
Prerequisite: Registration in Honours Commerce and COMMERCE 2GA3 and 3GQ3, or registration in an Engineering and Management programme.

COMMERCE 4QH3  SPECIAL TOPICS IN MANAGEMENT SCIENCE/INFORMATION SYSTEMS
1999-2000: Quality Design and Control
Various topics in Management Science/Information Systems are considered. They will vary depending upon the recent developments in the field and upon the research interests of the instructor.
Prerequisite: COMMERCE 2GQ3 or STATS 3YQ3 and registration in Honours Commerce or an Engineering and Management programme. COMMERCE 4QX3 may be repeated, if on a different topic, to a total of six units.

COMMERCE 4QI3  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: Registration in Level IV of a Commerce programme or Level V of an Engineering and Management programme.

COMMERCE 4QJ3  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: COMMERCE 3A3B3 and 3FA3 and registration in Honours Commerce or an Engineering and Management programme.

COMMERCE 4QK3  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 Honours Commerce or an Engineering and Management programme.

COMMERCE 4QL3  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 Honours Commerce or an Engineering and Management programme.

COMMERCE 4QM3  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 one of COMMERCE 3MA3, 3MC3 and registration in Honours Commerce or an Engineering and Management programme.

COMMERCE 4QN3  SPECIAL TOPICS IN BUSINESS
Various topics in business are considered. They will vary depending upon recent developments in the field and upon the 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.

COMMERCE 4QX3  INDEPENDENT STUDY IN BUSINESS
Faculty supervised project. A supervising faculty member must be arranged, and authorization of the Associate Dean secured, in the term preceding the term of study.
Prerequisite: To be determined by the supervising faculty member and registration in Honours Commerce or an Engineering and Management programme. Project forms are available from MGD-245.

COMPARATIVE LITERATURE
(SEE MODERN LANGUAGES, COMPARATIVE LITERATURE)

COMPUTER ENGINEERING
(SEE ELECTRICAL AND COMPUTER ENGINEERING)

COMPUTER SCIENCE
(SEE COMPUTING AND SOFTWARE)

COMPUTING AND SOFTWARE

Faculty as of January 15, 1999

Chair
Paul A. Taylor

Professors
František Franěk/M.Sc., RNDr., F.B.C.S., F.I.C.A., Facultas Electrotechnica, Charles University, Prague, Ph.D. (Charles, Prague), Ph.D. (Alabama), D.Hab. (Polish Acad. Sci.)
Tao Jiang/Ph.D. (Univ. of Science and Tech. of China, Hefei), Ph.D. (Minnesota)
Patricia E. Lauer/B.A. (University of Alabama), M.A. (Emory), Ph.D. (Queen’s, Belfast)
David L. Pamas/B.S., M.S., Ph.D. (Carnegie), Dr.h.c. (ETH Zürich), Dr.h.c. (Kovari), Dr.h.c. (Indianapolis), F.R.S.C., F.A.C.M., NSERC/Bell Industrial Research Chair in Software Engineering, P.Eng.
Patrick J. Ryan/Ph.D. (Toronto), Ph.D. (Brown)
Paul A. Taylor/B.Sc., Ph.D. (Univ. of Wales), P.Eng.

### Computer Science...

#### Department Notes:

1. While the Faculty of Engineering is responsible for all Computer Science courses, Computer Science Programmes are administered by the Faculty of Science.

2. The following are suggested Computer science options for students not in Computer Science programmes: Science-oriented students: COMP SCI 1MC3 or 1SA3, 1MD3, 2MF3 and 2SB3, 2SC3, 3MB3, 3CB3, 3DF3, 3SE3

   Business-oriented students: COMP SCI 1BA3, 1MC3, 1MD3, 2ME3, 2SC3, 3SE3, 4EC3

3. Students wishing to pursue a Computer Science Minor are referred to the Department of Computing and Software in the Faculty of Science section of this Calendar.

4. MATH 1NO3 and 1NN3 or ARTS & SCI 1DO6 can serve as an equivalent prerequisite for upper level Computer Science courses in which MATH 1AO3, 1CO3 or 1AA3 is a prerequisite.

5. It is possible to take COMP SCI 1MC3 if COMP SCI 1SA3 was completed with a grade of B+ or better. In that case COMP SCI 1SA3 can be used as a substitute for COMP SCI 1MC3. Nevertheless, students interested in enrolling in a Computer Science programme are recommended to take COMP SCI 1MC3.

#### Courses

**If no prerequisite is listed, the course is open.**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMP SCI 1BA3</td>
<td>INTRODUCTION TO COMPUTING AND COMPUTER USE FOR BUSINESS</td>
</tr>
<tr>
<td>COMP SCI 1MC3</td>
<td>COMPUTER SCIENCE I</td>
</tr>
<tr>
<td>COMP SCI 1MD3</td>
<td>COMPUTER SCIENCE II</td>
</tr>
<tr>
<td>COMP SCI 1SA3</td>
<td>COMPUTING FUNDAMENTALS</td>
</tr>
<tr>
<td>COMP SCI 1TA3</td>
<td>ELEMENTARY COMPUTING AND COMPUTER USE</td>
</tr>
<tr>
<td>COMP SCI 1TM3</td>
<td>ADVANCED DATA STRUCTURES AND ALGORITHMS</td>
</tr>
<tr>
<td>COMP SCI 2BA3</td>
<td>COMPUTER USE FOR BUSINESS</td>
</tr>
<tr>
<td>COMP SCI 2BM3</td>
<td>DESIGN AND IMPLEMENTATION OF C PROGRAMS</td>
</tr>
<tr>
<td>COMP SCI 2CM3</td>
<td>COMPUTER USE FOR BUSINESS</td>
</tr>
<tr>
<td>COMP SCI 2DB3</td>
<td>SYSTEM ARCHITECTURE FOR INTERACTIVE APPLICATIONS</td>
</tr>
<tr>
<td>COMP SCI 2EA3</td>
<td>SOFTWARE DESIGN</td>
</tr>
</tbody>
</table>

Organization of microcomputers and introduction to computer communications; introduction to operating systems; introduction to information exchange using word processing/desktop, the internet and web pages; problem solving using electronic spreadsheets and elementary database concepts.

### Three lectures, one tutorial; one term

Prerequisite: Credit or registration in MATH 1A03.

Not open to students with credit or registration in COMP SCI 1MC3 or 1ZA3 or 1BA3 or 1TA3 or ENGINEER 1D04.

Prerequisite: COMP SCI 1TM3

Introduction to structured system design, emphasizing the software development process: development systems; system analysis, design, implementation, and maintenance.

### Three lectures; one term

Prerequisite: COMP SCI 1MD3

Introductory course in computer architecture; introduction to computer organization of microcomputers (hardware and operating systems); introduction to problem solving: organization of microcomputers (hardware and operating systems); introduction to programming concepts, communications and networks; the Internet and Web pages; application packages.

### Three lectures, one tutorial; one term

Prerequisite: Credit or registration in MATH 1A03.

Not open to students with credit or registration in COMP SCI 1MC3 or 1ZA3 or 1BA3 or 1TA3 or ENGINEER 1D04.

Prerequisite: COMP SCI 1TA3

Eleven courses, Computer and Software Engineering.

### Three lectures, one tutorial; one term

Prerequisite: COMP SCI 1TM3 and 2MF3 or ARTS & SCI 1D06

Introductory course in computer architecture; introduction to computer communications; introduction to information exchange using word processing/desktop, the internet and web pages; problem solving using electronic spreadsheets and elementary database concepts.

### Three lectures, one term

Prerequisite: COMP SCI 1TA3

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 and complexity; emphasis on theoretical analysis.

### Three lectures, one term

Prerequisite: COMP SCI 1MD3

### One course

Antirequisite: SFWR ENG 2A04

### One course

Prerequisite: One of MATH 1B03, 1H05, STATS 1CC3

### One course

Prerequisite: One of COMP SCI 1MC3, 1SA3, ENGINEER 1D04 and either MATH 1H05 and 1N03 or MATH 1A03 and 1B03


### Three lectures, one term

Prerequisite: One of COMP SCI 1MC3, 1SA3, ENGINEER 1D04 and credit in one of MATH 1A03, 1B03, 1H05, 1N03, 1N03, or ARTS & SCI 1D06

### Three lectures, one term

Prerequisite: COMP SCI 2BM3 and registration in Level III or above of a Computer Science programme or B.Sc. Mathematical Science

### Three lectures; one term

Antirequisite: COMP SCI 2BM3

### One course

Antirequisite: COMP ENG 3VA3, SFWR ENG 2B04
COMP SCI 3GA3  INTRODUCTION TO COMPUTER GRAPHICS
Principles of computer graphics. Data structures and algorithms, hardware and software systems for graphics. Object modeling and display techniques: visual realism, perspective, visibility and shading.
Three lectures; one term
Prerequisite: COMP SCI 2MD3 and either one of MATH 2M06, 2Q04 or MATH 2R03 and one of MATH 2S03, 2T03

COMP SCI 3IA3  SYMBOLIC PROCESSING AND LOGIC PROGRAMMING
Methodologies, data and control structures for symbolic processing: symbolic expressions, lists, list processing functions, backtracking, matching procedures: resolution principles.
Three lectures; one term
Prerequisite: COMP SCI 2MD3

COMP SCI 3MG3  COMPUTER SYSTEM ARCHITECTURE
Major components of a computer and their design issues; instruction set, data path, control, memory, and I/O. Principles of computer arithmetic, pipelining, memory hierarchy, and virtual memory.
Three lectures; one term
Prerequisite: COMP SCI 2MF3

COMP SCI 3MH3  PRINCIPLES OF OPERATING SYSTEMS
Concepts of operating systems; process coordination, memory management, file systems; introduction to distributed systems and computer networks. Involves group projects.
Three lectures; one term
Prerequisite: COMP SCI 2MD3 and 3MG3 and registration in a Computer Science programme, B.Sc. Mathematical Science or permission of the instructor.

COMP SCI 3MI3  ORGANIZATION OF PROGRAMMING LANGUAGES
A comparative study of programming languages, emphasizing functional languages. Introduction to formal methods of language definition.
Three lectures; one term
Prerequisite: COMP SCI 2MD3

COMP SCI 3SD3  COMPUTER SIMULATION TECHNIQUES
Techniques for the application of computer simulation to scientific and engineering problems, especially queuing and network problems.
Three lectures; one term
Prerequisite: One of COMP SCI 1MD3, 2SB3

COMP SCI 3SE3  DESIGN OF VISUAL PROGRAMMING ENVIRONMENTS
A study of visual programming environments: events, procedures, objects and attributes; paradigms: event-driven, object-oriented; applications: graphical user interfaces, human factors, visualization techniques.
Three lectures; one term
Prerequisite: Credit or registration in COMP SCI 1MD3

COMP SCI 3TA3  INTRODUCTION TO AUTOMATA AND FORMAL LANGUAGE THEORY
Three lectures; one term
Prerequisite: COMP SCI 2MD3

NEURCOMP 3W03  NEURAL COMPUTATION
An introduction to the use of neural network computational models for understanding the neural bases of psychological processes, and for solving real-world problems.
Three lectures; one term
Prerequisite: COMP SCI 1MC3 or COMP SCI 1SA3 with a grade of at least B+ and one of MATH 1A03, 1N03, ARTS & SCI 1D06. MATH 1B03 is strongly recommended.
Cross-list: PSYCH 3W03

COMP SCI 4CB3  SUPERCOMPUTING SYSTEM ARCHITECTURES
Traditional performance enhancement techniques: pipelining, RISC, VLIW, prefetch, cache; modern high performance systems; mini-, micro-, mainframe supercomputers; array processors; parallelization considerations and vectorization methods.
Two lectures, one lab; one term
Prerequisite: COMP SCI 3MG3 or credit or registration in PHYSICS 4D06 or 4DA3, 4DB3

COMP SCI 4CC3  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 3M03 or COMP ENG 4W03

COMP SCI 4CD3  DISTRIBUTED SYSTEM ARCHITECTURES
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 3MG3 or credit or registration in PHYSICS 4D06 or 4DA3, 4DB3

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

COMP SCI 4EC3  OBJECT-ORIENTED SOFTWARE DESIGN
Advanced software development in the business/industrial environment. Comparative analysis of alternatives to structured design, especially object-oriented techniques.
Three lectures; one term
Prerequisite: COMP SCI 2MD3 and registration in Level IV of a Computer Science programme

COMP SCI 4ED3  SOFTWARE DESIGN APPLICATIONS
Introduction to theory and computer based tools for producing trustworthy software development environments. Involves major group projects using these tools.
Three lectures; one term
Prerequisite: COMP SCI 3EA3

COMP SCI 4EE3  FORMAL TECHNIQUES IN SOFTWARE DESIGN
Software design principles: rigour and formality, separation of concerns, modularity, abstraction. Software design, specification and verification.
Three lectures; one term
Prerequisite: COMP SCI 3EA3

COMP SCI 4EG3  ORGANIZATION AND MANAGEMENT OF COMPUTING ACTIVITIES
Strategic planning of computing and data resources in an organization; system management, estimating techniques, productivity issues; project management, quality assurance, configuration management.
Four hours (lectures and tutorials); one term
Prerequisite: COMP SCI 2MD3 and 3EA3

COMP SCI 4GB3  COMPUTATIONAL GEOMETRY
Discrete geometry from an algorithmic point of view. Searching, subdivision, proximity and intersection. Applications to problems in object modeling, computer graphics, and computer vision.
Three lectures; one term
Prerequisite: COMP SCI 2MD3 or a grade of at least B- in COMP SCI 1MD3 or 2SB3

COMP SCI 4GG3  HUMAN COMPUTER INTERACTION
Methods for user software design, interface representations, testing; evaluation and design of sample application systems; impacts of computer-based information systems on individuals and organizations; implementation and testing tools.
Four hours (lectures and tutorials); one term
Prerequisite: COMP SCI 3EA3 and 3M13

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: COMP SCI 2MD3
COMP SCI 4MP6 PROJECT FOR COMBINED PROGRAMMES
Under the supervision of a faculty member, teams of two to three students implement, write up and defend a substantial project in the area of the combined programme.
Occasional tutorials, no lectures; two terms
Prerequisite: Registration in Level IV of any combined Honours Computer Science programme. Completion of COMP SCI 3EA3 is strongly recommended.
Antirequisite: COMP SCI 4ZP6

COMP SCI 4T83 COMPILER CONSTRUCTION
Lexical analysis; scanner construction; syntax analysis and syntax-directed translation; compiler compilers; intermediate code generation; code generation and optimization.
Two lectures, one lab or tutorial (three hours); second term
Prerequisite: Registration in Level IV of a Computer Science programme or Level IV or V Computer Engineering

COMP SCI 4TC3 RECURSIVE FUNCTION THEORY AND COMPUTABILITY
Recursive and primitive recursive functions, decidability and undecidability with applications to formal language theory, logic and algebra.
Three lectures; one term
Prerequisite: COMP SCI 2MD3; and either COMP SCI 2MJ3 or one of MATH 2M06, 2C04; or MATH 2R03 and one of MATH 2S05, 2T03
Antirequisite: MATH 4S03

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 2MD3, 2MJ3 and one of MATH 2Q04, 2R03

COMP SCI 4Z03 DIRECTED READINGS
Directed readings in an area of computer science of interest to the student and the instructor.
Preparation: Permission of the Chair of the Department and registration in Level IV of an Honours programme in Computer Science. Application for permission must be received by March 31st of the previous year. Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

COMP SCI 4Z33 INQUIRY IN COMPUTER SCIENCE
Research and directed readings dealing with the impact of computer and computer networks on society.
Three hours; one term
Prerequisite: Registration in Level IV of an Honours programme in the Faculty of Science which requires Science Inquiry
Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

COMP SCI 4ZP6 PROJECT
Under the supervision of a faculty member, teams of two to three students implement, write up and defend a substantial project in an area of computer science.
Occasional tutorials, no lectures; two terms
Prerequisite: Registration in Level IV of Honours Computer Science. Completion of COMP SCI 3EA3 is strongly recommended.
Antirequisite: COMP SCI 4MP6

Software Engineering...

Note:
All software engineering courses are open to students registered in a software engineering programme, subject to prerequisite requirements. Prior permission of the Department is necessary for other students.

Courses

SFWR ENG 2A04 SOFTWARE DESIGN I
Software development with precise specifications. Implementation, inspection, integration, and testing of programs specified sequential modules and programs. Assembly of software from independent modules; incremental design.
Three lectures, one lab (three hours); first term
Prerequisite: Registration in Level II of a Software Engineering programme
Corequisite: SFWR ENG 2E03 or 2E04; 2F03 or 2F04

SFWR ENG 2B04 SOFTWARE DESIGN II
Software system design, documentation, implementation, inspection and testing. Requirements documentation. Designing large sequential programs including precise documentation. Modularisation, module interface design. Hierarchical structures; project organization.
Three lectures, one lab (three hours); second term
Prerequisite: SFWR ENG 2A04, 2E03 or 2E04; 2F03 or 2F04
Corequisite: SFWR ENG 2C04

SFWR ENG 2C04 COMPUTER ALGORITHMS AND DATA STRUCTURE
Data structures: queues, stacks, lists, heaps, trees, graphs; data abstraction; graph algorithms. Sorting, searching, parsing, pattern matching, resource utilization, finding and choosing algorithms.
Three lectures, one tutorial (two hours); second term
Prerequisite: SFWR ENG 2A04, 2E03 or 2E04
Corequisite: SFWR ENG 2B04

SFWR ENG 2D04 DIGITAL SYSTEM PRINCIPLES AND LOGIC DESIGN FOR SOFTWARE ENGINEERS
Systematic design procedures; combinatorial circuit design, design of sequential machines, error detection, correction; redundancy, number representations, organization of large logic circuits. Use of logic simulators.
Three lectures, one lab (three hours); second term
Prerequisite: SFWR ENG 2A04, 2F03 or 2F04

SFWR ENG 2E04 APPLICATIONS OF DISCRETE MATHEMATICS IN SOFTWARE ENGINEERING
Three lectures, one lab (three hours); first term
Prerequisite: ENGINEER 1D04
Corequisite: SFWR ENG 2A04, 2F03 or 2F04
Antirequisite: SFWR ENG 2E03

SFWR ENG 2F04 APPLICATIONS OF MATHEMATICAL LOGIC FOR SOFTWARE ENGINEERING
Foundations of propositional, predicate, higher-order, multiple-value logic; normal forms; deduction systems, models. Describing software states; verifying program properties; automated theorem-proving systems.
Three lectures, one lab (three hours); first term
Prerequisite: Registration in Level II of a Software Engineering programme
Corequisite: SFWR ENG 2A04, 2E03 or 2E04
Antirequisite: SFWR ENG 2F03

SFWR ENG 2G04 SOFTWARE DESIGN III
Design, specification, documentation, implementation, inspection and testing of multi-programming, multi-processing, and real-time systems. Resource management, process coordination. Evaluation of operating systems and real-time support software.
Three lectures, one lab (three hours); second term
Prerequisite: SFWR ENG 3F03, 3G03

SFWR ENG 3C03 DISCRETE OPTIMIZATION METHODS, GRAPH THEORETIC MODELS, SEARCH AND PRUNING TECHNIQUES
Linear and non-linear programming. Integer programming. Search techniques. Use of directed graphs in engineering problems, scheduling techniques, network optimization, route planning.
Three lectures, one tutorial (two hours) every other week; second term
Prerequisite: SFWR ENG 2C04, 2E03 or 2E04; 2F03 or 2F04

SFWR ENG 3D03 DESIGN AND SELECTION OF SEQUENTIAL PROGRAMMING LANGUAGES
Program construction tools, especially programming languages. Primitive programs and program constructors. Special purpose program generators. Selection criteria. Historical developments. Survey of current tools.
Two lectures, one lab (three hours); first term
Prerequisite: SFWR ENG 2D04, 2F04
Corequisite: SFWR ENG 3F03

SFWR ENG 3F03 MACHINE-LEVEL COMPUTER PROGRAMMING
Two lectures, one lab (three hours); first term
Prerequisite: SFWR ENG 2B04, 2C04, 2D04
Corequisite: SFWR ENG 3G03

SFWR ENG 3G03
SFWR ENG 3G03  ARCHITECTURE OF COMPUTERS AND MULTI-PROCESSORS
Three lectures; first term
Prerequisite: SFWR ENG 2C04, 2D04
Corequisite: SFWR ENG 3F03

SFWR ENG 3H03  DATA MANAGEMENT TECHNIQUES
Computer systems with large amounts of data. Use of mass storage devices. File structures. Relational and other data base systems. Compression, information retrieval. Assorted applications. Three lectures, one lab (three hours) every other week; second term
Prerequisite: SFWR ENG 3F03, 3G03
Corequisite: SFWR ENG 3B04

SFWR ENG 3I03  COMMUNICATION SKILLS-EXPLAINING SOFTWARE
Writing technical (reference) documentation and user (introductory) software documentation. Explaining software to expert and user audiences. Document structure. Writing precise software contracts. Oral presentations.
Two lectures, one seminar (two hours); first term
Prerequisite: Registration in Level III of a Software Engineering Programme

SFWR ENG 3J03  SOFTWARE AND SOCIAL RESPONSIBILITY
Two lectures, one seminar (two hours); second term
Prerequisite: SFWR ENG 2B04, 3G03
Corequisite: SFWR ENG 3B04

SFWR ENG 3X03  SCIENTIFIC COMPUTATION AND CONTINUOUS OPTIMIZATION
Computer arithmetic, stability, sensitivity. Numerical methods for interpolation, integration, differentiation, solving linear and non-linear systems, differential equations, eigenvalue and singular value problems, nonlinear systems. Optimization. Statistical simulation methods. Three lectures; one tutorial (one hour) every other week; second term
Prerequisite: SFWR ENG 2C04, 2F03 or 2F04
Corequisite: SFWR ENG 3C03

Note:
The following courses will be offered in 2000-2001 and are subject to change. The approved courses will appear in the 2000-2001 Calendar.

SFWR ENG 4A03  DESIGN OF REAL-TIME SYSTEMS AND COMPUTERIZED CONTROL SYSTEMS
Three lectures; one term
Prerequisite: Completion of Level III of any Software Engineering Programme

SFWR ENG 4C03  COMPUTER NETWORKS AND COMPUTER SECURITY
Three lectures; one term
Prerequisite: Completion of Level III of any Software Engineering Programme

SFWR ENG 4D03  DESIGN OF HUMAN COMPUTER INTERFACES
Three lectures; one term
Prerequisite: Completion of Level III of any Software Engineering Programme

SFWR ENG 4E03  PERFORMANCE ANALYSIS OF COMPUTER SYSTEMS
Use of queuing theory, simulation, and related methods to predict the performance of a computer system before it is built and to diagnose existing systems.
Three lectures; one term
Prerequisite: Completion of Level III of any Software Engineering Programme

SFWR ENG 4F03  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 multiple-processor systems to finite element methods, simulators, optimization problems.
Three lectures; one term
Prerequisite: Completion of Level III of any Software Engineering Programme

SFWR ENG 4G03  SENIOR THESIS I
A team software design experience. Students prepare a complete set of design and test documents for a project that tests their ability to design useful software.
Prerequisite: Completion of Level III of any Software Engineering Programme

SFWR ENG 4H03  SENIOR THESIS II
Team software implementation experience. Students implement design from Senior Thesis I, updating documentation as needed. Demonstration of working system convincing test results.
Prerequisite: SFWR ENG 4G03 and completion of Level III of any Software Engineering Programme

SFWR ENG 4I03  FUNDAMENTALS OF COMPUTATION
Models of computers. Computability; computational complexity. Network fundamentals. Language classifications and their relation to automata. Limitations of schemes such as neural networks or fuzzy logic.
Three lectures; one term
Prerequisite: Completion of Level III of any Software Engineering Programme

SFWR ENG 4J03  SOFTWARE IN COMMUNICATIONS SYSTEMS
Fundamental communications concepts: information, entropy, channel capacity, codes, data compression, adaptive channel equalizers, modulation/demodulation, tracking, Kalman filtering, specialized signal processors. Telephone switches.
Three lectures; one term
Prerequisite: Completion of Level III of any Software Engineering Programme

DRAMA
Courses and programmes in Drama are administered within the School of Art, Drama and Music of the Faculty of Humanities.

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.

Courses  If no prerequisite is listed, the course is open.

DRAMA 1A06  INTRODUCTION TO DRAMA
An exploration of theatrical media. Emphasis will be placed on the study of plays from major periods of Western drama. The relationship of theatre to film, opera and other performing arts will be introduced.
Two lectures, one tutorial; two terms

DRAMA 2A06  THE ART OF ACTING
An exploration of the theories and methods that inform the actor's art, designed to expose the student to the range and complexity of performance styles used in the contemporary theatre. The class will be organized around the preparation of performances using Realist, Epic and Collective approaches.
Two studies; two terms
Prerequisite: DRAMA 1A06, with a grade of at least B. Enrolment is limited. Priority is given to students enrolled in Drama programmes.

DRAMA 2B06  THE DRAMATIC TEXT
An examination of the different kinds of texts produced for dramatic purposes (both performance and reading) from the Greeks to the present, including plays, musical scores, texts for film and television, and other forms of production documents. Problems arising from the transmission of texts will be discussed, as well as how theatrical texts can be studied to yield maximum information.
Three hours (lectures and discussion groups); two terms
Prerequisite: DRAMA 1A06

DRAMA 2M06  HISTORY OF THEATRICAL PERFORMANCE IN THE WESTERN WORLD
A survey of the traditions of Western theatrical production from Classical Greece to the present, including architecture, design, stage machinery, the organization of production, the training and preparation of the actor, and the...
expectation of the audience. Some emphasis will be placed on the social context of theatre, and on research methods and problems. Two lectures, plus evening lab; two terms
Prerequisite: DRAMA 1A06

DRAMA 2X06
THE ART OF THE FILM
An introduction to film style and technique through a detailed critical analysis of major works from the silent period to the present day. Two lectures, plus one weekly film screening; two terms
Prerequisite: Six units from the Faculty of Humanities and registration in Level II and above

DRAMA 3A03
TOPICS IN ACTING
An exploration of the theory and methods that inform the actor’s art, focusing on a specific historical period or creative model, through the study and performance of dramatic texts. Previous topics include Collective Creation, and Greek and Medieval Texts.
Two studios; one term
Prerequisite: DRAMA 2A06
Enrolment is limited.

Drama 3A03 may be repeated, if on a different topic, to a total of six units.

DRAMA 3AA3
ACTING SHAKESPEARE
The study and performance of scenes from the works of William Shakespeare. Extension of acting skills through specific voice, body and language techniques.
Two studios; one term
Prerequisite: DRAMA 2A06
Enrolment is limited. Priority is given to students enrolled in Drama programmes.

DRAMA 3B03
INDEPENDENT STUDY IN DRAMA I
Prerequisite: Registration in a programme in Drama and permission of the School of Art, Drama and Music.

DRAMA 3C03
MODERN EUROPEAN DRAMA FROM IBSEN TO PIRODELLO
A study of representative plays by eight major dramatists, including Strindberg, Chekhov, Gorki, Wedekind and Kaiser.
One seminar (two hours), plus play readings; one term
Prerequisite: Six units of Level II Drama
Cross-list: COMP LIT 3E03
Offered in alternate years.

DRAMA 3CC3
MODERN EUROPEAN DRAMA FROM BRECHT TO THE PRESENT
A study of representative plays by ten major dramatists, including Garcia Lorca, Cocteau, Frisch, Sartre, Weiesz, Genet, Dario Fo.
One seminar (two hours), plus play readings; one term
Prerequisite: Six units of Level II Drama
Cross-list: COMP LIT 3CC3
Offered in alternate years.

DRAMA 3D03
THEATRE PRODUCTIONS
A survey of the theory and practice of all the technical skills involved in a theatrical production: stage management, set design, set construction, lighting, sound, carpentry, properties, costumes. Technical assistance with Drama productions.
Two hours, first term; one hour (workshop), second term
Prerequisite: Registration in a programme in Drama
Students wishing to take this course must complete an application form in the School of Art, Drama and Music before March 31 to guarantee consideration.
Enrolment is limited.

DRAMA 3G03
PERFORMANCE HISTORY BEFORE 1800
An examination of issues in the study of Western theatrical tradition.
Three lectures; one term
Prerequisite: Six units of Level II Drama
Offered in alternate years.

DRAMA 3GG3
COMPARATIVE THEATRE
A comparison of two or more theatrical traditions.
Three lectures; one term
Prerequisite: Six units of Level II Drama
Offered in alternate years.

DRAMA 3H03
LITERATURE AND FILM
An examination of the particular characteristics of both literature and film and the relationships between them through a detailed study of selected novels, short stories and plays and the films that have been based on them.
Three lectures, plus one weekly film screening; one term
Prerequisite: Registration in Level III or IV of a programme in Drama or Literature or Art History. DRAMA 2X06 is recommended.
Cross-list: COMP LIT 3L03, ENGLISH 3CC3
Offered in alternate years.

DRAMA 3J03
TOPICS IN FILM
Previous topics include: Genre Studies, Film Comedy. Consult the School of Art, Drama and Music concerning topic to be offered.
Two lectures, plus one weekly film screening; one term
Prerequisite: DRAMA 2X06
DRAMA 3J03 may be repeated, if on a different topic, to a total of six units.

DRAMA 3L03
MODERN EUROPEAN THEATRE HISTORY
A study of the major influences that have shaped the growth of modern theatre movements in Europe from the late nineteenth century to the present.
One seminar (two hours); one term
Prerequisite: Six units of Level II Drama
Offered in alternate years.

DRAMA 3LL3
AMERICAN AND CANADIAN THEATRE HISTORY
A study of the development of theatrical performance in the United States and Canada.
Seminar (two hours); one term
Prerequisite: Six units of Level II Drama
Offered in alternate years.

DRAMA 3P06
PLAYS IN PERFORMANCE
This course is offered in conjunction with the McMaster Stratford Seminars. In addition to regular evening classes, students are required to spend five full-time days in Stratford participating in seminars, researching, and attending performance of the set plays.
Two lectures/seminars (two hours) weekly (Summer only)
Prerequisite: Registration in Level II and above
DRAMA 3P06 may be repeated, if on a different topic, to a total of 12 units.

DRAMA 3R03
THE AMERICAN CINEMA I
A survey of some of the predominant features of the American Cinema from its beginning to 1950. Emphasis will be placed both on the artistic value of the films and on their social significance and impact.
Two lectures, plus one weekly film screening; one term
Prerequisite: DRAMA 2X06; or permission of the School of Art, Drama and Music

DRAMA 3RR3
THE AMERICAN CINEMA II
A survey of some of the predominant features of the American Cinema from 1950 to the present day. Emphasis will be placed both on the artistic value of the films and on their social significance and impact.
Two lectures, plus one weekly film screening; one term
Prerequisite: DRAMA 2X06; or permission of the School of Art, Drama and Music

DRAMA 3T03
TOPICS IN NATIONAL CINEMAS I
Previous topics include: Soviet and East European Cinema. Consult School of Art, Drama and Music concerning topic to be offered.
Two lectures, plus one weekly film screening; one term
Prerequisite: DRAMA 2X06
Cross-list: COMP LIT 3V03
DRAMA 3T03 may be repeated, if on a different topic, to a total of six units.

DRAMA 3TT3
TOPICS IN NATIONAL CINEMAS II
Previous topics include: Canadian Cinema, French Cinema and Japanese Cinema. Consult the School of Art, Drama and Music concerning topic to be offered.
Two lectures, plus one weekly film screening; one term
Prerequisite: DRAMA 2X06
Cross-list: COMP LIT 3V03
DRAMA 3TT3 may be repeated, if on a different topic, to a total of six units.

DRAMA 3Z03
INDEPENDENT STUDY IN PRACTICAL THEATRE
Prerequisite: Registration in a programme in Drama and permission of the School of Art, Drama and Music.

DRAMA 4A06
PRINCIPLES OF STAGE DIRECTING
Theory of directing a play, play analysis; rehearsal techniques; technical stagework. Direction of a play under the supervision of an instructor.
Two lectures and practical exercises, plus rehearsals; two terms
Prerequisite: Registration in Level IV of an Honours programme in Drama and DRAMA 2A06 or 2D06, and one of DRAMA 3A03, 3AA3, 3D03, and permission of the School of Art, Drama and Music
Antirequisite: DRAMA 4A06

Enrolment is limited. Admission to DRAMA 4A06 will be based primarily on academic standing. In addition, students must complete a written application on a form provided by the School of Art, Drama and Music, which must be submitted in March of the preceding year. Final selection will be made by a School committee.

DRAMA 4B03
INDEPENDENT STUDY IN DRAMA II
Prerequisite: Registration in a programme in Drama and permission of the School of Art, Drama and Music.
Study of Drama. These are recommended. Enrolment is limited.

Senior seminar: A close examination of a selected text, or selected texts, from the textual, historical and theatrical points of view, leading to a workshop production of that play by members of the seminar. Seminar (two hours); one term

Prerequisite: Registration in Level IV of an Honours programme in Drama. Offered in alternate years. Enrolment is limited.

Senior seminar: 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 IV of an Honours programme in Drama. Offered in alternate years. Enrolment is limited.

Senior seminar: An examination of selected plays from western drama written since 1956. Seminar (two hours); one term

Prerequisite: Registration in Level IV of an Honours programme in Drama. Offered in alternate years. Enrolment is limited.

Senior seminar: An examination of selected plays from Western Drama written since 1956. Seminar (two hours); one term

Prerequisite: Registration in Level IV of an Honours programme in Drama. Offered in alternate years. Enrolment is limited.

Senior seminar: An examination of selected plays from Western Drama written since 1956. Seminar (two hours); one term

Prerequisite: Registration in Level IV of an Honours programme in Drama. Offered in alternate years. Enrolment is limited.

The following courses, offered by other departments, directly pertain to the study of Drama. These are recommended as electives. Up to nine units of courses from this list may be available as substitutes for Drama courses, and counted toward the fulfillment of a programme in Drama. Students are advised that there may be restrictions on enrolment in these courses.

CLASSICS 2E03 The Ancient World in Film

CLASSICS 2H03 Greek and Roman Drama

CLASSICS 3T03 The Theatre of Greece and Rome

COMP LIT 3B03 Drama Since 1800 (In English)

COMP LIT 3F03 Metamorphoses of Don Juan

COMP LIT 3G03 German Drama (In English)

ENGLISH 2B06 Development of English Drama

ENGLISH 3K06 Shakespeare

ENGLISH 3P03 Modern Drama: In English

ENGLISH 3XK3 Topics in Drama

FRENCH 3BB3 Contemporary Quebec Theatre

FRENCH 3Q03 17th Century French Literature I

KINESIOL 4J43 Dance in Contemporary Society

SADM 3A03 Music and the Other Arts

SADM 4A03 Interdisciplinary Study

WOMEN ST 3B03 Topics in Women and the Arts I: Theatre and Film

University Professor

Martin J. Browning/B.Sc., M.Sc. (London), Ph.D. (Tilburg)

Professors

Martin J. Browning/B.Sc., M.Sc. (London)

John B. Burtbridge/B.A., Ph.D. (McGill)

Kenneth S. Chan/B.Sc. (Toronto), M.A., Ph.D. (Brown)

Martin Dooley/B.A. (Indiana), M.S., Ph.D. (Wisconsin-Madison)

Peter J. George/B.A., M.A., Ph.D. (Toronto), D.U. (Ottawa)

Alan Harrison/B.A., M.A., Ph.D. (Essex)


Alt A. Kubursi/B.A., (American University, Beirut), M.S., Ph.D. (Purdue)

Peter J. Kuhn/B.A. (Carleton), Ph.D. (Harvard)

John E. Leson/B.A. (Alberta), M.A., Ph.D. (Queen’s)

Wayna Lewchuk/M.A. (Toronto), Ph.D. (Cambridge)

Lorraine J. Magee/B. Math. (Waterloo), M.A., Ph.D. (Western Ontario)

Stuart Mestelman/B.A. (Pittsburgh), M.S., Ph.D. (Purdue)

R. Andrew Muller/B.A., M.A., Ph.D. (Toronto)

Ernest H. Oksanen/A.M. (Michigan), B.A., Ph.D. (Queen’s)

Martin J. Osborne/B.A. (Cambridge), Ph.D. (Stanford)

Yorgos Y. Papageorgiou/Dipl. Arch. Eng. (National Technical, Athens), M.C.P., Ph.D. (Ohio State), D.S. (Louvain)

A. Leslie Robb/B.A., M.A. (British Columbia), Ph.D. (Essex)

William M. Scath/B.A. (Queen’s), M.A., Ph.D. (Queen’s)

Byron G. Spencer/B.A. (Queen’s), Ph.D. (Rice)

Michael R. Veall/B.A. (McMaster), M.A. (Western Ontario), Ph.D. (M.I.T.)

J. Douglas Welland/B.A. (McMaster), M.A., Ph.D. (Minnesota)

Associate Professors

David W. Butterfield/B.S., M.S. (Calif. Inst. of Tech.), A.B., M.A., Ph.D. (California-Berkeley)

Donald A. Dawson/A.M. (Chicago), Ph.D. (Western Ontario), N.D.C.

Assistant Professors

Akib John/B.A. (Delhi), M.A. (Delhi School of Economics), Ph.D. (Boston)

Peter J. McCabe/A.B. (Boston College), Ph.D. (Northwestern)

Associate Members


Paul Grootendorst/(Clinical Epidemiology and Biostatistics) B.A. (Victoria), M.A. (Queen’s), Ph.D. (McMaster)

Jeremiah E. Hurley/(Clinical Epidemiology and Biostatistics) B.A. (John Carroll), M.A., Ph.D. (Indiana-Madison)

I. Kirnesky/(Business) B.A., M.A. (Tel-Aviv), Ph.D. (McMaster)

D.C. Mountain/(Business) B.A. (McMaster), M.A., Ph.D (Western Ontario)

Gregory L. Stoddart/(Clinical Epidemiology and Biostatistics) B.A. (Western Ontario), Ph.D. (British Columbia)

Professors Emeriti

Syed Ahmad/M.A., LL.B. (Allahabad), M.Sc., Econ. (J, D.Sc. (Econ.) (London)


James A. Johnson/M.A., Ph.D. (Minnesota)

William R. Scammell/B.Com. Sc. (Queen’s, Belfast), Ph.D. (Wales)

Robert W. Thompson/B.A. (Toronto), M.A. (Queen’s), Ph.D. (London)

James R. Williams/ M.A., Ph.D. (Minnesota)


Department Notes:

1. Not all the Economics courses listed in this Calendar 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 strong academic records, particularly those from other departments, may be permitted to enrol in courses for which they have not completed all prerequisites. In cases where prerequisites are incomplete, consultation with a departmental counselor is required. If approval is granted, the counselor will arrange for permission from the Department Chair.

3. Students with credit in ECON 2X03 who transfer into Economics from other programmes may substitute ECON 2X03 for ECON 2G03.

4. Students who transfer into Economics from other programmes may substitute ECON 1B03 and 1BB3 for ECON 1A06.
ECON 1A06 INTRODUCTORY ECONOMICS
An introduction to the method and theory of economics, and their application to the analysis of contemporary economic problems.
Three lectures; two terms
Antirequisite: ECON 1B03 and 1B03

ECON 1B03 INTRODUCTORY MICROECONOMICS
An introduction to the method and theory of microeconomics for Engineering, Kinesiology and Science students. The analysis will involve mathematics and will be applied to contemporary problems.
Three lectures; one term
Prerequisite: Registration in an Engineering, Kinesiology or Science programme

ECON 1BB3 INTRODUCTORY MACROECONOMICS
An introduction to the method and theory of macroeconomics for Engineering, Kinesiology and Science students. The analysis will involve mathematics and will be applied to contemporary problems.
Three lectures; one term
Prerequisite: Registration in an Engineering, Kinesiology or Science programme
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 1B03 and 1B03
Cross-list: LABR ST 3A03
Enrolment is limited.

ECON 2B03 ANALYSIS OF ECONOMIC DATA I
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 1B03 and 1B03 and MATH 1K03 (or OAC Calculus) and one of STATS 1L03 or 2L03 (or OAC Finite Math)
Not open to students with credit or registration in ECON 3006, CHEM ENG 4C03, COMMERCE 2Q03, GEOG 2L03, GEOG 2L13, 2N03, POL SCI 2F06, 3N08, PSYCH 2G03, 2R03, 2R3B, SOC SCI 2J03, SOCSCI 2Y03, 3N106, STATS 1C03, 1MA3, 2M03, 2R06; or if COMMERCE 2Q03 is a programme requirement.

ECON 2C03 ASIAN-PACIFIC ECONOMIES
Economic conditions and factors influencing economic growth in selected countries in the Asian-Pacific region. Topics include government policies related to exchange rates and trade and development, as well as the Japanese style of management, the bonus system and job tenure.
Three lectures; one term
Prerequisite: ECON 1A06 or 1B03 and 1B03
Cross-list: JAPAN ST 2C03

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.
Three lectures; one term
Prerequisite: ECON 1A06 or 1B03 and 1B03

ECON 2E03 CANADA'S EXPERIENCE WITH MACROECONOMIC POLICY
Topics may include control of deficits and debt, the role and implementation of monetary policy, structural labour market policies, tax reform, and distribution of income.
Three lectures; one term
Prerequisites: ECON 1A06 or 1B03 and 1B03

ECON 2F03 THE POLITICAL ECONOMY OF DEVELOPMENT
Topics include trade and economic protection, financial development and investment, income distribution, and the role of globalization and international political competition.
Three lectures; one term
Prerequisites: ECON 1A06 or 1B03 and 1B03

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 OAC Calculus or MATH 1K03 or equivalent. Students without credit in MATH 1M03 or equivalent are strongly advised to take it concurrently with ECON 2G03.
Antirequisite: ECON 2L06 or 2X03

ECON 2G03 INTERMEDIATE MICROECONOMICS II
Theory of consumer choice and applications to intertemporal choice and leisure supply decisions; theory of exchange, welfare economics and general equilibrium analysis.
Three lectures; one term
Prerequisite: ECON 2G03 or 2X03
Antirequisite: ECON 2L06

ECON 2H03 INTERMEDIATE INCOME AND EMPLOYMENT THEORY I
National income accounting, determinants of national income, employment, the rate of interest and the price level; introduction to open economy.
Three lectures; one term
Prerequisite: ECON 1A06 or 1B03 and OAC Calculus or MATH 1K03 or equivalent. Students without credit in MATH 1M03 or equivalent are strongly advised to take it concurrently with ECON 2H03.
Antirequisite: ECON 2M06

ECON 2H03 INTERMEDIATE INCOME AND EMPLOYMENT THEORY II
Selected topics from macroeconomics, issues in unemployemnt and inflation in open and closed economies, components of aggregate demand and supply and economic growth.
Three lectures; one term
Prerequisite: ECON 2H03
Antirequisite: ECON 2M06

ECON 2I03 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 1B03 and 1B03
Antirequisite: COMMERCE 3F03

ECON 2J03 ENVIRONMENTAL ECONOMICS
A detailed examination of environmental regulation in Ontario and elsewhere with emphasis on potential economic instruments and with specific attention to various forms of air and water pollution.
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 1B03

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
See Department Note 6 above.

ECON 2N03 PUBLIC POLICY TOWARD BUSINESS
The economic effects of federal competition policy and the regulation of business by all levels of government. The impacts of government ownership and bail out activity on the Canadian business environment are also analyzed.
Three lectures; one term
Prerequisite: ECON 1A06 or 1B03 and 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 1B03 and 1B3 Cross-list: LABR ST 3B03
Enrolment is limited.

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 OAC calculus or MATH 1K03 or equivalent. Students without credit in MATH 1M03 are strongly advised to take it concurrently with ECON 2X03
Antirequisite: ECON 2G03 or 2L06
Not open to students registered in Economics programs.

ECON 3A03  ADVANCED ECONOMIC THEORY I
Mathematically oriented approaches to the analysis of the behaviour of individual consumers, workers and firms.
Three lectures; one term
Prerequisite: MATH 1M03 and an average of at least 7.0 in ECON 2G03 or 2X03, 2GG3 or (2L06), 2H03, 2H3H or (2M06) and ECON 3G03
Offered in alternate years.

ECON 3A3A  ADVANCED ECONOMIC THEORY II
Analysis of dynamic macroeconomic models, including models of endogenous growth and other selected topics.
Three lectures; one term
Prerequisite: MATH 1M03 and an average of at least 7.0 in ECON 2G03 or 2X03, 2GG3 or (2L06), 2H03, 2H3H or (2M06) and ECON 3G03
Offered in alternate years.
Offered in 1999-2000.

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 process, theory of benefit-cost analysis, intergovernmental fiscal relations, government budgeting.
Three lectures; one term
Prerequisite: One of ECON 2G03, 2X03, 2L06
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: One of ECON 2G03, 2X03, 2L06
Antirequisite: ECON 3C06

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: One of ECON 2G03, 2X03, 2L06

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: Registration in Level III or Level IV of an Honours Economics programme

ECON 3G03  INTRODUCTION TO ADVANCED ECONOMIC THEORY
An introduction to the application of mathematics in economic theory.
Three lectures; one term
Prerequisite: One of OAC Finite Math, MATH 1B03, or STAT 1L03; MATH 1M03 or equivalent; and an average of at least 7.0 in ECON 2G03 or 2X03, 2GG3 (or 2L06), 2H03, 2H3H or (2M06)

ECON 3H03  INTERNATIONAL MONETARY ECONOMICS
Balance of payments and economic 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 or 2M06

ECON 3H3  INTERNATIONAL TRADE
Real theory of international trade; interregional and international specialization; effect of commercial and industrial policies.
Three lectures; one term
Prerequisite: One of ECON 2G03, 2X03, 2L06

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: One of ECON 2G03, 2X03, 2L06; and ECON 2H03 or 2M06

ECON 3I1L  HISTORY OF ECONOMIC THEORY
Economic thought from earliest times, with emphasis on the major schools from Adam Smith to Alfred Marshall, selected modern trends and controversies.
Three lectures; one term
Prerequisite: One of ECON 2G03, 2X03, 2L06; and ECON 2H03 or 2M06

ECON 3M03  INTRODUCTION TO GAME THEORY
An introduction to the theory of games, including strategic, extensive and coalitional games. Applications in economics, political science and evolutionary biology are discussed.
Three lectures; one term
Prerequisite: ECON 1A06 or 1B03 and MATH 1K03 (or equivalent)
Not open to students with credit in ECON 3Y03 SELECTED TOPICS I, if the topic was Introduction to Game Theory.

ECON 3P03  LINEAR ECONOMIC MODELS
Application and interpretation in economics of linear programming, game theory and inter-industry analysis.
Three lectures; one term
Prerequisite: One of OAC Finite Math, MATH 1B03 or 1L03, or STAT 1L03; at least C- in each of MATH 1M03, ECON 2G03 or 2X03 (or 2L06) and 2H03 (or 2M06). Credit in MATH 1A03, 1A06, 1AA6, 1C06 or 1N06 is accepted in place of C- in MATH 1M03.

ECON 3Q03  THE ECONOMICS OF AGING
Topics include the macroeconomics of population aging and its impact on national pension and health plans and the microeconomics of retirement and income security.
Three lectures; one term
Prerequisite: One of ECON 2G03, 2X03, 2L06; and ECON 2H03 or 2M06

ECON 3S03  INDUSTRIAL ORGANIZATION
A study of the structure, conduct and performance of industrial markets.
Three lectures; one term
Prerequisite: One of ECON 2G03, 2X03, 2L06; and ECON 2H03 or 2M06

ECON 3T03  TOPICS IN ECONOMIC DEVELOPMENT
Topics may include the measurement of structural change, dual economies, agriculture and production, technical and institutional change, and health and nutrition.
Three lectures; one term
Prerequisite: One of ECON 2G03, 2X03, 2L06; and ECON 2H03 or 2M06
Antirequisite: ECON 3J06
ECON 3U03  ANALYSIS OF ECONOMIC DATA II
Elaboration of regression techniques developed in ECON 2B03. Problems of inference and interpretation in the analysis of economic data. Introduction to forecasting in economics.
Three lectures; one term
Prerequisite: One of ECON 2G03, 2X03, 2L06; and ECON 2H03 or 2M06; and ECO 2LL3 or one of CHEM ENG 4G03, COMMERCE 2E03, GEO 2F03, 2G03, GEO 2L02L3, 2N06, POL SCI 2F06, 2N06, PSYCH 2G03, 2R03, 2R83, SOC SCI 2J03, SOCIOLOG 2Y03, 3H06, STAT 1C03, 2A43, 2M63, 2R06 or another course that is approved by a departmental counsellor as equivalent to ECON 2B03.
Not open to students with credit in ECON 3C06 or credit or registration in 4G03.

ECON 3W03  NATURAL RESOURCES
Competitive and socially optimal management of nonrenewable resources; market failure as illustrated by mineral cartels, fisheries and forestry, including analysis of bioeconomic models.
Three hours (lectures and seminars); one term
Prerequisite: MATH 1M03 and one of ECON 2G03, 2J03, 2X03, 2L06 or permission of the instructor.

ECON 3X03  URBAN MODELS AND POLICY ANALYSIS I
A survey of modern literature on urban social structure. Topics include morphology, adjustments to change, and such phenomena as sudden urban growth and the decline of central cities.
Two lectures (one hour), one tutorial (two hours); one term
Prerequisite: One of ECON 2G03, 2X03, 2L06, or GEO 2H03 (formerly GEOG 2B03)
Cross-list: GEO 3HX3 (formerly GEOG 3X03)

ECON 3Y03  SELECTED TOPICS I
Topics will vary from year to year depending on student interest and faculty availability. Students should consult the Department on topics to be offered.
Three hours; one term
Prerequisite: Permission of the Department

ECON 3Z03  HEALTH ECONOMICS
Analysis of allocation of resources in health care. Topics include markets for health care, insurance, biomedical research, technology assessment, organization and public policy.
Three lectures; one term
Prerequisite: One of ECON 2G03, 2X03, 2L06. 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 2G03, 2X03, 3F03, 3J03 or 3008

ECON 4B03  SELECTED TOPICS II
Topics will vary from year to year depending on student interest 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 I
Development of regression models appropriate to economics. Illustrations from applied micro- and macroeconomics.
Three lectures; one term
Prerequisite: ECON 2G03 or 2X03 (or 2L06), and ECON 2H03 (or 2M06), and at least C- in ECON 3C06 or 3U03 or STAT 2D03 and 2M05 (or 2M03)

ECON 4M06  DIRECTED RESEARCH I
A reading and/or research programme 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 4X03  URBAN MODELS AND POLICY ANALYSIS II
A survey of modern literature on urban issues. Topics include welfare criteria, externalities, public goods and fiscal policies.
Two lectures (one hour), one tutorial (two hours); one term
Prerequisite: ECON 3X03 or GEO 3HX3 (formerly GEOG 3X03)
Cross-list: GEO 4HX3 (formerly GEOG 4X03)
Paul E. Jessop (Engineering Physics), B.Sc. (Waterloo), M.A., Ph.D. (Harvard)
Tao Jiang (Computing and Software), B.Sc. (University of Science and Technol-
ogy of China, Heifei), Ph.D. (Minnesota)
Markad V. Kamath (Medicine), M.S., Ph.D. (Indian Inst. of Tech., Madras),
Ph. D. (McMaster)
Peter E. Lauer (Computing and Software), B.A. (Alabama), M.A. (Emory),
Ph.D. (Queen’s, Belfast)
Ali-Reza Montazeri (Business) H.N.D. (Teissid Polytechnic, U.K.),
M.Sc. (Southampton), Ph.D. (Waterloo)
Claude Nammari (Nuclear Medicine), B.Sc. (Cairo), Ph.D. (Surrey)
David L. Parnell (Computing and Software) B.S., M.S., Ph.D. (Carnegie),
Dr.h.c. (ETH-Zürich), Dr.h.c. (Louvain), F.R.S.C., F.A.C.M., NSERC/Bell
Industrial Research Chair in Software Engineering, P.Eng.
Lionel David Pengelly (Medicine), B.A.Sc. (Toronto), M.Sc., Ph.D. (McGill),
P.Eng
Skipper Poehmian (Computing and Software), B.S. (Niagara), B.Sc. (Brook),
M.Sc., Ph.D. (McMaster), P.Eng.
Sanzheng Qiao (Computing and Software), B.S., M.S. (Shanghai Teacher’s
College), M.S., Ph.D. (Cornel)
Emil Sekarinski (Computing and Software) Dipl. Inf., Ph.D. (Karlsruhe)
David A. Thompson (Engineering Physics), B.Sc., Ph.D. (Reading)
Roman Viveros-Aguilar (Mathematics and Statistics), B.A. (Veracruzana,
Mexico), M.A. (National Polytechnic Inst., Mexico), Ph.D. (Waterloo)
Martin von Mohrenschildt (Computing and Software) Dipl.Math., Dr.s.c.Math.
(ETH-Zürich)
Patrick Wu (Mathematics and Statistics), B.Sc. (Memorial), Ph.D. (McMaster)
Jeffrey I. Zucker (Computing and Software), B.Sc. (Witwatersrand), Ph.D. (Stanford)

Professors Emeriti
Colin K. Campbell (B.Sc., Eng.), Ph.D. (St. Andrews), D.Sc. (Dundee), S.M.
Arthur S. Gladwin (Glasgow), Ph.D. (London)
Reuven Kita (M.Sc., D. Sc. (Witwatersrand), F.I.F.E.E.
Nareesh K. Sinha (B.Sc., Eng.), (Banaras) C.Eng., Ph.D. (Manchester), F.I.F.E.E.,
P.Eng.

COMPUTER ENGINEERING ...

Department Note:
All Electrical and Computer Engineering courses are open to students regis-
tered in an Electrical or Computer Engineering programme, subject to prereq-
usite requirements. Prior permission of the Department is necessary for stu-
dents from other Engineering departments or faculties.

Courses
If no prerequisite is listed, the course is open.

COMP ENG 2D14 INTRODUCTION TO COMPUTER ENGINEERING
Binary numbers and codes; Boolean algebra; combinational circuit design;
electrical properties of logic circuits; sequential circuit design; computer arith-
metic; programmable logic; CPU organization and design.
Three lectures, one tutorial, one lab every other week; second term
Prerequisite: Registration in a programme in Computer Engineering, Electrical
Engineering, Engineering Physics or Physics
Antirequisite: COMP ENG 2HA3

COMP ENG 2S14 DATA STRUCTURES, ALGORITHMS
AND DISCRETE MATHEMATICS
Application of logic and finite state machines programming; data types; data
abstraction and algorithms for sorting and searching; application of graph
algorithms and combinatorics in programming; estimating program resource
utilization.
Three lectures, one tutorial (two hours); first term
Prerequisite: ENGR/ENG 1D04
Antirequisite: COMP ENG 2Y4A3

COMP ENG 3D14 DIGITAL SYSTEMS DESIGN
CAD tools for digital circuits; hardware description language; programmable
logic and applications; algorithmic state machine design; microprocess-

or-based system design including memory and peripheral interfaces; ma-

chine-level programming.
Three lectures, one tutorial, one lab every other week; first term
Prerequisite: COMP ENG 2D14 or 2HA3
Antirequisite: COMP ENG 3HB3, 3HC3

COMP ENG 3S14 SOFTWARE DEVELOPMENT
Role of inspection and testing; foundations of specification and documenta-
tion; modular design and interface design; documentation design decisions;
statistical, white-box and black-box testing; software documentation and
inspection.
Three lectures, one lab (four hours) every other week; first term
Prerequisite: COMP ENG 2S14 or 2Y4A3
Antirequisite: COMP ENG 3VA3

COMP ENG 3SK4 COMPUTER-AIDED ENGINEERING
CAE; 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, one lab every other week; second term
Prerequisite: COMP ENG 2D14 or 2HA3; ELEC ENG 2CJ4 or 2DA3; MATH
3K03
Antirequisite: COMP ENG 3KB3

COMP ENG 3SL4 DESIGN OF SOFTWARE SYSTEMS
Software hierarchies and object oriented methods for engineering systems;
interface syntax; variables and relational specifications; evaluation and se-
lection of languages; implementation of an object oriented design.
Two lectures, one tutorial, one lab (three hours); second term
Prerequisite: COMP ENG 3S14
Antirequisite: COMP ENG 3VA3

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 3DB3 or 3T14
Antirequisite: COMP ENG 4MA3

COMP ENG 4DL4 REAL-TIME AND DISTRIBUTED
COMPUTING SYSTEMS
Computing systems design for real-time applications in control and commu-
nications; data acquisition, file management, memory management and
multitasking in a real-time environment; distributed computing systems;
synchronization, fault tolerance.
Three lectures, one tutorial, one lab every other week; second term
Prerequisite: COMP ENG 3DJ4, 3HB3 and 3HC3
Antirequisite: COMP ENG 4HD3

COMP ENG 4DM4 COMPUTER ARCHITECTURE
Overview of CISC/RISC microprocessors and their evolution; performance
metrics; instruction set design; microprogramming and hardwired control;
processor and memory acceleration techniques; memory hierarchies;
multiprocessor structures and their performance.
Three lectures, one tutorial, one lab every other week; first term
Prerequisite: COMP ENG 3DJ4 or 3HB3 and 3HC3
Antirequisite: COMP ENG 4HD3

COMP ENG 4DN4 ENGINEERING DESIGN
The design process; establishing objectives; preliminary design; planning;
scheduling; decision matrices; modeling tools; economic impact; optimiza-
tion methods; reliability; safety, a term project composed of small teams of
students.
One lecture, one capstone project; offered both terms
Prerequisite: Registration in Level IV or V of any Electrical or Computer Engi-
neering programme
Antirequisite: ELEC ENG 4J4A, COMP ENG 4J14

COMP ENG 4SN4 OPERATING SYSTEMS
Structure of computing systems; processes and threads; scheduling; syn-
chronization; memory management; virtual memory; file systems interface
and management; distributed systems; concurrency; protection and security.
Three lectures, one tutorial, one lab every other week; second term
Prerequisite: COMP ENG 3SL4 or 3VA3
Antirequisite: COMP ENG 3WA3, 4WA3, COMP SCI 3MH3

ELECTRICAL ENGINEERING ...

Courses
ELEC ENG 2C14 INTRODUCTION TO ELECTRICAL ENGINEERING
Electro and magnetic fields; current, potential difference; Kirchoff’s laws;
Ohm’s Law; circuit elements; single time constant circuits; complex arith-
metic; phasors, impedance and admittance; semiconductor devices; sin-
gle-stage transistor amplifiers.
Three lectures, one tutorial, one lab every other week; first term
Prerequisite: Registration in a Computer Engineering or Electrical Engineer-
ing programme
Antirequisite: ELEC ENG 2BA3
ELEC ENG 2CJ4 CIRCUITS AND SYSTEMS
Mesh/modal analysis of electrical circuits; 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 2BA3 or 2CJ4
Antirequisite: ELEC ENG 2DA3

ELEC ENG 2E14 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 other week; second term
Prerequisite: ELEC ENG 2BA3 or 2CJ4
Corequisite: ELEC ENG 2CJ4
Antirequisite: ELEC ENG 2FA3

ELEC ENG 3C4 CONTROL SYSTEMS I
Control system design; modelling of physical systems; study of feedback and stability; performance specifications; design of control systems in the frequency domain using lead, lag compensators and PID control.
Three lectures, one tutorial, one lab every other week; second term
Prerequisite: ELEC ENG 2CJ4 or 2DA3, MATH 3K03
Antirequisite: ELEC ENG 3CA3

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 2BA3 or 2CJ4
Corequisite: ELEC ENG 2FA3
Antirequisite: ELEC ENG 3FB3, 3FC3

ELEC ENG 3F34 ELECTROMAGNETIC FIELDS
Electrostatics, magnetostatics, ferromagnetics; Maxwell's equations; plane and spherical waves; wave and Intrinsic impedances; phase and group velocity; energy; Pointing's theorem; propagation and reflection.
Three lectures, one tutorial, one lab every other week; first term
Prerequisite: ELEC ENG 2BA3 or 2CJ4
Antirequisite: ELEC ENG 3FB3

ELEC ENG 3P44 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; second term
Prerequisite: ELEC ENG 2CJ4 or 2DA3
Antirequisite: ELEC ENG 3NA3, 3SA3

ELEC ENG 3T4 COMMUNICATION SYSTEMS
Continuous-time systems; Laplace transforms; Fourier transforms; linear systems; impulse and frequency responses; distortion; AM, DSB, SSB, phase and frequency modulation; discretization of continuous signals; digital modulation.
Three lectures, one tutorial, one lab every other week; first term
Prerequisite: ELEC ENG 2CJ4 or 2DA3
Corequisite: MATH 3K03
Antirequisite: ELEC ENG 3AA3

ELEC ENG 3T44 DISCRETE TIME SYSTEMS AND RANDOM PROCESSES
Discrete time systems; discretization; z-transform; transfer functions; probability theory; random variables, expectations; random processes, autocorrelation, power spectral densities; filtering; applications of random processes; noise in communication systems.
Three lectures, one tutorial, one lab every other week; second term
Prerequisite: ELEC ENG 3AA3 or 3T4
Antirequisite: ELEC ENG 3DB3

ELEC ENG 4C34 CONTROL SYSTEMS II
Multiple input multiple output (MIMO) systems; continuous time and digital techniques; dynamic models for MIMO systems, state variables, vector spaces; design of state feedback controllers, optimal linear-quadratic regulator.
Three lectures, one tutorial, one lab every other week; second term
Prerequisite: ELEC ENG 3CA3 or 3K4
Antirequisite: ELEC ENG 4CB3

ELEC ENG 4E34 MICROELECTRONICS
CMOS and MOSFET integrated circuit design; fabrication and layout; simulation; digital and analog circuit blocks; computer aided design and analysis; testing and verification.
Three lectures, one tutorial, one lab every other week; second term
Prerequisite: ELEC ENG 2E14 or 2FA3 and 3FB3 or 3FC3
Antirequisite: ELEC ENG 4FD3

ELEC ENG 4E34 BIOMEDICAL ELECTRONIC 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.
Two lectures, one tutorial, one lab every other week; second term
Prerequisite: ELEC ENG 3EJ4 or 3FB3 and 3FC3 or ENGINEER 3N03 or PHYSICS 3B06
Antirequisite: ELEC ENG 4RA3

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; first term
Prerequisite: ELEC ENG 3SB3 or 3FJ4
Antirequisite: ELEC ENG 4RA3

ELEC ENG 4H3 COMMUNICATIONS SKILLS
Organizational behaviour; conflict resolution; barriers to communications; oral communications; interpersonal, group and team skills; technical writing; public presentations.
Two lectures, one tutorial (three hours) per week; first term
Prerequisite: Registration in Level IV Electrical or Computer Engineering
Antirequisite: ELEC ENG 4Q3A3, registration in Engineering and Management, or Engineering and Society

ELEC ENG 4HJ1 HEALTH AND SAFETY, LAW AND ETHICS
The Engineering Act; principles of ethics and ethical dilemmas; health and safety in the workplace; safety hazards in the workplace; electrical shock hazards; safety in the software industry.
Eight seminars (one hour); first term
Prerequisite: Registration in Level IV or V of any Electrical or Computer Engineering programme
Antirequisite: ELEC ENG 4A01

ELEC ENG 4P44 ENGINEERING DESIGN
The design process; establishing objectives; preliminary design; planning; scheduling; decision matrices; modeling tools; economic impact; optimization methods; reliability; safety; a term project composed of small teams of students.
One lecture, capstone project; offered both terms
Prerequisite: Registration in Level IV or V of any Electrical or Computer Engineering programme

ELEC ENG 4P34 ROTATING MACHINES
Design considerations for electric machines; polyphase stator windings; harmonics; slotting; saturation; losses; reactance; saliency; equivalent circuits; synchronous, asynchronous and permanent magnet machines.
Two lectures, one tutorial, one lab every other week; first term
Prerequisite: ELEC ENG 3NA3 and 3SA3 or 3P44

ELEC ENG 4P44 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.
Two lectures, one tutorial, one lab every other week; first term
Prerequisite: ELEC ENG 3NA3 and 3SA3 or 3P44; 3CA3 or 3K4; 3EJ4 or 3FB3 and 3FC3
Antirequisite: ELEC ENG 4SB3

ELEC ENG 4PL4 ENERGY SYSTEMS AND MANAGEMENT
Elements of generation, transmission, and distribution systems; system-wide energy flow and control; modeling and simulation; economics and management; fault prediction and management.
Two lectures, one tutorial, one lab every other week; first term
Prerequisite: ELEC ENG 3P44
Antirequisite: ELEC ENG 4NB3

ELEC ENG 4PK4 DIGITAL COMMUNICATIONS SYSTEMS
A/D conversion; digital modulation; frequency hopping; code-division multiplexing; matched filters; equalization; optimal receiver design; entropy; coding; data compression; capacity of band-limited Gaussian channel.
Two lectures, one tutorial, one lab every other week; second term
Prerequisite: ELEC ENG 3DB3 or 3T4
Antirequisite: ELEC ENG 3AA3

ELEC ENG 4Q14 COMPUTER ENGINEERING
Principles of computer hardware and software; programming languages; computer organization and architecture; computer networks; computer security; computer ethics.
Three lectures, one tutorial, one lab every other week; first term
Prerequisite: ELEC ENG 3P44
Antirequisite: ELEC ENG 4KB3
ENGINNEERING

Department Note:
Enrolment in these courses by students in programmes other than Engineering, Engineering and Society or Engineering and Management may be limited.

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 an Engineering programme
This course must be passed before registering in Level II Engineering.

ENGINEER 1C04 ENGINEERING DESIGN AND COMMUNICATION
Graphical, written and oral communication in the context of engineering design. The engineer and society. Design projects by individuals and groups, design skills workshops.
Two lectures, one graphics lab (three hours), one design lab (two hours); first term
Prerequisite: Registration in an Engineering programme

ENGINEER 1D04 ENGINEERING COMPUTATION
Disciplined design of sequential programs for engineering applications. Development, analysis, testing, and documentation of trustworthy programs. Use of the state concept and abstraction in programming.
Three lectures, one tutorial (two hours); second term
Prerequisite: Registration in an Engineering programme
Antirequisite: COMP SCI 1MA3 or 1MC3 or 1SA3

ENGINEER 2B03 ENGINEERING ECONOMICS
Two lectures, one tutorial; second term
Prerequisite: Registration in a Computer Engineering or Electrical Engineering programme
Antirequisite: CHEM ENG 4N04, ENGINEER 4B03
Not open to students registered in an Engineering and Management programme.

ENGINEER 2C03 ELECTRICITY, THERMOELECTRICITY AND ENERGY
An exposure of electrical and thermoelectric fundamental principles and concepts, and the applications of electric energy conversion. Topics: electrostatics, electric currents, circuits and transients, electrical power engineering, energy efficiency, heat transfer mechanisms.
Two lectures, one tutorial (two hours); second term
Prerequisite: PHYSICS 1E03, and registration in MATH 2M06

ENGINEER 2E03 STRUCTURE AND PROPERTIES OF ENGINEERING MATERIALS
Bending, crystal structure, defects and diffusion; mechanical and electrical properties; semiconductor device fabrication; optical magnetic and superconductor properties.
Three lectures, one tutorial; first term
Prerequisite: Completion of at least 12 units of Level I Chemistry, Mathematics or Physics
Antirequisites: ENGINEER 2003, 2004, 3P03, MATLS 1A03

ENGINEER 2MM3 ELECTRICAL CIRCUITS AND POWER
Fundamentals of electrical 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 term or second term
Prerequisite: PHYSICS 1E03, and registration in MATH 2M06, or MATH 2P04 and 2G04
Antirequisite: ENGINEER 9M03

ENGINEER 2003 STRUCTURE AND PROPERTIES OF ENGINEERING MATERIALS
Structure of materials as the basis of mechanical, thermal, electrical, magnetic and chemical properties. Basic approaches to selection of materials in engineering design.
Two lectures and one tutorial; first term
Prerequisite: Completion of at least 12 units of Level I Chemistry, Mathematics or Physics
Antirequisites: ENGINEER 2E03, 2004, 3P03, MATLS 1A03, 2A02

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; statics indeterminacy.
Three lectures, plus one unit computing tutorials or lectures devoted to applications, at the discretion of the instructor; first term
Prerequisite: PHYSICS 1D03

ENGINEER 2P04 ENGINEERING MECHANICS B'
Kinematics and dynamics of particles and rigid bodies. Motion with respect to a rotating frame of reference. Work, energy and momentum principles. Free, damped and forced vibrations of simple degree of freedom systems.
Three lectures, plus one unit computing tutorials or lectures devoted to applications, at the discretion of the instructor; second term
Prerequisite: Credit or registration in ENGINEER 2P04

ENGINEER 3D01 LEADERSHIP: PRINCIPLES AND PRACTICE I
Instruction and practice in basic skills of leadership through workshops and practicum in undergraduate engineering courses.
Three to four hours practicum; first or second term
Prerequisite: Registration in Level III or above of an engineering programme.

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; one term
Prerequisite: Completion of Level II of any Software Engineering programme

ENGINEER 3L03 DYNAMICS AND CONTROL OF PHYSICAL SYSTEMS
Mathematical models of physical systems involving the principles of statics, kinematics, vibrational and stability analysis. Fundamentals of control theory.
Three lectures; one term
Prerequisite: Completion of Level II of any Software Engineering programme

ENGINEER 3N03 ELECTRONICS AND INSTRUMENTATION
Two lectures, one tutorial (two hours) or one lab (three hours); second term
Prerequisite: ENGINEER 2M04 or 2M03 or 3N03

ENGINEER 3P03 MECHANICAL BEHAVIOUR OF MATERIALS
Three lectures, two 3-hour lab periods for concrete project; first term
Prerequisite: MATH 2M06, or MATH 2P04 and 2004, and ENGINEER 2P04
Antirequisites: ENGINEER 2E03, 2003, 3P03, 3R03, 3G03

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.
One lecture, one tutorial, one seminar; second term
Prerequisite: Registration in Level III or above in any Engineering programme except Engineering and Society
ENGINEERING AND SOCIETY

ENGINEER 4B03 ENGINEERING ECONOMICS
Two lectures, one tutorial; second term
Prerequisite: Registration in final level of an Engineering programme
Antirequisite: CHEM ENG 4N04, ENGINEER 2B03
Not open to students registered in an Engineering and Management programme.

ENGINEER 4H03 ENGINEERING: ITS HISTORY, PHILOSOPHY AND ITS WORKINGS
Three lectures; first term
Prerequisite: Registration in Level III, IV, or V of any Engineering programme except Engineering and Society

ENGINEER 4J03 MATERIALS FABRICATION
Offered jointly by the Departments of Mechanical Engineering and Materials Science and Engineering. Processing methods for a wide range of materials, including metals, ceramics and plastics. The analytical basis for understanding and optimizing materials processes. Exercises in mathematical modelling and the use of software packages to optimize processes.
Three lectures; first term
Prerequisite: MECH ENG 3A03 or MATLS 3M03 or 3P03

ENGINEER 4U03 UNIT OPERATIONS AND PROCESSES IN ENVIRONMENTAL ENGINEERING
The process capabilities, hardware and design equations, of the physical, chemical and biological processes used to improve water. Emphasis on processes such as bio-oxidation, clarification, coagulation, sludge dewatering and disinfection.
Two lectures, one tutorial (two hours); second term
Prerequisite: CHEM ENG 3C04 or CIV ENG 3C03 or 3Q04, or MECH ENG 3C04, and registration in Level IV or above of any Engineering programme

ENGINEER 4X03 CONCEPTS IN BIOMEDICAL ENGINEERING
Engineering and physical science approach to human physiological systems; cardiovascular system, with specific organ circulations, respiratory systems, overall integration and control.
Three lectures; first term
Prerequisite: Registration in Level III or above of an Engineering programme or any Honours programme in the Faculty of Science
Antirequisite: BIOLOGY 3U03

ENGINEERING AND MANAGEMENT
The Engineering and Management Programmes are described in the section Faculty of Engineering in this Calendar. These programmes are administered jointly by the School of Business and the Faculty of Engineering and lead to the B.Eng.Mgt. degree. An Industrial Advisory Council also participates in the education process.

Programme Director
E. Kleinschmidt
Administrant
S.D. Verhage

Courses
If no prerequisite is listed, the course is open.

ENGN MGT 2A02 COMMUNICATION SKILLS
Writing and speaking; interpersonal communications and skills, team-work, brainstorming, writing memoranda and business letters, organizational strategies, visual elements, formal reports, oral communications, technical talks.
One lecture, One tutorial (two hours); first term
Prerequisite: Registration in an Engineering and Management programme

ENGN MGT 3A01 ISSUES IN TECHNOLOGY MANAGEMENT
Introduction to the field of Technology Management; the skills of writing position papers, presenting to a small group, and facilitating seminars are developed.
One seminar/class; one term
Prerequisite: Registration in an Engineering and Management programme

ENGN MGT 4A01 ENGINEERING AND MANAGEMENT REPORT
A written report and oral presentation based on summer work experience and written assessments of communications are required. Guidelines and procedures must be obtained from the Programme Director before the end of Level III.
One seminar, alternate weeks; both terms
Prerequisite: Registration in Level IV of an Engineering and Management programme

ENGN MGT 5B03 ENGINEERING AND MANAGEMENT PROJECTS
Projects that integrate the engineering and business disciplines, employing case studies provided by the members of the Industrial Advisory Council, or by industry.
One lecture, two tutorials (two hours); first or second term
Prerequisite: Registration in the final year of an Engineering and Management programme

ENGINING AND SOCIETY
The Engineering and Society Programmes are described in the Faculty of Engineering section in this Calendar. These programmes lead to the B.Eng.Society degree.

Programme Director
R.C. Hudspith
Operating Committee, as of July 1, 1998:
M. Shoukri (Dean of Engineering)
P.E. Wood (Associate Dean of Engineering)
B. Baetz (Civil Engineering)
J. Chang (Engineering Physics)
K. Coley (Materials Science and Engineering)
K. Garay (Women's Studies)
R.L. Jud (Mechanical Engineering)
S.M. Kibria (Chemical Engineering and Society, Student)
S.J. Krizan (Chemical Engineering and Society, Student)
T.E. Marlín (Chemical Engineering)
R. Murtaza (Engineering Physics and Society, Student)
D.L. Parnas (Computing and Software)
T.L. Trai (Electrical Engineering and Society, Student)
A. Vaz (Electrical and Computer Engineering)
L. Worsley (Mechanical Engineering and Society, Student)

Courses
If no prerequisite is listed, the course is open.

ENGSOCTY 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 1999-2000 is sustainability.
Three hours (lectures, discussion, group work); first term
Prerequisite: Registration in an Engineering and Society programme
Antirequisite: STPP 2A06

ENGSOCTY 2Y03 CASE STUDIES IN THE HISTORY OF TECHNOLOGY
History and philosophy of technology, from antiquity to modern times, with special emphasis on the cultural aspects of technology, are addressed with a focus on 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. The focus for 1999-2000 is engineering and health.
Three hours (lectures, discussion, group presentations); first term
Prerequisite: ENGSOCTY 2X03
ENGSOCTY 3Y03 THE CULTURE OF TECHNOLOGY
A study of the nature and structure of technology, 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: ENGSOCTY 2Y03
Antirequisite: STTP 2A06

ENGSOCTY 3Z03 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.
Prerequisite: Registration in Level III or IV of an Engineering and Society programme or the Honours Environmental Science (B.Sc.) Programme
Three hours (lectures, discussion, group projects); second term
Prerequisite: Registration in Level V of an Engineering and Society Programme

Faculty as of January 15, 1999
Chair
P. Mascher

Professors
Alexander A. Berezhni/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)
Paul E. Jessop/B.Sc. (Waterloo), M.A., Ph.D. (Harvard)
Adrian H. Kital/B.Eng. (McMaster), Ph.D. (Cornell), P.Eng.
David A. Thompson/B.Sc., Ph.D. (Reading), C.Eng.

Adjunct Professors
James S. Forster/B.Eng., P.D. (Liverpool)
Derek C. Houghton/B.Sc. (Birmingham), Ph.D. (Cambridge)
David P. Jackson/B.Sc., M.A., M.A.Sc., Ph.D. (Toronto)
Krish V.S. Krishnan/B.Sc. (Madras), M.Sc., Ph.D. (Rochester)
Toshihiko Makino/B.E., M.E., Ph.D. (Kyoto)

Associate Professors
Thomas E. Jackman/B.Sc., M.Sc., Ph.D. (York)/part-time
Peter Mascher/M.Eng., Ph.D. (Technical University of Graz), P. Eng.

Adjunct Associate Professors
Sylvain Charbonneau/B.Sc., M.Sc., (Ottawa), Ph.D. (Simon Fraser)
Klaus F. Schoepfl/Dipl. Phys, Ph.D. (Innsbruck)

Associate Members
David R. Conn/Electrical and Computer Engineering), B.Sc., M.Sc., Ph.D. (Queen’s), P.Eng.
Jan Dirk Huizenga/Biomedical Sciences) B.Sc., M.Sc., Ph.D. (Groningen)
Slooper Poheman/Computing and Software), B.S. (Niagara), B.Sc. (Brock), M.Sc., Ph.D. (McMaster), P.Eng.
William V. Prestwich/Physics and Astronomy), B.Sc., Ph.D. (McMaster)
George F. Round/Mechanical Engineering), B.Sc., Ph.D., B.Sc. (Birmingham), F.C.I.C., P.Eng.

Mamdouh Shoukri/Mechanical Engineering), B.Sc. (Cairo), M.Eng., Ph.D. (McMaster), P.Eng.

Professors Emeriti
Edward A. Ballik/B.Sc. (Queen’s), D. Phil. (Oxford), P.Eng.
Bruce J. Kennett/B.Sc., M.Sc., Ph.D. (McMaster)

Courses
If no prerequisite is listed, the course is open.

ENG PHYS 2A03 ELECTRICAL SCIENCE I
An introduction to electricity and magnetism for Engineering Physics students.
Two lectures, one tutorial, one lab (three hours), every other week; first term
Prerequisite: PHYSICS 1E03, and credit or registration in MATH 2P04

ENG PHYS 2E04 ELECTRICAL SCIENCE II
DC, AC, and transient analysis of electrical circuits. Topics include methods of circuit analysis, circuit theorems, power, controlled sources, frequency response, rectifier and filter, and transformers.
Three lectures, one lab (three hours); second term
Prerequisite: ENG Phys 2A03

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

ENG PHYS 3G03 FUNDAMENTALS OF PHYSICAL OPTICS
Reflection and refraction; 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 and 2E04

ENG PHYS 3P03 FUNDAMENTALS OF SOLID STATE ELECTRONICS
Two lectures, one tutorial, one lab (three hours), every other week; second term
Prerequisite: ENG PHYS 2A03 and 2E04 or PHYSICS 1E03 and either MATH 2M06 or MATH 2P04 and 2Q04; or PHYSICS 2B06

ENG PHYS 3003 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; second term
Prerequisite: Credit or registration in MATH 2M06, or MATH 2P04 and 2Q04
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 programme

ENG PHYS 3X03  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 programme
Antirequisite: BIOLOGY 3U03, 3U06, 3UU3 or 4G06

ENG PHYS 4A04  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 final level of an Engineering Physics programme

ENG PHYS 4C03  INTEGRATIVE ENGINEERING
Aspects of engineering theory and practice, systems failure and catastrophe avoidance, population-resource dynamics and interactive dynamics of driven systems. The seminar/workshop part of the course will involve case studies of technology society issues. A term paper is required.

Three lectures; first term
Prerequisite: Registration in Level IV or above in any Engineering programme

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  SOLID STATE DEVICES I
Electronic properties of semiconductors, contact phenomena; p-n junctions; Schottky diodes, photodiodes, bipolar transistors, field effect transistors.

Three lectures; first term
Prerequisite: ENG PHYS 3F03 or ENGINEER 3Q03

ENG PHYS 4F03  SOLID STATE DEVICES II
Physical principles underlying operation of selected devices, and their characteristics; optical devices, avalanche devices, Gunn Effect devices, Read diodes, charge coupled devices, integrated circuits, Josephson Junctions.

Three lectures; second term
Prerequisite: Credit or registration in ENG PHYS 4E03

ENG PHYS 4G03  OPTICAL INSTRUMENTATION
Design of optical equipment (including reflective and refractive optical systems, interferometers and spectrometers). Optical sources and power measurements. Detectors (photographic, photoelectric, etc.), including use in the infrared and ultraviolet, and at low intensity levels.

Three lectures; first term
Prerequisite: PHYSICS 3N03 or ENG PHYS 3E03

ENG PHYS 4H04  SPECIAL STUDIES IN ENGINEERING PHYSICS
A special programme of studies to be arranged by mutual consent of a professor and the student with approval of the departmental 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 programme and a CA of at least 65

ENG PHYS 4K03  OPTICAL COMMUNICATIONS SYSTEMS

Three lectures; second term
Prerequisite: Registration in Level IV or V of any programme in Engineering or Physics

ENG PHYS 4L03  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, one lab; second term
Prerequisite: ENG PHYS 3C03 and 3W04

ENG PHYS 4N03  PRINCIPLES OF FUSION ENERGY
Fusion phenomena and the plasma state; reaction analysis; Coulomb scattering; field effect trajectories; magnetic field configurations; particle transport; energy viability; burn cycles; inertial confinement; muon catalyzed fusion.

Three lectures; second term
Prerequisite: ENG PHYS 3D03

ENG PHYS 4S04  LASERS AND ELECTRO-OPTICS

Two lectures; both terms
Prerequisite: PHYSICS 3N03 or ENG PHYS 3E03

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 labs (three hours); both terms
Prerequisite: ENG PHYS 3W04 and PHYSICS 3E06

ENGINEERING TECHNOLOGY

ENGINEERING TECHNOLOGY (GENERAL)

Note:
Engineering Technology courses are open only to students registered in the Manufacturing Engineering Technology programme and are subject to prerequisite requirements.

Courses:

ENG TECH 1MA3  MATHEMATICS I
Ordinary and partial differential equations; Laplace transforms; Fourier series; vector calculus; integral theorems, with engineering applications. Lecture (1.5 hours) each week; two terms

ENG TECH 1ML3  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
Corequisite: ENG TECH 1MA3

ENG TECH 1PG3  PROGRAMMING
An overview of C, C++ programming; variables, constants and operators; program control statements; arrays and strings; pointers; classes; virtual functions; I/O system, preprocessor.

One lecture, one tutorial; one term

ENG TECH 2CT3  SYSTEM ANALYSIS AND CONTROLS
Mathematical foundation: differential equations. Laplace transforms, transform by partial-fraction expansion; transfer functions; modelling of physical systems; stability, Routh criteria; time and frequency domain; Root-locus technique; design of control systems.

Three lectures, one term
Prerequisite: ENG TECH 1PG3
Corequisite: ENG TECH 1MA3

ENG TECH 2FE3  FINITE ELEMENT ANALYSIS
Matrix techniques; eigenvalue problem: equations of elasticity; plane stress, plane strain, 3D problems; variational methods; element types, element stiffness, mass matrices and load vector; assemblage of elements, boundary conditions.

Two lectures, one tutorial; one term
Prerequisite: ENG TECH 1MA3
Corequisite: ENG TECH 1ML3

ENG TECH 2MN3  MODELLING AND NUMERICAL SOLUTIONS
Number systems and errors; the solution of nonlinear equations; interpolation by polynomial; matrices and systems of linear equations; differentiation and integration; the solution of differential equations; applications to mechanical systems.

Three lectures, one term
Prerequisite: ENG TECH 1MA3 and 1PG3
ENGLISH

Faculty as of January 15, 1999

Interim Chair
Brian John

University Professor
James King/B.A. (Toronto), M.A., Ph.D. (Princeton), F.R.S.C.

Professors
Josef Adelson/B.A. (Trent), M.A., Ph.D. (Toronto)
A. B. A. D. B. M. A. (Punjab), D. Phil. (Oxford)
Alan B. Bishop/B.A. (Rhodes, S. Africa), M.A., D. Phil. (Oxford)
David Biewet/B.A., M.A. (Manitoba), Ph.D. (Toronto)
Anthony S. Brennan/B.A. (Oxford), M.A., Ph.D. (McMaster)
Donald C. G. Geuhl/B.A. (Queen's), M.A., Ph.D. (McMaster)
Lorraine M. York/B.A., M.A., Ph.D. (McMaster)

Associate Professors
Sylvia Bowron/B.A., B.Ed. (Toronto), M.A. (Simon Fraser), Ph.D. (McMaster)
David L. Clark/B.A., M.A., Ph.D. (Western Ontario)
Jeffrey Donaldson/B.A., M.A., Ph.D. (Toronto)
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)
Anne Savage/B.A. (Calgary), Ph.D. (London)
Mary Silcox/B.A. (Western Ontario), M.A., Ph.D. (Queen's)
Peter Walmsley/B.A., M.A. (Toronto), Ph.D. (Cambridge)

Assistant Professors
Daniel Coleman/B.Ed., M.A. (Regina), Ph.D. (Alberta)
Nicholas Halmi/B.A. (Cornell), M.A., Ph.D. (Toronto)
Roger L. Hryman/B.A. (York), M.A., Ph.D. (Toronto)
Grace Kehl/ B. A. (Regina), M.A., Ph.D. (Toronto)
Susie O'Brien/B.A. (Queen's), M.A. (Queensland), Ph.D. (Queen's)

Professors Emeriti
Cari P.A. Ballstadt/B.A., M.A. (Western Ontario), Ph.D. (London)
Alwyn Berland/B.A., M.A. (Chicago), M.Litt. (Cambridge)
Andrew W. Brink/B.A., M.A. (Toronto), Ph.D. (London)
Thomas H. Calv/B.A., M.A., (Toronto), Ph.D. (Wisconsin)
Douglas J.M. Duncan/B.A. (Oxford), Ph.D. (Aberdeen)
Maureen P. Halsey/B.A., Ph.D. (McMaster)
Bernard A.W. Jackson/B.A., M.A., Ph.D. (McMaster)
Alvin A. Lee/B.A., M.A., Ph.D., D.Litt. (Toronto), D.Litt. (McMaster)
Laurel A. Mears/B.A., M.A. (Arkansas), Ph.D. (Toronto)
Richard E. Morton/B.A. (Wales), B.Litt. (Oxford)
W.J. B. Owen/M.A. (New Zealand and Oxford), Ph.D. (Wales), D.Litt. (McMaster), F.R.S.C.
Graham Petrie/M.A. (St. Andrews), B.Litt. (Oxford)
W. Graham Roebuck/B.A. (Durham), M.A. (McMaster), Ph.D. (London)
F. Norman Shreve/C.D., B.A. (McMaster), M.A. (Toronto), Ph.D. (Queen's)
Chauncey D. Wood/A.B. (Union College), M.A., Ph.D. (Princeton)

Department Notes:
1. The following are courses open as electives to students registered in Level II and above of any university program.

ENGLISH 2C03 Contemporary Canadian Fiction
ENGLISH 2E03 Twentieth-Century British Literature
ENGLISH 2F03 Studies in American Literature
ENGLISH 2G03 Contemporary Popular Culture
ENGLISH 2L03 Shakespeare: Selected Plays
ENGLISH 3B03 Psychoanalytic Approaches to Literary Texts
ENGLISH 3F03 Psychoanalysis and Creativity
ENGLISH 3H03 Topics in Poetry
ENGLISH 3I03 Topics in Prose

ENGLISH 3P03 Modern Drama in English
ENGLISH 3W03 Contemporary Native Literature in Canada
ENGLISH 3X03 Contemporary Native Literature in the United States
ENGLISH 3XX3 Topics in Drama

Please note that the Department is able to offer only a selection of elective courses each year.

2. Courses restricted to students registered in programmes in English may be available to qualified students in other programmes 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 programme. Enrolment will be limited to 15 students per seminar. A list of seminars to be offered will be available prior to registration.

Courses
If no prerequisite is listed, the course is open.

ENGLISH 1D06 ENGLISH LITERATURE: FORMS AND APPROACHES
A selection of various areas of literary study (such as periods, genres, contexts, and approaches) will be examined, using texts from a wide variety of periods and forms of English literature. In this course considerable emphasis is placed on the development of critical skills in reading and writing. Two lectures, one tutorial; two terms

ENGLISH 2B06 THE DEVELOPMENT OF ENGLISH DRAMA
English drama from the medieval period to the close of the 18th century (excluding Shakespeare).
Three lectures; two terms
Prerequisite: Registration in a programme in English or permission of the Departmental Counsellor

ENGLISH 2C03 CONTEMPORARY CANADIAN FICTION
A study of the themes and structure of the contemporary Canadian novel, usually with emphasis upon the relationship of Canada's cultural patterns and its literature.
Three lectures; one term
Prerequisite: Registration in Level II and above.

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 lectures; one term
Prerequisite: Registration in Level II and above.

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 lectures; one term
Prerequisite: Registration in Level II and above.

ENGLISH 2G06 CANADIAN LITERATURE
Major aspects of the development of Canadian literature from the late 18th century to the mid-20th century. French-Canadian work in translation will be used for comparative purposes.
Three lectures; two terms
Prerequisite: Registration in a programme in English or permission of the Departmental Counsellor

ENGLISH 2H06 AMERICAN LITERATURE
A survey of significant American writers from the 17th century to the present, which emphasizes the interrelationship between the literature and its philosophical and historical background.
Three lectures; two terms
Prerequisite: Registration in a programme in English or permission of the Departmental Counsellor

ENGLISH 2I06 MODERN BRITISH LITERATURE
A study of representative literature by British writers of the 20th century. Through criticism of poems, plays and fiction, an attempt is made to relate modern British literature to its social, intellectual and cultural context.
Three lectures; two terms
Prerequisite: Registration in a programme in English or permission of the Departmental Counsellor
ENGLISH 2J03  CONTEMPORARY POPULAR CULTURE
Drawing on models of analysis from the field of cultural studies, this course will introduce students to methods of critically analyzing selected forms of popular culture. Areas of investigation may include: television, magazines, advertising, computer culture, film, popular fiction.
Three lectures; one term
Prerequisite: Registration in Level II and above

ENGLISH 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 a component of the course.
Three lectures; two terms
Prerequisite: Registration in a programme in English or permission of the Departmental Counsellor
Cross-list: WOMEN ST 2K06

ENGLISH 2L03  SHAKESPEARE: SELECTED PLAYS
A study of a representative selection of plays.
Three lectures; one term
Prerequisite: Registration in Level II and above
Antirequisite: ENGLISH 3E03
Not open to students with credit or registration in ENGLISH 3K06.

ENGLISH 3B03  PSYCHOANALYTIC APPROACHES TO LITERARY TEXTS
The basic assumptions and methods of psychoanalytic criticism will be studied with reference to selected texts in drama, fiction, and poetry from Shakespeare to the present.
Three lectures; one term
Prerequisite: Registration in Level II and above
Cross-list: PSYCH 2B03

ENGLISH 3C06  CHAUCER AND HIS CONTEMPORARIES
A critical, mainly literary, course in the poetry of later 14th-century England. It will study the writings of Chaucer in some depth, before taking up examples of medieval romance, allegory and drama.
Three lectures; two terms
Prerequisite: Registration in a programme in English or permission of the Departmental Counsellor
Cross-list: SOCIOL 2C03

ENGLISH 3CC3  LITERATURE AND FILM
An examination of the particular characteristics of both literature and film and the relationships between them through a detailed study of selected novels, short stories and plays, and the films that have been based on them.
Three lectures; plus one weekly film screening; one term
Prerequisite: Registration in Level III or IV of a programme in Drama or Literature or Art History. It is recommended that students should already have taken DRAMA 2X06.
Cross-list: COMP LIT 3C03 and DRAMA 3C03

ENGLISH 3F03  PSYCHOANALYSIS AND CREATIVITY
A study of unconscious fantasy as a source of creativity in selected literary texts. Psychoanalytic models will be applied to written and visual forms of aesthetic objects.
Three lectures; one term
Prerequisite: Registration in Level II and above
Cross-list: SOCIOL 3F03

ENGLISH 3G06  ENGLISH LITERATURE (1660-1800)
A study of English literature during the period 1660-1800, with special attention to works by Dryden, Swift, Pope and Johnson.
Three lectures; two terms
Prerequisite: Registration in a programme in English or permission of the Departmental Counsellor

ENGLISH 3HH3  TOPICS IN POETRY
Previous topics include: Contemporary British Poetry, Women Poets of the 20th century, Lesbian Poetry. Consult the Department concerning topic to be offered.
Three lectures; one term
Prerequisite: Registration in Level II and above

ENGLISH 3H06  STUDIES IN SIXTEENTH-CENTURY LITERATURE
A critical study of the literature of the 1500s in England, particularly the second half of the century. The influence of continental writers will also be examined, and special attention will be paid to Spenser.
Three lectures; two terms
Prerequisite: Registration in a programme in English or permission of the Departmental Counsellor
Antirequisite: ENGLISH 3J03 or 3T03
Cross-list: COMP LIT 3H06

ENGLISH 3I03  TOPICS IN PROSE
Previous topics include: Jane Austen, African American Fiction, Science Fiction. Consult the Department concerning topic to be offered.
Three lectures; one term
Prerequisite: Registration in Level II and above

ENGLISH 3J06  THE ENGLISH LANGUAGE
An analysis of the way the English language works, with particular reference to syntactic patterns. The following areas will be considered: English phonology, historical linguistics, morphology, transformational-generative grammar, vocabulary and word formation.
Three lectures; two terms
Prerequisite: Registration in a programme in English or permission of the Departmental Counsellor
Antirequisite: LINGUIST 1A06

ENGLISH 3K06  SHAKESPEARE
An extensive critical reading and discussion of selected plays.
Three lectures; two terms
Prerequisite: Registration in a programme in English or permission of the Departmental Counsellor

ENGLISH 3L03  THE BRITISH NOVEL
The course will focus on translation from the beginner's level to a level at which students can read Old English poetry with the help of a glossary only. The introduction to Old English grammar will be by means of paradigms, drills and the translation of simple prose. Grammar sessions will be complemented by classes on Anglo-Saxon cultural history and critical approaches.
Three lectures; one term
Prerequisite: Registration in a programme in English or permission of the Departmental Counsellor

ENGLISH 3M03  ROMANTIC POETRY
A study of selected poems and, where appropriate, of the literary theory of the major Romantic poets. Special attention will be given to Blake, Wordsworth, Coleridge, Byron, Shelley, Keats.
Three lectures; two terms
Prerequisite: Registration in a programme in English or permission of the Departmental Counsellor

ENGLISH 3N06  OLD ENGLISH LANGUAGE AND LITERATURE
The course will focus on translation from the beginner's level to a level at which students can read Old English poetry with the help of a glossary only. The introduction to Old English grammar will be by means of paradigms, drills and the translation of simple prose. Grammar sessions will be complemented by classes on Anglo-Saxon cultural history and critical approaches.
Three lectures; two terms
Prerequisite: Registration in a programme in English or permission of the Departmental Counsellor

ENGLISH 3T03  THE VICTORIAN NOVEL
A representative selection of poems and, where appropriate, of the literary theory of the major Victorian poets. Special attention will be given to Tennyson, Browning, Arnold, Hopkins.
Three lectures; one term
Prerequisite: Registration in a programme in English or permission of the Departmental Counsellor

ENGLISH 3V06  VICTORIAN POETRY
A study of selected poems and, where appropriate, of the literary theory of the major Victorian poets. Special attention will be given to Tennyson, Browning, Arnold, Hopkins.
Three lectures; two terms
Prerequisite: Registration in a programme in English or permission of the Departmental Counsellor

ENGLISH 3W06  THE BRITISH NOVEL
The course will focus on translation from the beginner's level to a level at which students can read Old English poetry with the help of a glossary only. The introduction to Old English grammar will be by means of paradigms, drills and the translation of simple prose. Grammar sessions will be complemented by classes on Anglo-Saxon cultural history and critical approaches.
Three lectures; one term
Prerequisite: Registration in a programme in English or permission of the Departmental Counsellor

ENGLISH 3X03  MODERN DRAMA IN ENGLISH
A representative selection of plays by modern British, Irish and North American dramatists will be examined in order to study the relationships between drama and society. In our age, as well as conventions and experiments in the contemporary theatre.
Three lectures; one term
Prerequisite: Registration in Level II and above

ENGLISH 3Y03  THE HISTORY AND THEORY OF CRITICISM
A survey of the main developments in the theory and practice of literary criticism from Plato to the early 20th century.
Three lectures; one term
Prerequisite: Registration in a programme in English or permission of the Departmental Counsellor
Cross-list: COMP LIT 3Y03
ENGLISH 3Q03 MODERN CRITICAL THEORY
The theory and practice of literary criticism from Eliot to the present.
Three lectures; one term
Prerequisite: Registration in a programme in English or permission of the Departmental Counsellor. English 3Q03 is recommended.
Cross-list: COMP LIT 3Q03

ENGLISH 3R06 POSTCOLONIAL LITERATURES: THEORY AND PRACTICE
A study of postcolonial literary theory and practice. Texts written in English from a variety of formerly colonized regions will be studied; these may include Africa, the Caribbean, South and Southeast Asia, Australia and New Zealand. The focus will be on such topics as imperialism, race, gender, ethnicity, nation, language, and representation.
Three lectures; two terms
Prerequisite: Registration in a programme in English or permission of the Departmental Counsellor.
Cross-list: COMP LIT 3R06

ENGLISH 3V06 STUDIES IN 17TH-CENTURY LITERATURE
A detailed examination of poets and prose-writers of the period, with emphasis on the poetry of Donne, the "metaphysical school", Jonson and Milton.
Three lectures; two terms
Prerequisite: Registration in a programme in English or permission of the Departmental Counsellor.

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: INDIG ST 1A06 or ENGLISH 1D06 or permission of the instructor.
Cross-list: INDIG ST 3D03

ENGLISH 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: INDIG ST 1A06 or ENGLISH 1D06 or permission of the instructor.
Cross-list: INDIG ST 3E03

ENGLISH 3X33 TOPICS IN DRAMA
Previous topics include: British Drama; 1590 to the Present, Modern Canadian Drama. Consult the Department concerning topic to be offered.
Three lectures; one term
Prerequisite: Registration in Level II and above.

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 three 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 programme in English; and permission of the Department. Departmental permission slip required.
Enrolment is limited.

Note:
Level IV seminars are open only to Honours students registered in Level IV of an English programme. Enrolment will be limited to 15 students per seminar. 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.

ENGLISH 4RA3 RHETORIC, CULTURE, CATASTROPHE: AIDS AND ITS REPRESENTATIONS
An examination of selected novels, films, autobiographical writings and theoretical texts about AIDS, with an emphasis on the cultural discourses surrounding the AIDS crisis.
Seminar (two hours); one term
Prerequisite: Registration in Level IV of an Honours programme in English. Enrolment is limited. Departmental permission required.

ENGLISH 4AW3 ASIAN AMERICAN WRITING
An examination of selected prose texts by American writers of Asian origin, issues of immigration, multiculturalism, race, and gender will be given close attention.
Seminar (two hours); one term
Prerequisite: Registration in Level IV of an Honours programme in English. Enrolment is limited. Departmental permission required.

ENGLISH 4BC3 MODERN BRITISH COMIC NOVELS
The course will deal with a number of representative comic novels within a broad theoretical context. It will investigate some of the ways in which humour is related to social attitudes toward such matters as class, ethnicity, gender and politics.
Seminar (two hours); one term
Prerequisite: Registration in Level IV of an Honours programme in English. Enrolment is limited. Departmental permission required.

ENGLISH 4BL3 THE BLOOMSBURY GROUP
An examination of the literary and cultural phenomenon known as Bloomsbury, focusing on the novels of Virginia Woolf and E.M. Forster.
Seminar (two hours); one term
Prerequisite: Registration in Level IV of an Honours programme in English. Enrolment is limited. Departmental permission required.

ENGLISH 4BP3 CROSS-CURRENTS IN CONTEMPORARY BRITISH POETRY
Close readings of selected works by three contemporary British poets - Philip Larkin, Ted Hughes and Charles Tomlinson.
Seminar (two hours); one term
Prerequisite: Registration in Level IV of an Honours programme in English. Enrolment is limited. Departmental permission required.

ENGLISH 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 an Honours programme in English. Enrolment is limited. Departmental permission required.

ENGLISH 4CM3 CHRISTOPHER MARLOWE
A consideration of Marlowe as poet, playwright, and as the subject of biography and literary mythology, with attention to the intellectual and political dimension of his life and work.
Seminar (two hours); one term
Prerequisite: Registration in Level IV of an Honours programme in English. Enrolment is limited. Departmental permission required.

ENGLISH 4DE3 STUDIES IN VICTORIAN FICTION: CHARLES DICKENS AND GEORGE ELIOT
A critical reading of selected novels by Dickens and Eliot, with consideration of their development, their contribution to the novel as genre, and their insights into Victorian society and the modern world.
Seminar (two hours); one term
Prerequisite: Registration in Level IV of an Honours programme in English. Enrolment is limited. Departmental permission required.

ENGLISH 4DH3 D.H. LAWRENCE
A study of selected works by D.H. Lawrence, focusing upon several novels with some attention to his shorter fiction, poetry and non-fictional prose.
Seminar (two hours); one term
Prerequisite: Registration in Level IV of an Honours programme in English. Enrolment is limited. Departmental permission required.
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<th>Course Code</th>
<th>Course Title</th>
<th>Prerequisites</th>
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<tr>
<td>ENGLISH 4EL3</td>
<td>ENVIRONMENTAL LITERATURE</td>
<td>A study of the ways in which literary texts mediate between culture and nature using traditional, scientific, environmentalist, eco-feminist, native American, and deep ecologist approaches. Seminar (two hours); one term. Prerequisite: Registration in Level IV of an Honours programme in English. Enrolment is limited. Departmental permission required.</td>
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<tr>
<td>ENGLISH 4ER3</td>
<td>SEX AND SOCIETY IN ENGLISH RENAISSANCE LITERATURE</td>
<td>A study of the institutionalization of sexuality during the English Renaissance as presented in the literary discourse of the age. Seminar (two hours); one term. Prerequisite: Registration in Level IV of an Honours programme in English. Enrolment is limited. Departmental permission required.</td>
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<tr>
<td>ENGLISH 4ES3</td>
<td>ENGLISH SATIRE</td>
<td>Close readings of the satiric writings of Dryden, Swift and Pope, with attention to the nature and function of satire and its development from classical literature. Seminar (two hours); one term. Prerequisite: Registration in Level IV of an Honours programme in English. Enrolment is limited. Departmental permission required.</td>
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<tr>
<td>ENGLISH 4EW3</td>
<td>THE ART AND THOUGHT OF EVELYN WAUGH</td>
<td>An examination of the development of Waugh's fiction, with attention also given to his non-fictional prose in diaries and letters. Seminar (two hours); one term. Prerequisite: Registration in Level IV of an Honours programme in English. Enrolment is limited. Departmental permission required.</td>
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<tr>
<td>ENGLISH 4FT3</td>
<td>THE FAIRY TALE</td>
<td>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 programme in English. Enrolment is limited. Departmental permission required.</td>
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<tr>
<td>ENGLISH 4GH3</td>
<td>THE POETRY OF GEORGE HERBERT</td>
<td>Close readings of most of Herbert's English poems, with attention to the poetical and theological concerns of early 17th-century England. Seminar (two hours); one term. Prerequisite: Registration in Level IV of an Honours programme in English. Enrolment is limited. Departmental permission required.</td>
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<tr>
<td>ENGLISH 4GM3</td>
<td>CANADIAN FICTIONS OF GENDER AND MIGRATION</td>
<td>A study of the interactions and displacements between discourses of gender and migration in contemporary Canadian multicultural fiction. Seminar (two hours); one term. Prerequisite: Registration in Level IV of an Honours programme in English. Enrolment is limited. Departmental permission required.</td>
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<tr>
<td>ENGLISH 4JD3</td>
<td>JOHN DONNE’S ANATOMIE AND THE CRISIS OF THE TIMES</td>
<td>The course explores Donne’s witty, passionate contemplations on intellectual upheaval in the early modern world—the &quot;Anatomie&quot; and &quot;Progres of the Soule&quot;—and their contexts. Seminar (two hours); one term. Prerequisite: Registration in Level IV of an Honours programme in English. Enrolment is limited. Departmental permission required.</td>
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<tr>
<td>ENGLISH 4LL3</td>
<td>THE LYRIC OF LOVE AND LOSS: SHAKESPEARE, DONNE, HARDY AND YEATS</td>
<td>Readings of sets of poems dealing with the experiences of human love and loss by two Renaissance and two Modern poets, with some study of the cultural backgrounds of such literature. Seminar (two hours); one term. Prerequisite: Registration in Level IV of an Honours programme in English. Enrolment is limited. Departmental permission required.</td>
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<td>ENGLISH 4ML3</td>
<td>MARGARET LAURENCE</td>
<td>The seminar will study the novels and short stories of Margaret Laurence. Also for comparative purposes, one work by each of Atwood and Munro will be studied. Seminar (two hours); one term. Prerequisite: Registration in Level IV of an Honours programme in English. Enrolment is limited. Departmental permission required.</td>
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<tr>
<td>ENGLISH 4NP3</td>
<td>WORDSWORTH AND SHELLEY AS POETS OF NATURE AND SOCIETY</td>
<td>An examination of selected poetry and prose by Wordsworth and Shelley, concentrating on their conceptions of nature, their responses to political events, and their definitions of the poet's role in society. Seminar (two hours); one term. Prerequisite: Registration in Level IV of an Honours programme in English. Enrolment is limited. Departmental permission required.</td>
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<tr>
<td>ENGLISH 4OP3</td>
<td>THE PRIMA DONNA IN VICTORIAN FICTION</td>
<td>This course scrutinizes the ideological and practical work of the Victorian prima donna in society and on stage by considering her representation in a variety of media. Seminar (two hours); one term. Prerequisite: Registration in Level IV of an Honours programme in English. Enrolment is limited. Departmental permission required.</td>
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<td>ENGLISH 4QF3</td>
<td>TIMOTHY FINDLEY AND THE CONSTRUCTION OF MASCULINITIES</td>
<td>This seminar will allow for the intensive reading of Findley's seven novels (to date) and one of his (two) short story collections. The seminar will focus on Findley's study of the constructedness of masculinities in modern and contemporary Western societies. Seminar (two hours); one term. Prerequisite: Registration in Level IV of an Honours programme in English. Enrolment is limited. Departmental permission required.</td>
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<tr>
<td>ENGLISH 4RT3</td>
<td>THE ROMANCE OF ROMANCE</td>
<td>Pairs of medieval and modern romances will be studied in the light of critical theories of romance, gender and reading. Seminar (two hours); one term. Prerequisite: Registration in Level IV of an Honours programme in English. Enrolment is limited. Departmental permission required.</td>
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<tr>
<td>ENGLISH 4ST3</td>
<td>UTOPIAN LITERATURE</td>
<td>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 programme in English. Enrolment is limited. Departmental permission required.</td>
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<td>ENGLISH 4WC3</td>
<td>THE WITCHCRAFT CONTROVERSY IN PRINT AND ON STAGE, 1565-1656</td>
<td>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 programme in English. Enrolment is limited. Departmental permission required.</td>
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<tr>
<td>ENGLISH 4WL3</td>
<td>ISSUES IN CONTEMPORARY WORLD LITERATURE</td>
<td>A study of changing literary conceptions of the world through an exploration of contemporary works of fiction written in English from a variety of cultural and national contexts. Seminar (two hours); one term. Prerequisite: Registration in Level IV of an Honours programme in English. Enrolment is limited. Departmental permission required.</td>
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ENVIRONMENTAL SCIENCE

Former Geography, Geology, and some Environmental Science courses are now listed as Geo courses. Students having credit in Geography and Geology courses may not take the corresponding course under the Geo designation.

To determine the new Geo designation of a former Environmental Science course, please see Geography and Geology in the Course Listings section of this Calendar.

Former Course: New Course: Course Title

ENVI SC 1A06 GEO 1A03 BIOSPHERE

An introduction to the processes involved in weather, climate, and surface waters with a focus on the human impacts on these processes. A Saturday field trip may be held.

Two lectures, one tutorial, one lab; one term

Antirequisite: ENVI SC 1A06, 1H03, GEOG 1C03

GEOL 1B03 BIOSPHERE

Formerly: ENVI SC 1B03

Characteristics of the biosphere and introduction to major environmental processes and issues. A Saturday field trip may be held.

Two lectures, one tutorial, one lab; one term

Antirequisite: ENVI SC 1A06, 1B03

GEOL 1G03 GEOSPHERE

Formerly: ENVI SC 1G03

An introduction to environmental geology and geomorphology through study of the processes that form the earth and its surface features. A mandatory Saturday field trip will be held.

Two lectures, one tutorial, one lab; one term

Antirequisite: ENVI SC 1A06, 1G03, GEOG 1G03, GEOLOGY 1C03

ENVI SC 3A03 ANALYTICAL ENVIRONMENTAL CHEMISTRY

An introduction to the basic principles of sampling for analysis; of sample handling and separations for analysis; and, of selected methods for the detection and determination of analyte species.

Two lectures, one lab (three hours); one term

Prerequisite: CHEM 2A03 or 2N03 and one of CHEM 2PA2, 2R03 and registration in Honours Science (Environmental Science Option) or a programme in Chemical Engineering

Antirequisite: CHEM 2M05, 3A03

FRENCH

Faculty as of January 15, 1999

Chair
Owen Morgan

Professors
Caroline Bayard/L, M. L. (Toulouse), M.A., Ph.D. (Toronto)
Madeleine Jeay/L, M. L. (Bordeaux), M.A., Ph.D. (Montréal)
Owen R. Morgan/B.A., M.A. (Nottingham)

Associate Professors
Suzanne Crosta/B.A. M.A., (McMaster), Ph.D. (Toronto)
Michael Kletter/B.A. (British Columbia), M.A. (Michigan), Ph.D. (Cornell)
Dominique Lapicq/L. (Caen), M.A. (Ottawa), Ph.D. (Toronto)
Gabriel Moyal/B.A., M.A., Ph.D. (Toronto)
Anna St. Leger Lucas/B.A. (Nottingham), M. Ph.D. (British Columbia)
John C. Stouct/B.A. (British Columbia), Ph.D. (Princeton)

Assistant Professor
Jane A. C. Rush/B.A. (Toronto), M.A., Ph.D. (UCLA)

Programme Coordinator, Continuing Education

Sessional Lecturers
Pauline Pocknill/B.A. (Manchester), B.Ed. (Toronto), M.A. (McMaster)/part-time
Simonne Vaniniss-Fam/L., M. L. D.E.S. (Paris-Sorbonne), Ph.D. (Montreal)/part-time

Professors Emeriti
W. Norman Jeens/M.A. (Cambridge), L. M. L. (Bordeaux)
César Rouben/L. (Paris-Sorbonne), B.A. (Sir George Williams), M.A., Ph.D. (McGill)
G. Derek West/M.A. (Oxford), Ph.D. (London)

ENTRY INTO LEVEL I COURSES AND FRENCH PROGRAMMES

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Courses

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 by the reading of selected French and/or French-Canadian texts.

Three lectures, one lab; two terms

Prerequisite: OAC French with a grade of at least 80 percent. The Department reserves the right to place students in the course most appropriate to their abilities.

Antirequisite: FRENCH 2M06
FRENCH 1N06  INTENSIVE FRENCH GRAMMAR
This course is intended to be a review of basic grammar and will include
intensive computer-aided drilling, vocabulary building and composition.
Three tutorials; two terms
Prerequisite: OAC French with a grade of less than 80 percent or FRENCH
1Z06 with a grade of at least A-
The Department reserves the right to place students in the course most
appropriate to their abilities.
FRENCH 1Z06  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 2Z06.
Five hours (including lab practice); two terms
Antirequisite: OAC French, Not open to Francophones.
Enrolment is limited.
Students with prior knowledge of the language, as determined by a place­ment test, may be required to enrol in an appropriate alternative.
FRENCH 2B03  FRENCH LANGUAGE PRACTICE I
A course designed to improve competence in oral and written expression.
Writing proficiency includes the study of vocabulary, grammar and com­position. The oral component will stress listening, comprehension and conversational proficiency.
Three lectures, one tutorial; one term
Prerequisite: FRENCH 1A06 or 1N06 or 1NN6 or 2M06
Antirequisite: FRENCH 2C03
FRENCH 2BB3  FRENCH LANGUAGE PRACTICE II
Continuation of FRENCH 2B03.
Three lectures, one tutorial; one term
Prerequisite: FRENCH 2B03 with a grade of at least C­ Antirequisite: FRENCH 2C03
FRENCH 2E03  LITERATURE OF QUEBEC
Selected novels, plays, and poems representative of the main currents of
Quebec Literature.
Three lectures; one term
Prerequisite: FRENCH 1A06 or 1N06 or 1NN6 or 2M06
FRENCH 2G03  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 lectures; one term
Prerequisite: A grade of at least B- in FRENCH 1A06 or 2M06 or B+ in 1N06
or 1NN6 and registration in a French programme
Enrolment is limited.
FRENCH 2H03  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 lectures; one term
Prerequisite: FRENCH 1A06 or 1N06 or 1NN6 or 2M06
FRENCH 2J03  18TH-CENTURY FRENCH LITERATURE I
Selected novels, plays and poems representative of the main currents of
18th-century French literature.
Three lectures; one term
Prerequisite: FRENCH 1A06 or 1N06 or 1NN6 or 2M06
FRENCH 2J13  19TH-CENTURY FRENCH LITERATURE II
Selected themes appearing in the works of the major French writers of the
19th century.
Three lectures; one term
Prerequisite: FRENCH 1A06 or 1N06 or 1NN6 or 2M06
FRENCH 2M06  INTRODUCTION TO FRENCH STUDIES: ADVANCED LEVEL
Review of grammar, oral and written practice, and introduction to literary
analysis by the reading of selected French and/or French-Canadian texts.
Three lectures, one lab; two terms
Prerequisite: FRENCH 1N06 or 1NN6 or 2Z06
Antirequisite: FRENCH 1A06
FRENCH 2N03  INTRODUCTION TO THE CIVILIZATION OF FRANCE
The study of contemporary France through a selection of texts and audio­visual materials.
Three lectures; one term
Prerequisite: FRENCH 1A06 or 1N06 or 1NN6 or 2M06
FRENCH 2W03  20TH-CENTURY FRENCH LITERATURE I
Aspects of the development of 20th-century literature to the end of the Sec­ond World War.
Three lectures; one term
Prerequisite: FRENCH 1A06 or 1N06 or 1NN6 or 2M06
FRENCH 2WW3  20TH-CENTURY FRENCH LITERATURE II
Aspects of the development of 20th-century literature since the Second World War.
Three lectures; one term
Prerequisite: FRENCH 1A06 or 1N06 or 1NN6 or 2M06
FRENCH 2Z06  BEGINNER’S INTENSIVE FRENCH II
A sequel to FRENCH 1Z06. 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.
Two tutorials, three computer labs; two terms
Prerequisite: FRENCH 1206
Enrolment is limited.
FRENCH 3A03  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 lectures; one term
Prerequisite: FRENCH 2BB3
Antirequisite: FRENCH 3SS3
FRENCH 3A03  THE MODERN FRENCH-CANADIAN NOVEL
Representative novels by contemporary authors with emphasis upon the relationship between technique and meaning.
Three lectures; one term
Prerequisite: Six units of French beyond Level I, excluding FRENCH 2M06
and 2206
FRENCH 3BB3  CONTEMPORARY QUEBEC THEATRE
Contemporary experimental theatre and representative playwrights such as Marcel Dube and Michel Tremblay.
Three lectures; one term
Prerequisite: Six units of French beyond Level I, excluding FRENCH 2M06
and 2206
FRENCH 3C03  FRENCH LANGUAGE PRACTICE: WRITTEN
Advanced grammar and composition; introduction to stylistics.
Three lectures; one term
Prerequisite: FRENCH 2BB3 with a grade of at least C; Students may repeat
FRENCH 3C03 to improve their grade.
FRENCH 3C3  FRENCH LANGUAGE PRACTICE: INTERMEDIATE TRANSLATION
A course designed for the systematic translation of texts from English to
French, including comparative stylistics, with special reference to problems in the translation of texts of a general nature.
Three lectures; one term
Prerequisite: FRENCH 2BB3 and 2G03
Enrolment is limited.
FRENCH 3F03  FRENCH LANGUAGE PRACTICE: FRENCH CIVILIZATION AND CULTURE
An introduction to contemporary French society through oral discussions and presentations.
Three tutorials; one term
Prerequisite: FRENCH 2BB3. Not available to Francophone students with
native fluency.
Enrolment is limited.
FRENCH 3GG3  FRENCH LANGUAGE PRACTICE: TRANSLATION FROM FRENCH TO ENGLISH
The emphasis will be on inferencing strategies and stylistic comparisons
between the two languages. Translation materials will be drawn from con­temporary magazines such as L’Express, Le Nouvel Observateur and L’Actualite.
Three lectures; one term
Prerequisite: FRENCH 2GG3, 2GG4 and/or FLANGLYST 1A06
Enrolment is limited.
FRENCH 3H03  INTRODUCTION TO FRENCH LINGUISTICS II
The study of word formation (morphology), sentence structure (syntax) and
meaning (semantics). Contemporary French will be the primary data for all
three components. Both functional and formal approaches will be examined.
Three lectures; one term
Prerequisite: FRENCH 2B03; FRENCH 2H03 and/or LINQUIST 1A06 are recommended.
FRENCH 3103 FRENCH SOCIOLINGUISTICS
The study of linguistic variations within French-speaking communities with special emphasis on sociolinguistic issues arising in multilingual societies (Africa, Americas, Europe...).
Three lectures; one term
Prerequisite: FRENCH 2H03

FRENCH 3K03 18TH-CENTURY FRENCH LITERATURE I
The early 18th century with emphasis on Montesquieu, Marivaux and Prévost, and on the early writings of Voltaire.
Three lectures; one term
Prerequisite: Six units of French beyond Level I, excluding FRENCH 2M06 and 2Z06

FRENCH 3K03 18TH-CENTURY FRENCH LITERATURE II
Texts representing the main aspects of Enlightenment thought and literature from the publication of the preliminary discourse of the Encyclopaedia to the Revolution.
Three lectures; one term
Prerequisite: Six units of French beyond Level I, excluding FRENCH 2M06 and 2Z06

FRENCH 3Q03 17TH-CENTURY FRENCH LITERATURE I
A study of selected plays by Corneille, Molière and Racine.
Three lectures; one term
Prerequisite: Six units of French beyond Level I, excluding FRENCH 2M06 and 2Z06

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 lectures; one term
Prerequisite: Six units of French beyond Level I, excluding FRENCH 2M06 and 2Z06

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 lectures; one term
Prerequisite: FRENCH 2BB3

FRENCH 3Z03 AFRICAN AND CARIBBEAN FRENCH LITERATURES
Three lectures; one term
Prerequisite: Six units of French beyond Level I, excluding FRENCH 2M06 and 2Z06; or permission of the Department

FRENCH 4A03 FRENCH LANGUAGE PRACTICE
Advanced stylistics and composition.
Three lectures; one term
Prerequisite: A grade of at least B- in FRENCH 3C03 and registration in an Honours programme in French. Students must complete FRENCH 4A03 to graduate with an Honours or a Combined Honours B.A. in French.

FRENCH 4BB3 FRENCH LANGUAGE PRACTICE: ADVANCED TRANSLATION
Practice in the translation into French of texts of a specialized nature (e.g., administration, business, politics).
Three tutorials; one term
Prerequisite: FRENCH 3C03 and 3CC3
Enrolment is limited.

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 factors.
Seminar (two hours); one term
Prerequisite: FRENCH 2H03

FRENCH 4F03 TOPICS IN 18TH-CENTURY FRENCH LITERATURE
Previous topics include: Voltaire, Theatre and Performance. Consult the Department concerning topic to be offered.
Seminar (three hours); one term
Prerequisite: Six units of French beyond Level I, excluding FRENCH 2M06 and 2Z06
FRENCH 4F03 may be repeated, if on a different topic, to a total of six units.

FRENCH 4H03 TOPICS IN LINGUISTICS
Previous topics include: Lexicology, Pragmatics, Sociolinguistics. Consult the Department concerning topic to be offered.
Seminar (three hours); one term
Prerequisite: FRENCH 2H03
FRENCH 4H03 may be repeated, if on a different topic, to a total of six units.

FRENCH 4I03 TOPICS IN FRENCH POETRY
Previous topics include: Twentieth-Century Poetry, Poets and Humour, Object Poetry. Consult the Department concerning topic to be offered.
Seminar (two hours); one term
Prerequisite: Twelve units of French beyond Level I, excluding FRENCH 2M06 and 2Z06.
FRENCH 4I03 may be repeated, if on a different topic, to a total of six units.

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 lectures; one term
Prerequisite: Twelve units of French beyond Level I, excluding FRENCH 2M06 and 2Z06

FRENCH 4K03 TOPICS IN FRENCH AFRICAN AND CARIBBEAN FRENCH LITERATURES
Previous topics include: Contemporary Caribbean Writers, Literature of Senegalese. Consult the Department concerning topic to be offered.
Seminar (two hours); one term
Prerequisite: Twelve units of French beyond Level I, excluding FRENCH 2M06 and 2Z06
FRENCH 4K03 may be repeated, if on a different topic, to a total of six units.

FRENCH 4M03 THE 18TH-CENTURY FRENCH NOVEL
A study of the genesis and themes of representative 18th-century novels.
Seminar (two hours); one term
Prerequisite: Twelve units of French beyond Level I, excluding FRENCH 2M06 and 2Z06

FRENCH 4N03 TOPICS IN THE FRENCH NOVEL
Previous topics include: Émile Zola, Balzac's Novels: History and Fiction. Consult the Department concerning topic to be offered.
Seminar (two hours); one term
Prerequisite: Twelve units of French beyond Level I, excluding FRENCH 2M06 and 2Z06
FRENCH 4N03 may be repeated, if on a different topic, to a total of six units.

FRENCH 4O03 20TH-CENTURY FRENCH THEATRE
A study of the ideas and dramatic techniques of the playwrights of the modern period who have influenced the development of today's theatre in France.
Three lectures; one term
Prerequisite: Twelve units of French beyond Level I, excluding FRENCH 2M06 and 2Z06

FRENCH 4Q03 TOPICS IN 17TH-CENTURY FRENCH LITERATURE
Previous topics include: Corneille, Racine, Molière. Consult the Department concerning topic to be offered.
Seminar (two hours); one term
Prerequisite: Twelve units of French beyond Level I, excluding FRENCH 2M06 and 2Z06
FRENCH 4Q03 may be repeated, if on a different topic, to a total of six units.

FRENCH 4S03 MEDIEVAL LITERATURE
A study of selected texts of Medieval French Literature: songs and poetry of the troubadours and trouvères, Arthurian romance, comic and satiric narratives. Modern French translations will be used.
Three tutorials; one term
Prerequisite: FRENCH 2BB3

FRENCH 4T03 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 programme in French and permission of the FRENCH 4T03 Committee

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: Twelve units of French beyond Level I, excluding FRENCH 2M06 and 2Z06
FRENCH 4U03 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 beyond Level I, excluding FRENCH 2M06 and 2Z06
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 (three hours); one term
Prerequisite: 12 units of French beyond Level I, excluding FRENCH 2M06 and 2Z06
FRENCH 4Y03 may be repeated, if on a different topic, to a total of six units.

Note:
The following course, of interest to students of French, is offered by the School of Art, Drama and Music:
DRAMA 3TT3 Topics in National Cinemas II
(French Cinema will be a frequent topic of this course.)

GEOGRAPHY

Former Geography, Geology and some Environmental Science courses are now listed as Geo courses. Students having credit in Geography and Geology courses may not take the corresponding course under the Geo designation.

To determine the new Geo designation of a former Geography course, please see below. To determine the former Geography designation of a Geo course, please see Geography and Geology in the Course Listings section of this Calendar.

Former Course New Course Course Title
ENVR SC 1B03 GEO 1B03 Biosphere
ENVR SC 1G03 GEO 1G03 Geosphere
ENVR SC 1H03 GEO 1A03 Atmosphere and Hydrosphere
GEOG 1B03 GEO 1B6 Human Geography (98/99)
GEOG 1H03 GEO 1HS3 Social Geography
GEOG 2A03 GEO 2HA3 Urban/Economic Geography
GEOG 2B03 GEO 2HB3 Urban Economic Geography
GEOG 2D03 GEO 2HD3 Urban Historical Geography
GEOG 2E03 GEO 2HC3 Canada
GEOG 2F03 GEO 2CH3 Surface Climate Processes and Environmental Interaction
GEOG 2N03 GEO 2SP3 Practical Applications in Spatial Statistics
GEOG 2P03 GEO 2HU3 The United States of America
GEOG 2P93 GEO 2HR3 Research Methods in Social Geography
GEOG 2T03 GEO 2G03 Fluvial Geomorphology
GEOG 2Y03 GEO 2H53 Urban and Regional Development
GEOG 3D03 GEO 3HD3 Transportation Geography
GEOG 3E03 GEO 3FE3 Field Methods
GEOG 3E93 GEO 3HF3 Field Study in Human Geography
GEOG 3F03 GEO 4C03 Advanced Physical Climatology
GEOG 3G03 GEO 3HG3 Population Growth and Distribution
GEOG 3J03 GEO 3HJ3 Geography of Japan
GEOG 3L03 GEO 3J03 Multivariate Analysis in Geography
GEOG 3M03 GEO 3K03 Glacial Sediments and Environments
GEOG 3N03 GEO 3L03 Applied GIS
GEOG 3P03 GEO 3M03 Research Methods and Communication
GEOG 3P03 GEO 3R03 Environmental Change and the Biosphere
GEOG 3P03 GEO 3HR3 Geography of a Selected World Region
GEOG 3W03 GEO 2W03 Physical Hydrology: Surface
GEOG 3T03 GEO 4T03 Geography of Planning
GEOG 3U03 GEO 4A03 Environmental Assessment
GEOG 3X03 GEO 3HX3 Urban Models and Policy Analysis I
GEOG 3X03 GEO 3HZ3 Urban Social Geography
GEOG 4C03 GEO 4CC3 Review Paper
GEOG 4C06 GEO 4F06 Senior Thesis
GEOG 4E03 GEO 4FE3 Field Course
GEOG 4F03 GEO 4HY3 Urban Development and Policy Issues
GEOG 4H03 GEO 4D03 Land Use and Transportation
GEOG 4N03 GEO 4L03 Advanced GIS and Spatial Analysis
GEOG 4P03 GEO 4B03 Watershed Ecosystem Biogeochemistry
GEOG 4S03 GEO 4HS3 Geography of Health Care (98/99)
GEOG 4T03 GEO 3HH3 Geography of Health and Safety
GEOG 4U03 GEO 4HT3 Regional Analysis and Planning
GEOG 4V06 GEO 4RO6 Selected Problems in Urban Planning
GEOG 4W03 GEO 4X03 Senior Thesis
GEOG 4X03 GEO 4XK3 Hydrologic Modelling
GEOG 4Z03 GEO 4HZ3 Urban Models and Policy Analysis II
GEOG 4Z03 GEO 4ZH3 The Landscape of Urban Housing

Course

GEOG 4809 SENIOR THESIS FOR CO-OP STUDENTS
A thesis based upon a research project carried out under the direction of a member of the School of Geography and Geology.
Prerequisite: Registration in the Honours Geography and Environmental Science Co-op Programme. Approval of the project must be obtained from the Director of the School at least six weeks prior to the beginning of the research project.
Antirequisite: GEO 4P06

GEOGRAPHY AND GEOLOGY

Faculty as of January 15, 1999

Director
Fred L. Hall

Associate Director
W. Jack Rink

University Professor (Emeritus)
Henry P. Schwarz/B.A. (Chicago), M.S., Ph.D. (California Institute of Technology), F.R.S.C.

Professors
Vera Chouinard/B.A. (Western Ontario), M.A. (McMaster), Ph.D. (McMaster)
Alan P. Dickin/M.A. (Cambridge), Ph.D. (Oxford)
John J. Drake/M.A. (Oxford), M.Sc., Ph.D. (McMaster)
Carolyn H. Eyles/B.Sc. (East Anglia), M.Sc., Ph.D. (Toronto)
Frederick L. Hall/A.B. (Yale), M.I.T.I., Ph.D. (Chicago), Professor of Civil Engineering and Engineering Mechanics
Richard S. Harris/B.A. (Cambridge), M.A., Ph.D. (Queen's)
Kao-Lee Liaw/M.Sc. (National Taiwan), Ph.D. (National Technical, Athens)
M. S. Kao-Lee Liaw/B.Sc. (Louvain), Ph.D. (Chicago), Professor of Civil Engineering and Engineering Mechanics
Michael J. Risk/B.Sc. (Toronto), M.Sc. (Western Ontario), Ph.D. (Southern California, L.A.)
Wayne R. Roule/B.Sc. (McMaster), M.Sc., Ph.D. (McGill)
S. Martin Taylor/B.A. (Bristol), M.A., Ph.D. (British Columbia), part-time
Ming-ko Woo/M.A. (Hong Kong), Ph.D. (British Columbia)

Associate Professors
Susan J. Elliott/M.A., Ph.D. (McMaster)

Assistant Professors
Pierre Brassard/B.A., M.Sc. (Concordia), Ph.D. (INRS)
W. Jack Rink/B.Sc., Ph.D. (Flinders State)
Michael Jerrett/B.Sc. (Trent), M.A., Ph.D. (Toronto)
Eduard Reinhardt/B.A., Ph.D. (Ottawa)
James Smith/B.Sc., M.Sc. (Guelph), Ph.D. (Waterloo)
J. Michael Waddington/M.Sc., Ph.D. (York)

Associate Members
Jonathan Lomas (Clinical Epidemiology and Biostatistics), B.A. (Oxford), M.A. (Western Ontario), MAP (Toronto)
Vivienne Walters (Labour Studies/Sociology), B.A., M.A. (Sheffield), Ph.D. (McGill)
John C. Weaver (History), B.A. (Queen's), M.A., Ph.D. (Duke)
GEOGRAPHY AND GEOLOGY

Instructional Assistants
Walter Peace/M.A., Ph.D. (McMaster)
Susan Vajoczki/M.Sc. (McMaster)

Professors Emeriti
Brian J. Burliey/B.Sc. (London), M.Sc. (British Columbia), Ph.D. (McGill)
Andrew F. Burghardt/A.B. (Harvard), M.A., Ph.D. (Wisconsin)
Brian T. Bunton/M.A. (Sheffield), Ph.D. (London)
Paul M. Clifford/B.Sc. (Southampton), Ph.D. (London)
James H. Crocket/B.Sc. (New Brunswick, Oxford), Ph.D. (M.I.T.)
John A. Davies/B.A. (Bristol), M.Sc. (McGill), Ph.D. (London)
Derek C. Ford/M.A., Ph.D. (Oxford), F.R.S.C.
H. Douglas Grundy/B.Sc., Ph.D. (Manchester)
Leslie J. King/M.A. (New Zealand), Ph.D. (Iowa), F.R.S.C.
S. Brian McCann/B.Sc. (Wales), Ph.D. (Cambridge)
R. Lloyd G. Reeds/M.A., Ph.D. (Toronto)
Geräd E.G. Westermann/B.Sc. (Braunschweig), Dipl. Geol., Dr. rer. nat. (Tubingen)

Notes:
1. The Honours Environmental Science (B.Sc.), Honours Geography (B.Sc.) and Honours Geology (B.Sc.) programmes offered by the School of Geography and Geology have the same Level I entrance requirements (see programme descriptions). Selection of specialist streams in each of these programmes takes place during March counselling in Level II. Students should seek academic advice from the School to ensure that their course choices are appropriate.
2. Former Geography, Geology and some Environmental Science courses are now listed as Geo courses. Students having credit in Geography and Geology courses may not take the corresponding course under the Geo designation. To determine the former Geography, Geology and Environmental Science designations of the new Geo courses see the course descriptions below. To determine the Geo designation of a former Geography, Geology or Environmental Science course please see the listings for Environmental Science, Geography and Geology respectively, in the Course Listings section of this calendar.
3. Course codes including the letter H indicate a non-science course.
4. Students are advised that not all courses will be offered in every year.

Courses
If no prerequisite is listed, the course is open.

GEO 1A03 ATMOSPHERE AND HYDROSPHERE
Formerly: ENVIR SC 1H03
An introduction to the processes involved in weather, climate and surface waters with a focus on the human impacts on these processes. A Saturday field trip may be held.
Two lectures, one tutorial, one lab; one term
Antirequisite: ENVIR SC 1A06, 1H03, GEOG 1C03

GEO 1B03 BIOSPHERE
Formerly: ENVIR SC 1H03
A study of the interrelationships of living organisms and their environment.
Two lectures, one tutorial, one lab; one term
Antirequisite: ENVIR SC 1A06, 1B03

GEO 1G03 GEOSPHERE
Formerly: ENVIR SC 1G03
An introduction to the processes of the earth and its surface features. A mandatory Saturday field trip will be held.
Two lectures, one tutorial, one lab; one term
Antirequisite: ENVIR SC 1A06, 1G03, GEOG 1G03, GEOLOGY 1C03

GEO 1H03 URBAN/ECONOMIC GEOGRAPHY
Formerly: GEO 1H86, GEOG 1B06
Prerequisite: GEO 1H66, GEOG 1B06
GEO 2A03 SOILS AND THE ENVIRONMENT
An introduction to pedology with a focus on soil properties, soil formation, and soil-water-plant relations. Application to environmental land use impacts.
Two lectures, one lab (two hours); one term
Antirequisite: GEO 1H66, GEOG 1B06

GEO 2C03 SURFACE CLIMATE PROCESSES AND ENVIRONMENTAL INTERACTION
Formerly: GEOG 2F03
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
Antirequisite: GEO 2F03

GEO 2E03 EARTH HISTORY
Formerly: GEOLOGY 2C03
The historical development of the Earth, emphasizing the evolution of the Earth, emphasizing North America, in the context of plate tectonics.
Two lectures, one lab (three hours); one term
Antirequisite: One of ENVIR SC 1A06, 1B03, GEOG 1A03, 1G03, 1G03, GEOG 1C03

GEO 2G03 FLUVIAL GEOMORPHOLOGY
Formerly: GEOG 2T03
The effects of moving water on the earth's surface: principles of sediment entrainment and transport, fluvial flow, and analysis of the resulting landforms.
Two lectures, one lab (two hours); one term
Antirequisite: One of ENVIR SC 1A06, 1G03, GEOG 1G03, GEOLOGY 1C03

GEO 2H03 THE SHIFTING EARTH
A study of the long and short term processes that change the face of the earth including landslides, river erosion and glaciation.
Three lectures; one term
Antirequisite: GEO 2G03

GEO 2I03 LOCATIONAL ANALYSIS
Formerly: GEOG 2A03
Spatial location theory and spatial analysis methods as related to the siting of resources, manufacturing, and service activities.
Two lectures, one lab (two hours); one term
Antirequisite: One of GEO 1H66, 1H03, 1H03, GEO 1B06

GEO 2K03 URBAN ECONOMIC GEOGRAPHY
Formerly: GEOG 2B03
Economic-geographical analysis of urban problems at different scales of aggregation. Topics include urbanization, urban spatial structure, major urban externalities and urban size.
Three lectures; one term
Antirequisite: One of GEO 1H66, 1H03, 1H03, GEO 1B06

GEO 2L03 CANADA
Formerly: GEOG 2E03
The geography of Canada emphasizing the economic and social geography of regions and current development issues.
Three lectures; one term
Antirequisite: GEO 2E03

GEO 2M03 URBAN HISTORICAL GEOGRAPHY
Formerly: GEOG 2D03
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
Antirequisite: GEO 2D03
GEO 2HR3  RESEARCH METHODS IN SOCIAL GEOGRAPHY  
Formerly: GEOG 2rr3  
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 (two hours); one term  
Prerequisite: One of GEO 1H86, 1HS3, 1HU3, GEOG 1B06  
Antirequisite: GEOG 2R03, 2RR3  

GEO 2HU3  THE UNITED STATES OF AMERICA  
Formerly: GEOG 2P03  
The physical and economic geography of the United States.  
Three lectures; one term  
Antirequisite: GEOG 2P03  

GEO 2HY3  URBAN AND REGIONAL DEVELOPMENT  
Formerly: GEOG 2Y03  
Contemporary trends in urban and regional development, emphasizing debates on the causes of change and the policies used to address development problems.  
Two lectures, one tutorial (one hour); one term  
Prerequisite: One of GEO 1H86, 1HS3, 1HU3, GEOG 1B06  
Antirequisite: GEOG 2Y03  

GEO 2I03  INTRODUCTORY GEOGRAPHIC INFORMATION SYSTEMS  
Raster and vector GIS concepts are introduced through use of ArcView. Prerequisite: Registration in a programme within the School of Geography and Geology and completion of STATS 1CC3 or SOC SCI 2J03.  
Two lectures, one lab (two hours); one term  
Antirequisite: GEOG 2Y03  

GEO 2K03  CRYSTALLOGRAPHY AND ENVIRONMENTAL MINERALOGY  
Formerly: GEOLOGY 2B06  
Introduction to crystallography and the use of the polarizing microscope, including an introduction to the physical properties of minerals important to environmental science.  
Two lectures, one lab (two hours); one term  
Prerequisite: One of ENVIR SC 1A06, 1G03, GEOG 1G03, GEOG 1G03, GEOLOGY 1G03 and registration in a programme within the School of Geography and Geology or permission of the School of Geography and Geology.  
Antirequisite: GEOLOGY 2B06  

GEO 2K03  OPTICAL MINERALOGY AND PETROLOGY  
Formerly: GEOLOGY 2B06  
Use of the polarizing microscope to identify the common rock-forming minerals in thin-section. Optical properties, crystal chemistry and occurrence of these minerals in rocks.  
Two lectures, one lab (two hours); one term  
Prerequisite: GEO 2K03  
Antirequisite: GEOLOGY 2B06  

GEO 2M04  OPTICAL CRYSTALLOGRAPHY AND MINERALOGY  
Formerly: GEOLOGY 2B04  
Elementary optical theory with applications to, and descriptive study of, the common rock-forming minerals. Introduction to crystal chemistry.  
Two lectures, one lab (two hours); in parts of both terms  
Prerequisite: Open only to students registered in Materials Engineering or Materials Science  
Antirequisite: GEOLOGY 2B04  

GEO 2P03  INTRODUCTORY PALEONTOLOGY  
Formerly: GEOLOGY 2J03  
Uses of paleontology; importance in geological time and organic evolution; origin of life; adaptation and functional morphology; major groups of economically important fossils; stratigraphy.  
Two lectures, one lab (three hours); one term  
Prerequisite: One of ENVIR SC 1A06, 1G03, GEOG 1G03, GEOG 1G03, GEOLOGY 1G03 or permission of the instructor  
Antirequisite: GEOLOGY 2J03  

GEO 2P03  PRACTICAL APPLICATIONS IN SPATIAL STATISTICS  
Formerly: GEOG 2N03  
An introduction to the practical use of statistics to analyze spatial data.  
Two lectures, one lab; one term  
Prerequisite: One of STATS 1CC3, SOC SCI 2J03, and registration in a programme within the School of Geography and Geology  
Antirequisite: GEOG 2N03  

GEO 2W03  PHYSICAL HYDROLOGY: SURFACE  
Formerly: GEOG 3W03  
Hydrological processes including precipitation, snowmelt, slope runoff, streamflow and hydrological data analysis.  
Two lectures, one lab (two hours); one term  
Prerequisite: STATS 1CC3 or SOC SCI 2J03 and one of ENVIR SC 1A06, 1B03, 1G03, 1H03, GEOA 1A03, 1B03, 1G03, GEOG 1C03, 1G03, GEOLOGY 1C03  
Antirequisite: GEOG 3W03  

GEO 2W03  WATER AND THE ENVIRONMENT  
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  

GEO 3A03  ENVIRONMENTAL POLICY AND PLANNING  
An exploration of the issues of environmental policy and planning as well as the relationship between science and policy.  
Two lectures, one lab (two hours); one term  
Prerequisite: Registration in an Honours Geography, Environmental Science, Geology, Biology or Engineering and Society programme  

GEO 3B03  ENVIRONMENTAL CHANGE AND THE BIOSPHERE  
Formerly: GEOG 3P03  
Past, present and future natural and anthropogenic environmental change are examined in terms of the underlying global biogeochemical cycles.  
Two lectures, one lab (two hours); one term  
Prerequisite: GEO 2B03, or BIOLOGY 2F03 and registration in Level III or IV of a Biology programme  
Antirequisite: GEOG 3P03  

GEO 3C03  CLIMATE CHANGE AND ENVIRONMENTAL IMPACTS  
Possible causes for climate change including both historical and pre-historical evidence. Impacts of climate change, focusing on the physics and chemistry of these impacts.  
Two lectures, one lab (two hours); one term  
Prerequisite: One of GEO 2C03, GEOG 2F03  

GEO 3D03  SEDIMENTARY FACIES AND ENVIRONMENTS  
Formerly: GEOLOGY 3F03  
Sedimentary, stratigraphy and depositional environments of clastic and carbonate systems.  
Two lectures, one lab (two hours); one term  
Prerequisite: One of GEO 2E03, GEOLOGY 2C03  
Antirequisite: GEOLOGY 3F03  

GEO 3F03  FIELD METHODS  
Formerly: GEOG 3E03  
Introduction to field methods and field equipment used in physical geography and environmental science. A portion of this course occurs outside the regular academic term, usually the week 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: One of GEO 2C03, GEOG 2N03  
Antirequisite: GEOG 3E03  

GEO 3F03  FIELD CAMP  
Formerly: GEOLOGY 2EE2  
A field camp of about two weeks duration held immediately after the April-May Examinations, normally taken at the end of Level II. Students enrolling in this course must pay both the incidental fees, as prescribed by the Department, and the regular tuition fees.  
Prerequisite: GEO 2E03 and registration in a programme of the School of Geography and Geology  
Antirequisite: GEOLOGY 2E03, 2EE2, 3EE2  

GEO 3G03  GLACIAL SEDIMENTS AND ENVIRONMENTS  
Formerly: GEOG 3M03  
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: One of GEO 2G03, GEOG 2T03  
Antirequisite: GEOG 3M03  

GEO 3H03  TRANSPORTATION GEOGRAPHY  
Formerly: GEOG 3D03  
Principles underlying the movement of goods and people in space with discussion of its economic, social and environmental impacts.  
Two lectures, one lab (two hours); one term  
Prerequisite: One of GEO 1H86, 1HS3, 1HU3, GEOG 1B06 or ECON 1A06  
Antirequisite: GEOG 3D03  

GEOGRAPHY AND GEOLOGY 185
GEO 3FH3   FIELD STUDY IN HUMAN GEOGRAPHY
Formerly: GEOG 3EE3
Introduction to field research in Human Geography, usually in the Hamilton area.
Prerequisite: One of GEO 2S03, GEOG 2N03 and one of GEO 2HR3, GEOG 2RR3
Antirequisite: GEOG 3EE3

GEO 3HG3   POPULATION GROWTH AND DISTRIBUTION
Formerly: GEOG 3G03
Facts, theories, and major issues about the growth and distribution of human population.
Three lectures; one term
Prerequisite: One of GEO 1HB6, 1HS3, 1HU3, GEOG 1B06
Antirequisite: GEOG 3G03

GEO 3HR3   GEOGRAPHY OF HEALTH AND HEALTH CARE
Formerly: GEOG 4S03, GEO-4HS3
The determinants of health and the spatial dimensions of health care delivery.
Two seminars; one term
Prerequisite: Registration in an Honours programme within the School of Geography and Geology or an Honours Gerontology programme.
Antirequisite: GEOG 4HS3, GEOG 4S03

GEO 3JH3   GEOGRAPHY OF JAPAN
Formerly: GEOG 3JJ3
Human and physical geography of Japan with emphasis on historical, international, demographic and economic aspects.
Three lectures; one term
Prerequisite: One of GEO 1HB6, 1HS3, 1HU3, GEOG 1B06 or registration in a Japanese Studies programme
Cross-list: JAPAN ST 3JJ3
Antirequisite: GEOG 3JJ3

GEO 3HR3   GEOGRAPHY OF A SELECTED WORLD REGION
Formerly: GEOG 3RR3
The study of an area outside of North America which will include topics in physical and human geography.
Three lectures; one term
GEO 3HR3 may be repeated, if on a different topic, with permission of the School of Geography and Geology during March Counselling.

GEO 3HT3   GEOGRAPHY OF PLANNING
Formerly: GEOG 3TO3
A review of historical and contemporary approaches to city and regional planning problems.
Two lectures; one lab (two hours); one term
Prerequisite: One of GEO 2H3A, 2H3B, 2HY3, GEOG 2A03, 2B03, 2Y03
Antirequisite: GEOG 3TO3

GEO 3HX3   URBAN MODELS AND POLICY ANALYSIS I
Formerly: GEOG 3X03
A survey of modern literature on urban spatial structure. Topics include morphology, adjustments to change, and such phenomena as urban growth and the decline of central cities.
Two lectures; two labs (two hours); one term
Prerequisite: One of ECON 2G03, 2L06, GEO 2H3B, GEOG 2B03
Antirequisite: GEOG 3X03
Cross-list: ECON 3X03

GEO 3H23   URBAN SOCIAL GEOGRAPHY
Formerly: GEOG 3Z03
The social geography of North American cities. Topics include commuting, segregation, inner-city gentrification, suburban development.
Lectures and seminars; one term
Prerequisite: One of GEO 2HR3, GEOG 2RR3; GEO 2HY3 and 2HD3 or GEOG 2Y03 and 2D03 are recommended.
Antirequisite: GEOG 3Z03

GEO 303   APPLIED GIS
Formerly: GEOG 3N03
Building on GEO 203 this course will focus on issues surrounding GIS database creation and use. Topics will include spatial and aspatial query, map projections and coordinate conversion, and GIS data output.
Two lectures, one lab (two hours); one term
Prerequisite: GEO 203 with a minimum grade of C+
Antirequisite: GEOG 3N03

GEO 3K03   IGNEOUS AND METAMORPHIC PETROLOGY
Formerly: GEOLOGY 3C03
Petrography of igneous and metamorphic rocks and discussion of their origin. Laboratory studies on rock suites.
Two lectures, one lab (two hours); one term
Prerequisite: One of GEO 2K03, 2K3, GEOLOGY 2B06
Antirequisite: GEOLOGY 3C05, 3C03

GEO 3P03   PALEONTOLOGY
Formerly: GEOLOGY 3J03
Marine habitats and possible changes through geologic time. Groups of fossils important in stratigraphy including microfossils; economic paleontology.
Two lectures, one lab (three hours); one term
Prerequisite: One of GEO 2P03, GEOLOGY 2J03
Antirequisite: GEOLOGY 3J03

GEO 3Q03   GEOCHEMISTRY
Formerly: GEOLOGY 3Q03
Chemistry of the earth including cosmochemistry, global cycles, ocean chemistry, radiogenic and stable isotope systematics, geochronology and analytical techniques.
Three lectures; one term
Prerequisite: One of ENVIR SC 1G03, GEO 1G03, GEOG 1G03, GEOLOGY 1C03 and one of CHEM 2PA3, 2P06, 2P03 or permission of the instructor.
Antirequisite: GEOLOGY 3Q03

GEO 3R03   RESEARCH METHODS AND COMMUNICATION
Formerly: GEOG 3R03
Description of some of the changed and changing paradigms in the discipline; formulation of a research proposal; communication of research results.
Two lectures, one lab (two hours); one term
Prerequisite: One of GEO 2R03, GEOG 2N03
Antirequisite: GEOG 3R03

GEO 3S03   MULTIVARIATE ANALYSIS IN GEOGRAPHY
Formerly: GEOG 3L03
Management and analysis of multivariate data sets in human and physical geography, with an emphasis on multiple regression.
Two lectures, one lab (two hours); one term
Prerequisite: One of ECON 2B03, GEO 2S03, GEOG 2N03, SOCIOLOG Y 2Y03
Antirequisite: GEOG 3L03

GEO 3U03   ENVIRONMENTAL SYSTEMS
Formerly: GEOG 2K03
Use of simple numerical models applied to solving environmental problems related to anthropogenic perturbations. Introduction to STELLA numerical simulator, statement of the problem and "what if" scenarios.
Prerequisite: MATH 1A03, registration in B.Sc. Geoscience, or any Level 3 Honours programme in the Faculties of Science and Engineering
Antirequisite: CIV-ENG 2J03, GEOLOGY 2K03

GEO 3W03   SUBSURFACE PHYSICAL HYDROLOGY
Mechanisms and processes of water movement in the subsurface including the saturated zone (groundwater) and the unsaturated zone (soil water).
Two lectures; one lab (two hours); one term
Prerequisite: GEO 2W03, 2B03

GEO 3Y03   REMOTE SENSING
Aerial photography. Passive and active satellite direction systems. Image processing and interpretation procedures. Application to resource exploration and environmental management.
Two lectures; one lab (two hours); one term
Prerequisite: One of GEO 2S03, GEOG 2N03 and one of GEO 2I03, GEOG 2L13 and registration in an Honours programme in the School of Geography and Geology

GEO 3Z03   STRUCTURAL GEOLOGY
Formerly: GEOLOGY 2D03
A survey of the geometry of fractures and folds, their associated small-scale features, and their simple kinematic and dynamic analysis.
Two lectures, one lab (three hours); one term
Prerequisite: One of ENVI R SC 1A06, GEO 1G03, GEOG 1G03, GEOLOGY 1C03
Antirequisite: GEOLOGY 2D03

GEO 3Z33   GEODYNAMICS
Formerly: GEOLOGY 2I03
Application of physical methods to understanding large-scale processes in the Earth. Plate tectonics, structure of Earth's interior, rock magnetism, seismology, gravitation, natural radioactivity, heat flow.
Two lectures; one tutorial; one term
Prerequisite: One of PHYSICS 1A06, 1B03, 1B06, 1C00, 1C03
Antirequisite: GEOLOGY 2I03, PHYSICS 2I03, 3Z23

GEO 3A03   ENVIRONMENTAL ASSESSMENT
Formerly: GEOG 3U03
Technical and policy issues involved in the production and the appraisal of environmental impact assessments.
Two lectures, one lab; one term
Prerequisite: Registration in an Honours Geography, Environmental Science, Geology, Biology or Engineering and Society programme.
Antirequisite: GEOG 3U03
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Description</th>
<th>Prerequisite(s)</th>
<th>Antirequisite(s)</th>
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<tbody>
<tr>
<td>GEO 4B03</td>
<td><strong>Watershed Ecosystem Biogeochemistry</strong></td>
<td>A discussion of biogeochemical processes at the watershed level to examine the impact of natural and human disturbances on water quality in stream and wetland ecosystems.</td>
<td>One seminar (two hours); one term</td>
<td>One of GEO 3B03, GEOG 3P03</td>
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<tr>
<td>GEO 4C03</td>
<td><strong>Advanced Physical Climatology</strong></td>
<td>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.</td>
<td>Two lectures; one lab (two hours); one term</td>
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<tr>
<td>GEO 4C03</td>
<td><strong>Review Paper</strong></td>
<td>The student will conduct a comprehensive review of a selected topic. The review paper is due before the final examination period.</td>
<td>One seminar (two hours); first term</td>
<td>One of GEO 2C03, GEOG 2F03</td>
</tr>
<tr>
<td>GEO 4D03</td>
<td><strong>Land Use and Transportation</strong></td>
<td>Methods for the analysis and prediction of transportation and land use patterns in cities, with application to urban planning and pollution problems.</td>
<td>Three lectures; one term</td>
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<tr>
<td>GEO 4E03</td>
<td><strong>Advanced Sedimentology</strong></td>
<td>Aspects of modern and ancient depositional systems, formation and development of sedimentary basins. Large-scale processes, facies associations and sedimentary sequences will be emphasized.</td>
<td>Three lectures; one term</td>
<td>Antirequisite: GEOG 4H03</td>
</tr>
<tr>
<td>GEO 4F03</td>
<td><strong>Field Course</strong></td>
<td>Detailed study of a particular aspect of physical geography, geology or environmental science in the field. Held immediately after the end of Level III or prior to Fall registration in Level IV.</td>
<td>Three lectures; one term</td>
<td>Antirequisite: GEOG 4H03</td>
</tr>
<tr>
<td>GEO 4G03</td>
<td><strong>Urban Environmental Geoscience</strong></td>
<td>An examination of subsurface sediments in urban areas. Coastal erosion problems will be discussed and the impact of urbanization on groundwater resources. Field work in the Toronto-Hamilton region.</td>
<td>Two lectures; one lab (two hours); one term</td>
<td>Antirequisite: GEOG 4H03</td>
</tr>
<tr>
<td>GEO 4H03</td>
<td><strong>Geography of Environment and Health</strong></td>
<td>Models and methods for research and policy on environment and health. One lecture/seminar (three hours); one term</td>
<td>One of GEO 3G03, GEOG 3M03</td>
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</tr>
<tr>
<td>GEO 4I03</td>
<td><strong>Regional Analysis and Planning</strong></td>
<td>Examination of processes and policies that influence urban form and the associated effects on natural environment.</td>
<td>Three lectures; one term</td>
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</tr>
<tr>
<td>GEO 4J03</td>
<td><strong>Selected Problems in Urban Planning</strong></td>
<td>An examination of planning as a public decision process, with emphasis on land use conflicts and their resolution in the Hamilton region.</td>
<td>Two seminars (two hours); one term</td>
<td>One of GEO 3H03, GEOG 3T03</td>
</tr>
<tr>
<td>GEO 4K03</td>
<td><strong>Urban Models and Policy Analysis II</strong></td>
<td>A survey of modern literature on urban issues. Topics include welfare criteria, externalities, public goods and fiscal policies. Two lectures; one lab (two hours); one term</td>
<td>One of GEO 3H03, GEOG 3X03</td>
<td>Antirequisite: GEOG 4X03</td>
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<tr>
<td>GEO 4L03</td>
<td><strong>Urban Development and Policy Issues</strong></td>
<td>Current debates on urban development and policy issues. Emphasis on the political economy of urban change. Three lectures; one term.</td>
<td>One of GEO 2HY3, GEOG 2Y03, or permission of the instructor</td>
<td>Antirequisite: GEOG 4F03</td>
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<tr>
<td>GEO 4M03</td>
<td><strong>The Landscape of Urban Housing</strong></td>
<td>Historical-geographical patterns in the way housing landscapes are produced, occupied and used. The effects of planning and housing policy on the landscape.</td>
<td>Three lectures; one term</td>
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<tr>
<td>GEO 4N03</td>
<td><strong>Advanced GIS and Spatial Analysis</strong></td>
<td>Advanced methods in GIS using ARCGIS/INFO. Topics will include raster based analysis, working with linear features, surface modelling and AML programming.</td>
<td>Two lectures; one lab (two hours); one term</td>
<td>Antirequisite: GEOG 4N03</td>
</tr>
<tr>
<td>GEO 4O03</td>
<td><strong>Mineralogy</strong></td>
<td>Advanced topics in crystal chemistry and mineralogy, with emphasis on mineral spectroscopies.</td>
<td>Two lectures; one tutorial; one term</td>
<td>Antirequisite: GEOG 4N03</td>
</tr>
<tr>
<td>GEO 4P03</td>
<td><strong>Enquiry: Minerals and Society</strong></td>
<td>Case studies of mineral structures and properties with implications of practical importance. Gem and other economic minerals; workplace and environmental hazards.</td>
<td>Two lectures; one tutorial; one term</td>
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<tr>
<td>GEO 4Q03</td>
<td><strong>Enquiry: Coral Reefs</strong></td>
<td>A survey of recent and ancient reef systems in Canada and elsewhere. Emphasis is on the economic and environmental importance of reefs to Third World countries.</td>
<td>Two lectures; one seminar; one term</td>
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<tr>
<td>GEO 4R03</td>
<td><strong>Environmental Geochemistry</strong></td>
<td>Geochemistry of the Earth's surface. Global cycles of important elements. Cycling of trace metals. Weathering and adsorption on mineral surfaces. Contaminant transport in the environment. Regulation of the chemical composition of water.</td>
<td>Two lectures; one lab (two hours); one term</td>
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</table>
GEOLOGY

Former Geography, Geology and some Environmental Science courses are now listed as Geo courses. Students having credit in Geography and Geology courses may not take the corresponding course under the Geo designation. To determine the new Geo designation of a former Geology course, please see below. To determine the former Geology designation of a Geo course, please see Geography and Geology in the Course Listings section of this Calendar.

Former Course New Course Course Title
ENVR SC 1G03 GEO 1G03 Geophysics
GEOLOGY 2B04 GEO 2M04 Optical Crystallography and Mineralogy
GEOLOGY 2B06 GEO 2K03 Crystallography and Environmental Mineralogy
GEOLOGY 2C03 GEO 2E03 Earth History
GEOLOGY 2D03 GEO 3Z03 Structural Geology
GEOLOGY 2E02 GEO 3F03 Field Camp
GEOLOGY 2I03 GEO 3Z23 Geodynamics
GEOLOGY 2J03 GEO 2P03 Introductory Paleontology
GEOLOGY 2K03 GEO 3U03 Environmental Systems
GEOLOGY 3A03 GEO 4203 Geophysics-Mining Exploration Methods
GEOLOGY 3B03 GEO 4Z23 Geophysics- Oil Exploration Methods
GEOLOGY 3C03 GEO 3K03 Igneous and Metamorphic Petrology
GEOLOGY 3F03 GEO 3E03 Sedimentary Facies and Environments
GEOLOGY 3J03 GEO 3P03 Paleontology
GEOLOGY 3K03 GEO 3Q03 Geochemistry
GEOLOGY 4A03 GEO 4F13 Field Course
GEOLOGY 4C03 GEO 4X03 Inquiry: Climate Change-A Geological Perspective
GEOLOGY 4D03 GEO 4P03 Inquiry: Coral Reefs
GEOLOGY 4G03 GEO 4K03 Mineralogy
GEOLOGY 4I03 GEO 4K13 Inquiry: Minerals and Society
GEOLOGY 4K06 GEO 4R06 Senior Thesis
GEOLOGY 4N03 GEO 4E03 Advanced Sedimentology
GEOLOGY 4O03 GEO 4Q03 Environmental Geochemistry
EOLOGY 4T03 GEO 4T03 Plate Tectonics and Ore Deposits

GERMAN

(SEE MODERN LANGUAGES, GERMAN)

GERONTOLOGY

Faculty as of January 15, 1999

Director
C.J. Rosenthal

Associate Professors
Margaret Denton(Gerontology/Sociology) B.A., M.A. (Brown), Ph.D. (Michigan)
John Hirdes(Health Studies & Gerontology) B.Sc., M.A., Ph.D. (Waterloo)/part-time

Assistant Professors
Lori Campbell(Gerontology) B.A., M.A. (Western Ontario), Ph.D. (Guelph)
Anju Joshi(Gerontology) B.A., M.A. (Dalhousie)
Christopher Justcook(Gerontology) B.A. (Simon Fraser), M.A., Ph.D. (McMaster)

Assistant Members
Larry W. Chambers(Clinical Epidemiology and Biostatistics) B.A., MSc. (McMaster), Ph.D. (Memorial)
James W. Gladstone(Social Work) B.A. (McGill), M.S.W. (British Columbia), Ph.D. (Toronto)
Alexander S. Macpherson(Psychiatry) M.Sc. (McMaster), M.D. (Toronto)
Byron G. Spencer(Economics) B.A. (Queen's), Ph.D. (Rice)
Notes:
1. Programmes at McMaster University are administered by the Faculty of Social Sciences through the Office of Gerontological Studies, and are coordinated and supervised by an Interdisciplinary Committee of Instruction.
2. Not all gerontology courses may be offered every year. Students are advised to contact the Office of Gerontological Studies after May 1 to determine which courses will be offered in the following academic year.

Committee of Instruction:
Chair
C. Rosenthal (Gerontology/Sociology)
J. Aronson (Social Work)
E. Badone (Religious Studies)
M. Denton (Gerontology/Sociology)
A. Hicks (Kinesiology)
A. Harrison (Dean) Ex-officio
B. Spencer (Economics)
J. Synge (Sociology)
I. Turpie (Medicine and Geriatric Medicine)
(Student Representative)

Courses
1. GERONTOLOGY 1A06 INTRODUCTION TO GERONTOLOGY
An introduction to gerontology as a multidisciplinary study of aging, focusing on the philosophical, historical, biological, physiological, psychological, economic, social and health care aspects, as well as social policies in respect to an aging population.
Three hours (lectures and tutorials) and 15 hours experiential learning component; two terms

GERONTOLOGY 2B03 BIOLOGICAL DIMENSIONS OF HUMAN AGING
An examination of age-related changes in biology and physiology of organisms with a special emphasis on human aging. Attention will be given to the gradual deterioration of function and homeostatic controls and the maintenance of optimal operation for various organs.
Three hours (lectures); one term
Prerequisite: GERONTOLOGY 1A06
Not open to students with credit or registration in KINESIOLOGY 4SS3

GERONTOLOGY 2C03 RESEARCH METHODS IN SOCIAL GERONTOLOGY I
An introduction to quantitative and qualitative 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.
Three hours (lectures and practice); one term
Prerequisite: Registration in any Gerontology programme
Antirequisites: GERONTOLOGY 3C03, SOCIAL 22G3

GERONTOLOGY 2D03 SOCIAL ASPECTS OF AGING
This course will examine the social aspects of aging. Topics may include the social construction of aging and health, models of health care and the informal and formal systems of care.
Three hours (lectures and discussions); one term
Prerequisite: Registration in any Gerontology programme
Antirequisite: GERONTOLOGY 2A03, 2AAS
Not open to students with credits in SOCIAL 3X03.

GERONTOLOGY 3A03 INTERNATIONAL ASPECTS OF GERONTOLOGY
Issues in gerontology in selected developed and developing countries. The course focuses on demographic changes, social, political and economic implications of population change, attitudes toward the aged, health care and social policies.
Three hours (lectures and discussions); one term
Prerequisite: GERONTOLOGY 1A06 and registration in any programme in Gerontology, Social Work or Health Sciences

GERONTOLOGY 3B03 GERONTOLOGY FIELD OBSERVATION
Directed observation of 36 hours in an approved field setting and a weekly seminar focusing on integration of theoretical knowledge and observation.
Three hours field observation per week, and two hours weekly seminar; one term
Prerequisite: Registration in any Gerontology Second Degree programme; or Level III or IV of any Gerontology programme

GERONTOLOGY 3D03 PSYCHOLOGICAL ASPECTS OF AGING
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: GERONTOLOGY 1A06 and registration in any Gerontology programme
Not open to students with credit in PSYCH 3DD3

GERONTOLOGY 3E03 INDEPENDENT STUDY IN GERONTOLOGY FOR FIRST DEGREE STUDENTS
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: Permission of the Course Coordinator or Programme Chair; and registration in Level III or IV of any Gerontology first degree programme
GERONTOLOGY 3E03 may be repeated, if on a different topic, to a total of six units.

GERONTOLOGY 3F03 GERONTOLOGICAL PRACTICE
Principles and methods of gerontological practice. The students will take part in the McMaster Summer Institute of Gerontology as partial fulfilment of course requirements, when offered in Term 1 of the Spring/Summer Session.
One term
Prerequisite: GERONTOLOGY 3B03; and registration in any Gerontology Second Degree programme or Level III or IV of any Gerontology programme

GERONTOLOGY 3G03 RESEARCH METHODS IN GERONTOLOGY II
The focus of this course will be on data analysis and statistics in social gerontology. Students will be introduced to techniques of analyzing data using a statistical software package on a computer.
Three hours (lectures and labs); one term
Prerequisites: GERONTOLOGY 2C03 or 3C03; and registration in any Gerontology Second Degree programme or Level III or IV of any Gerontology programme

GERONTOLOGY 3H03 DIVERSITY AND AGING
This course will examine issues in gerontology related to the diversity of contemporary western societies. Topics may include ethnic and racial issues, aging with a disability, aboriginal issues, gender issues, sexual orientation, urban/rural issues and social class issues.
Three hours (lectures); one term
Prerequisite: GERONTOLOGY 1A06 or its equivalent; and enrolment in any programme in Gerontology, Social Work or Health Sciences

GERONTOLOGY 3I03 SPECIAL TOPICS IN GERONTOLOGY
Topics may vary from year to year. Students should consult the Chair of the Committee of Instruction prior to registration concerning topics to be examined.
Three hours (lectures and discussion); one term
Prerequisite: Registration in any Gerontology programme

GERONTOLOGY 3J03 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 discussions); one term
Prerequisite: Registration in any Gerontology Second Degree programme, Level III or IV of any Gerontology programme; or with permission of the instructor, registration in a Labour Studies programme.

GERONTOLOGY 3K03 ANTHROPOLOGICAL APPROACHES TO THE STUDY OF AGING
An examination of the contribution of anthropology to the study of aging with an emphasis on cross-cultural comparisons, and including an assessment of the anthropological literature relating to the biological basis of aging in modern and prehistoric populations.
Three hours (lectures and discussion); one term
Prerequisite: Six units of Social/Cultural Anthropology or registration in any programme in Gerontology
Cross-list: ANTHROP 3Q03

GERONTOLOGY 4A06 GERONTOLOGY THESIS
Research projects with individual faculty members.
Prerequisite: GERONTOLOGY 2C03 or 3C03 and GERONTOLOGY 3G03 or another approved three unit statistics course; and registration in Level IV of a Combined Honours Programme in Gerontology and Another Subject

GERONTOLOGY 4B03 COMMUNICATION AND COUNSELLING WITH OLDER ADULTS
This course introduces the student to issues in communication and counselling with older adults. Appropriate theories will be explored through lecture, discussion and practice.
Three hours (lectures and discussion); one term
Prerequisite: Registration in any Gerontology Second Degree programme or Level III or IV of any Gerontology programme
GLOBALIZATION, SOCIAL CHANGE AND THE HUMAN EXPERIENCE

(SEE THE SCHOOL ON GLOBALIZATION, SOCIAL CHANGE AND THE HUMAN EXPERIENCE)

GREEK

(SEE CLASSICS, GREEK)

HEALTH SCIENCES

Faculty Note:
Health Sciences courses are normally available only to students registered in Nursing (A, B and NP (C) Stream), Oncology or Midwifery, as applicable.

Courses

**HTH SCI 1A06  HUMAN BIOCHEMISTRY**
Term 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.
Term II: DNA replication, transcription and translation; recombinant DNA technology; and the molecular biology of inherited and acquired diseases.
Lectures/problem-based tutorial (three hours); two terms
Prerequisite: Registration in Level I of the B.Sc.N. (A) Stream, or Level III of the B.Sc.N. (B) Stream; or permission of the instructor
Antirequisite: HTH SCI 1C07

**HTH SCI 1B07  HUMAN BIOLOGICAL SCIENCE I**
Term I examines cell structure, function and communication mechanisms and musculoskeletal structure and function.
Term II examines homeostasis of the digestive, cardiovascular, respiratory, renal systems and their integration in control of acid base balance.
Two lectures (two hours each), one tutorial (two hours), one lab (two hours), every other week; two terms
Prerequisite: Credit or registration in HTH SCI 1A06; registration in Level I of the B.Sc.N. (A) Stream or permission of the instructor

**HTH SCI 1C06  SOCIAL AND CULTURAL DIMENSIONS OF HEALTH CARE**
Designed to introduce student midwives to social analysis primarily related to midwifery issues. Using a multidisciplinary perspective, the integrated analysis of race, class and gender will be discussed in relation to health and health care.
Lectures/tutorials; two terms
Prerequisite: Registration in the Midwifery Education programme

**HTH SCI 1C07  INTEGRATED BIOLOGICAL BASES OF NURSING PRACTICE I**
Through a small group self-directed problem based learning format students will apply biological and biochemical principles essential to the assessment and management of health care problems.
Two problem based tutorials (three hours each), one lab (two hours); one term
Prerequisite: Permission of the instructor
Antirequisite: HTH SCI 1A06, 1Z24

**HTH SCI 1D06  TOPICS IN BIOLOGICAL SCIENCES**
This course covers basic concepts of human structure and function, genetics and embryology through lectures, demonstrations and appropriate laboratory assignments.
Lectures/tutorials; two terms
Prerequisite: Registration in the Midwifery Education programme

**HTH SCI 1Z04  HUMAN ANATOMY**
Study of gross human anatomy providing an overview of tissues and organs of the major body systems. This self-study course is required for Nursing students who have advanced credit for all of the required physiology. Others will be admitted by permission of the instructor.
Independent study (two hours lecture equivalent/four hours lab equivalent); one term
Prerequisite: Registration in Level I of the B.Sc.N. (B) Stream; or permission of the instructor
Antirequisite: HTH SCI 1A06, 1Z24

**HTH SCI 1Z24  INTRODUCTORY PHYSIOLOGY FOR POST DIPLOMA NURSING STUDENTS**
This course focuses on integrative physiology of the gastrointestinal, cardiovascular, respiratory and renal systems and how these systems maintain acid base and ionic balance and homeostasis.
Lecture (two hours), tutorial/lab (three hours); one term
Prerequisite: credit or registration in HTH SCI 1A06, Registration in Level III of the B.Sc.N. (B) Stream or permission of the instructor
Antirequisite: HTH SCI 1C07

**HTH SCI 2A02  TOPICS IN HUMAN BIOLOGICAL SCIENCES II**
Study of reproductive anatomy and physiology, with particular emphasis on intrinsic control mechanisms and extrinsic methods of regulation of reproduction.
Two lectures (two hours each), two tutorials (two hours each), one lab (two hours), every other week for six weeks; second term
Prerequisite: HTH SCI 1A06 and 1B07, or 1A08, 1Z04 and 1Z24, and registration in Level II of the B.Sc.N. (A) Stream; or HTH SCI 1A06 and 1Z24, and registration in Level IV of the B.Sc.N. (B) Stream; or permission of the instructor
Antirequisite: HTH SCI 2B08, 2C07

**HTH SCI 2B06  HUMAN BIOLOGICAL SCIENCE II**
The first half of first term examines clinical microbiology and principles of pathology, and the latter half of the first term examines pharmacological principles. Second term examines the central and peripheral nervous system and anatomy and physiology in the first half, and reproductive anatomy and physiology in the second half.
Two lectures (two hours each), two tutorials (two hours each), one lab (two hours), every other week; two terms
Prerequisite: HTH SCI 1A06 and 1B07, or 1A08, 1Z04 and 1Z24, and registration in Level II of the B.Sc.N. (A) Stream; or HTH SCI 1A06 and 1Z24, and registration in Level IV of the B.Sc.N. (B) Stream; or permission of the instructor
Antirequisite: HTH SCI 2C07
HTH SCI 2B2  TOPICS IN HUMAN BIOLOGY SCIENCE II
Study of the central peripheral nervous system, including the special senses and neuroendocrine relationships. Introductory skills in neurological assessment and drug actions on the nervous system are also considered.
Two lectures (two hours each), two tutorials (two hours each), one lab (two hours), every other week for six weeks; second term.
Prerequisite: HTH SCI 1A06 and 1B07, or 1A06, 1Z04 and 1Z24, and registration in Level II of the B.Sc.N. (A) Stream; or HTH SCI 1A06 and 1Z24, and registration in Level IV of the B.Sc.N. (B) Stream; or permission of the instructor.
Antirequisite: HTH SCI 2B08, 2C07

HTH SCI 2C07  INTEGRATED BIOLOGICAL BASES OF NURSING PRACTICE II
Continued application of biological and biochemical principles essential to the management of health care problems. Particular emphasis will be placed on introduction to principles of pharmacology and mechanisms of drug action.
Two problem-based tutorials (three hours each), one lab (two hours), one term.
Prerequisite: HTH SCI 1C07 or 1Z24 or permission of the Instructor.
Antirequisite: HTH SCI 2AA2, 2B08, 2BB2, 2CC2, 2DD2

HTH SCI 2CC2  TOPICS IN HUMAN BIOLOGICAL SCIENCES III
Medical microbiology and principles of pathology are considered, including structure and function of infectious agents, control measures and host defenses.
Two lectures (two hours each), two tutorials (two hours each), one lab (two hours) every other week for six weeks; first term.
Prerequisite: HTH SCI 1A06 and 1B07, or 1A06, 1Z04 and 1Z24, and registration in Level II of the B.Sc.N. (A) Stream; or HTH SCI 1A06 and 1Z24, and registration in Level IV of the B.Sc.N. (B) Stream; or permission of the instructor.
Antirequisite: HTH SCI 2B08, 2C07

HTH SCI 2DD2  TOPICS IN HUMAN BIOLOGICAL SCIENCES IV
Principles of pharmacology and mechanisms of drug action are considered.
Lecture (two hours), tutorial (six hours), every other week for six weeks; first term.
Prerequisite: HTH SCI 1A06 and 1B07, or 1A06,1Z04 and 1Z24, and registration in Level II of the B.Sc.N. (A) Stream; or HTH SCI 1A06 and 1Z24, and registration in Level IV of the B.Sc.N. (B) Stream; or permission of the instructor.
Antirequisite: HTH SCI 2B08, 2C07

HTH SCI 3A03  CRITICAL APPRAISAL
A reinforcement of the principles of clinical research and statistical inference, with particular emphasis on critical assessment of evidence as presented in the health sciences literature related to the care of patients.
Problem-based tutorial (two hours), guided self-study (two hours); one term.
Prerequisite: Normally HTH SCI 3L02 and registration in Level II of the B.Sc.N. (A) or (B) or NP (C) Stream or permission of the instructor; or registration in the Paediatric or Adult Oncology programmes; or registration in Level I of the Midwifery Education programme.
Antirequisite: HTH SCI 3C04

HTH SCI 3B03  HEALTH, SCIENCE AND SOCIETY
This course provides an introduction to a number of macrohealth 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); 13 weeks.
Prerequisite: Registration in Level III of the B.Sc.N. (A) Stream, or the NP (C) Stream, or Level III or IV of the B.Sc.N. (B) Stream; or registration in Level II of the Midwifery Education programme; or permission of instructor.

HTH SCI 3C04  INTRODUCTION TO RESEARCH METHODS AND CRITICAL APPRAISAL
Introduction to the principles of clinical research and statistical inference, with particular emphasis on critical assessment of research evidence (both qualitative and quantitative) as presented in the health sciences literature related to health care.
Problem based tutorial (2.5 hours), guided self-study (2 hours) per week; one term.
Prerequisite: Normally registration in Level III of the BScN (A) or (B) or NP (C) Stream or permission of the instructor; or registration in the Paediatric or Adult Oncology programmes.
Antirequisite: HTH SCI 3A03, 3L02

HTH SCI 3L03  PRINCIPLES AND METHODS OF RESEARCH
Advanced analysis of principles of research design, with an emphasis on quantitative and qualitative methodologies. A combination of self-directed and distance learning techniques will be used. Students will participate in an ongoing research project for a portion of their term.
Self-study/tutorial; two terms.
Prerequisite: HTH SCI 3A03 and registration in the Midwifery Education programme or permission of the instructor.

HTH SCI 3R03  INDEPENDENT STUDY IN A HEALTH SCIENCE TOPIC
Special topics will be considered in depth under the supervision of a faculty member. The plan of study must be negotiated with the supervisor.
Lecture or equivalent (three hours); one term.
Prerequisite: Registration in Level II or above of the B.Sc.N. programme; 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. degree.

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 4B06

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.
Three hours (lecture/problem-based tutorials); one term.
Prerequisite: HTH SCI 3B03 and registration in Level III or IV of the BScN Programme or permission of the instructor.
Antirequisite: NURSING 4H03

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 3A03, 3L02 and registration in Level IV of the B.Sc.N. (A) or (B) or NP (C) Stream; or permission of the instructor.
Antirequisite: HTH SCI 4L04

HEALTH AND SOCIETY
(SEE INTERDISCIPLINARY MINORS AND THEMATIC AREAS)

HEBREW
(SEE RELIGIOUS STUDIES, HEBREW)

HISPANIC STUDIES
(SEE MODERN LANGUAGES, HISPANIC STUDIES)

HISTORY

Faculty as of January 15, 1999

Chair
Virginia Aksan

Professors
Daniel J. Geagan/A.B. (Boston), Ph.D. (Johns Hopkins)
John C. Weaver/B.A. (Queen's), M.A., Ph.D. (Duke)
EMPHASIS UPON THE BREAKUP OF FEUDAL SOCIETY AND THE CONSEQUENT CHANGES

HISTORY 2A06
WOMEN'S ROLE IN WESTERN EUROPEAN SOCIETY

AN EXAMINATION OF THE CONTRIBUTION OF WOMEN TO WESTERN EUROPEAN SOCIETY FROM THE LATE CLASSICAL ERA TO THE EARLY TWENTIETH CENTURY. WHETHER EXAMINED FROM A HISTORICAL, SOCIAL OR CULTURAL PERSPECTIVE, THE FEMALE ROLE WILL BE SEEN IN RELATION TO THE MAJOR POLITICAL CHANGES TAKING PLACE DURING THIS PERIOD.

Three hours; two terms
Cross-list: WOMEN ST 2B06

HISTORY 2C06
MODERN EUROPE

AN EXAMINATION OF MAJOR THEMES IN 19TH- AND 20TH-CENTURY EUROPEAN HISTORY UP TO THE 1990S.

Three lectures; two terms
Prerequisite: Registration in Level II and above

HISTORY 2E06
ISLAM AND MEDITERRANEAN SOCIETY, 600-1300

AN INTRODUCTION TO ISLAMIC CIVILIZATION FROM ITS BEGINNINGS IN ARABIA TO THE PERIOD OF THE CRUSADES, WITH AN EMPHASIS ON MEDITERRANEAN CULTURE OF THE PERIOD.

Three lectures; one term
Prerequisite: Registration in Level II and above
Antirequisite: HISTORY 2E05, RELIG ST 2006
Cross-list: RELIG ST 2EA3

HISTORY 2E03
ISLAM IN THE WORLD, 1300-1800

A SURVEY COURSE WHICH EMPHASIZES THE ROLE OF ISLAM IN THE GLOBAL SETTING IN THE PERIOD OF THE GREAT ISLAMIC EMPIRES.

Three lectures; one term
Prerequisite: Registration in Level II and above
Antirequisite: HISTORY 2E05, RELIG ST 2006
Cross-list: RELIG ST 2EB3

HISTORY 2G03
CHINA: HISTORICAL FOUNDATIONS

POLITICAL, SOCIAL AND CULTURAL BACKGROUND TO THE MODERN AGE, WITH EMPHASIS ON THE LATE IMPERIAL PERIOD (1600-1900).

Three lectures; one term
Prerequisite: Registration in Level II and above
Antirequisite: HISTORY 2G05

HISTORY 2H05
UNITED STATES HISTORY

THE HISTORY OF THE UNITED STATES FROM THE COLONIAL ERA TO THE END OF THE TWENTIETH CENTURY.

Three lectures; two terms
Prerequisite: Registration in Level II and above

HISTORY 2I06
EUROPE IN THE MIDDLE AGES

A SURVEY OF EUROPEAN HISTORY FROM A.D. 400-1400. PARTICULAR ATTENTION WILL BE GIVEN TO THE ATTEMPTS AT POLITICAL AND SOCIOLOGICAL ORGANIZATION WHICHLed TO THE BIRTH OF EUROPE.

Three lectures; two terms
Prerequisite: Registration in Level II and above

HISTORY 2J06
THE HISTORY OF CANADA

A STUDY OF THE MAJOR SOCIAL AND POLITICAL FORCES THAT HAVE CONTRIBUTED TO THE DEVELOPMENT OF MODERN CANADA.

Three hours (two lectures and discussion group); two terms
Prerequisite: Registration in Level II and 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 and above

HISTORY 2L03
HISTORY OF CLASSICAL GREECE

GREECE FROM THE RISE OF THE CITY-STATES TO ALEXANDER, WITH PARTICULAR ATTENTION TO THE 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 and above
Antirequisite: HISTORY 2L05
Cross-list: CLASSICS 2L03

HISTORY 2L03
HISTORY OF CLASSICAL ROME

ROME FROM THE MIDDLE REPUBLIC THROUGH THE EMPIRE, WITH PARTICULAR ATTENTION TO THE POLITICAL, SOCIAL AND CULTURAL DEVELOPMENT IN THE LIGHT OF BOTH LITERARY AND ARCHAEOLOGICAL EVIDENCE. (NO GREEK OR LATIN REQUIRED).

Three lectures; one term
Prerequisite: Registration in Level II and above
Antirequisite: HISTORY 2L05
Cross-list: CLASSICS 2L03

HISTORY 2L03
HISTORY OF THE CRUSADES

A STUDY OF THE CRUSADES, FROM THEIR BEGINNINGS TO THEIR DISAPPEARANCE. INTERRELATION BETWEEN ECONOMIC, RELIGIOUS, AND POLITICAL DEVELOPMENTS.

Three lectures; two terms
Prerequisite: Registration in Level II and above
Antirequisite: HISTORY 2L05
Cross-list: CLASSICS 2L03
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Prerequisites</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>HISTORY 2N06</td>
<td>BRITISH HISTORY, 1500-1970</td>
<td>Emphasis will be placed on the main political, religious, economic and social developments. Three hours (lectures and discussion groups); two terms Prequisite: Registration in Level II and above</td>
<td>A study of the political, economic and social history of the Ottoman Empire, with an emphasis on its influence on the cultures of both Asia and Europe. Three hours (lectures and discussion); one term Prequisite: Registration in Level II and above</td>
</tr>
<tr>
<td>HISTORY 3A03</td>
<td>IMPERIAL ISLAM: THE OTTOMANS</td>
<td>A study of the political, economic and social history of the Ottoman Empire, with an emphasis on its influence on the cultures of both Asia and Europe. Three hours (lectures and discussion); one term Prequisite: Registration in Level II and above</td>
<td>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 imperative and the Arab-Israeli conflict. Three hours (lectures and discussion); one term Prequisite: Registration in Level II and above</td>
</tr>
<tr>
<td>HISTORY 3B03</td>
<td>MODERN JAPAN</td>
<td>A survey of 19th and 20th century Japan, with an emphasis on political developments, social change, and Japan's relations with East Asia and the West. Three lectures; one term Prequisite: Registration in Level II and above Cross-list: JAPAN ST 3B03</td>
<td>A survey of 19th and 20th century Japan, with an emphasis on political developments, social change, and Japan’s relations with East Asia and the West. Three lectures; one term Prequisite: Registration in Level II and above</td>
</tr>
<tr>
<td>HISTORY 3BB3</td>
<td>THE TOWN IN UNITED STATES HISTORY</td>
<td>A study of the political, economic, social, cultural and intellectual aspects of town life, as well as an examination of the relationship of the town to American society as a whole. Three lectures; one term Prequisite: Six units of History above Level I</td>
<td>A survey of 19th and 20th century Japan, with an emphasis on political developments, social change, and Japan’s relations with East Asia and the West. Three lectures; one term Prequisite: Registration in Level II and above Cross-list: JAPAN ST 3B03</td>
</tr>
<tr>
<td>HISTORY 3C03</td>
<td>THE LATE REPUBLIC</td>
<td>An examination and analysis of major themes in the political, social and economic history of Rome from the mid-second century B.C. to the assassination of Caesar. Three lectures; one term Prequisite: HISTORY 1L06 or 2L03 or six units of Classics, and registration in Level III and above Antirequisite: HISTORY 3MM3 Cross-list: CLASSICS 3C03 Alternates with HISTORY 3CC3</td>
<td>An examination and analysis of major themes in the political, social and economic history of Rome from the mid-second century B.C. to the assassination of Caesar. Three lectures; one term Prequisite: Registration in Level II and above</td>
</tr>
<tr>
<td>HISTORY 3CC3</td>
<td>THE EARLY EMPIRE</td>
<td>An examination and analysis of major themes in the political, social and administrative history of Rome under the early emperors. Three lectures; one term Prequisite: HISTORY 1L06 or 2L03 or six units of Classics, and registration in Level III and above Antirequisite: HISTORY 3MM3 Cross-list: CLASSICS 3CC3 Alternates with HISTORY 3C03</td>
<td>An examination of major themes in the political, social and administrative history of Rome under the early emperors. Three lectures; one term Prequisite: Registration in Level II and above</td>
</tr>
<tr>
<td>HISTORY 3D03</td>
<td>THE FRENCH REVOLUTIONARY ERA</td>
<td>A study of the origins, nature and impact of the French Enlightenment and Revolution, and of the legacy of the Revolutionary-Napoleonic period. Three hours (lectures and discussion); one term Prequisite: Six units of History and registration in Level II or above</td>
<td>A study of the origins, nature and impact of the French Enlightenment and Revolution, and of the legacy of the Revolutionary-Napoleonic period. Three hours (lectures and discussion); one term Prequisite: Six units of History and registration in Level II or above</td>
</tr>
<tr>
<td>HISTORY 3D3D</td>
<td>THE JEWISH WORLD IN NEW TESTAMENT TIMES</td>
<td>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 Prequisite: Registration in Level II and above Cross-list: RELIG ST 3D3D</td>
<td>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 Prequisite: Registration in Level II and above</td>
</tr>
<tr>
<td>HISTORY 3EE3</td>
<td>THE GREEK HISTORIANS</td>
<td>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 Prequisite: Registration in Level III and above Cross-list: CLASSICS 3EE3</td>
<td>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 Prequisite: Registration in Level III and above</td>
</tr>
<tr>
<td>HISTORY 3F03</td>
<td>MEDIEVAL SOCIETY</td>
<td>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 group); one term Prequisite: One of HISTORY 2I06, 2L03, 2LL3</td>
<td>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 group); one term Prequisite: One of HISTORY 2I06, 2L03, 2LL3</td>
</tr>
<tr>
<td>HISTORY 3G03</td>
<td>BUSINESS HISTORY: THE CANADIAN EXPERIENCE IN INTERNATIONAL PERSPECTIVE</td>
<td>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 Prequisite: Registration in Level II and above</td>
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</tr>
<tr>
<td>HISTORY 3G03</td>
<td>CHINA: THE REVOLUTIONARY CENTURY, 1895-1995</td>
<td>End of the imperial system; the Republic; the rise of the Communist Party; Communist China; the varieties of revolution. Three lectures; one term Prequisite: Registration in Level II and above Antirequisite: HISTORY 2906</td>
<td>End of the imperial system; the Republic; the rise of the Communist Party; Communist China; the varieties of revolution. Three lectures; one term Prequisite: Registration in Level II and above Antirequisite: HISTORY 2906</td>
</tr>
<tr>
<td>HISTORY 3H06</td>
<td>THE HISTORY OF MODERN RUSSIA</td>
<td>A survey of the history of Russia with major emphasis on the 19th and 20th centuries. Three lectures; two terms Prequisite: Registration in any programme in History or Honours Russian and East European Studies</td>
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</tr>
<tr>
<td>HISTORY 3H13</td>
<td>THE INTERNATIONAL RELATIONS OF THE EUROPEAN POWERS, 1815-1914</td>
<td>An examination of the post-Napoleonic settlement of 1815; its breakdown and the triumph of the national unification movements; the causes of World War I. Three lectures; one term Prequisite: Registration in Level II and above</td>
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<tr>
<td>HISTORY 3I03</td>
<td>THE INTERNATIONAL RELATIONS OF THE EUROPEAN POWERS, 1914-1945</td>
<td>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 Prequisite: Registration in Level II and above</td>
<td>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 Prequisite: Registration in Level II and above</td>
</tr>
<tr>
<td>HISTORY 3JJ3</td>
<td>CRIME, CRIMINAL JUSTICE AND PUNISHMENT IN MODERN HISTORY</td>
<td>A study of the changing structure and role of the Canadian state and social history of the Middle East from 1800 to the present, with an emphasis on contemporary issues, such as the Islamic imperative and the Arab-Israeli conflict. Three hours (lectures and discussion); one term Prequisite: Registration in Level II and above, with a minimum of six units of History Enrolment is limited.</td>
<td>A study of the changing structure and role of the Canadian state and social history of the Middle East from 1800 to the present, with an emphasis on contemporary issues, such as the Islamic imperative and the Arab-Israeli conflict. Three hours (lectures and discussion); one term Prequisite: Registration in Level II and above, with a minimum of six units of History Enrolment is limited.</td>
</tr>
<tr>
<td>HISTORY 3K03</td>
<td>CANADIAN POLITICAL DEVELOPMENT SINCE 1840</td>
<td>An examination of the changing structure and role of the Canadian state as to such specific themes as gender, popular piety, justice and warfare. Three hours (lectures and discussion group); one term Prequisite: One of HISTORY 1L06, 2L03, or six units of Classics Cross-list: CLASSICS 3LL3</td>
<td>An examination of the changing structure and role of the Canadian state as to such specific themes as gender, popular piety, justice and warfare. Three hours (lectures and discussion group); one term Prequisite: One of HISTORY 1L06, 2L03, or six units of Classics Cross-list: CLASSICS 3LL3</td>
</tr>
<tr>
<td>HISTORY 3L03</td>
<td>THE HELLENISTIC AGE</td>
<td>The successors of Alexander, the world of the monarchies and their absorption into the Roman Empire. Political, cultural and social achievements in the light of modern historical research will be emphasized. Three hours (lectures and discussion groups); one term Prequisite: Registration in any programme in History Offered in alternate years.</td>
<td>The successors of Alexander, the world of the monarchies and their absorption into the Roman Empire. Political, cultural and social achievements in the light of modern historical research will be emphasized. Three hours (lectures and discussion groups); one term Prequisite: Registration in any programme in History Offered in alternate years.</td>
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<td>HISTORY 3L3L</td>
<td>THE CANADIAN WORKING CLASS</td>
<td>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 hours (lectures and discussion groups); one term Prequisite: Registration in a Labour Studies programme Offered in alternate years.</td>
<td>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 hours (lectures and discussion groups); one term Prequisite: Registration in a Labour Studies programme Offered in alternate years.</td>
</tr>
<tr>
<td>HISTORY 3P03</td>
<td>RELIGION AND SOCIETY IN CANADA</td>
<td>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 group); one term Prequisite: Registration in Level II and above</td>
<td>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 group); one term Prequisite: Registration in Level II and above</td>
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</tbody>
</table>
**HISTORY 3003**  
**HISTORY OF MODERN GERMANY**  
A survey of the 19th- and 20th-century Germany with major emphasis on social and political history.  
Three hours (lectures and discussion groups); one term  
Prerequisite: Registration in Level II and above

**HISTORY 3RR3**  
**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 and above

**HISTORY 3SS3**  
**HEALTH AND HEALTH CARE IN THE ANGLO-AMERICAN WORLD, 1500-1750**  
A thematic study of health and health care within the British Isles and the English Atlantic. The social history of medicine is developed within the contexts of socio-economic change, the rise of the early modern state, military and imperial expansion, and professionalization.  
Three hours (lectures and discussion groups); one term  
Prerequisite: Registration in Level II and above  
Alternates with HISTORY 3503.

**HISTORY 3TT3**  
**MATERIAL LIFE IN ENGLAND, 1500-1600**  
Among topics covered will be: food and drink, clothing, costume and fashion, lodging, health and medicine, architecture of towns and cities, technology, capitalism and the emergence of a consumer society.  
Three hours (lectures and discussion groups); one term  
Prerequisite: HISTORY 2N06

**HISTORY 3U33**  
**ASPECTS OF THE CULTURAL HISTORY OF ENGLAND, 1500-1668**  
An introduction to courtly, urban, and rural culture from pre-Reformation humanism through to the Restoration era, with emphasis upon social, political and religious influences.  
Three hours (lectures and discussion groups); one term  
Prerequisite: Registration in Level II and above  
Alternates with HISTORY 3S03.

**HISTORY 3X03**  
**CANADIAN AND AMERICAN WOMEN'S HISTORY**  
An examination of the history of Canadian and American women primarily in the nineteenth and twentieth centuries. This includes investigation of paid and unpaid labour, sexuality, child-bearing, formal education and religion.  
Three lectures; one term  
Prerequisite: HISTORY 2H06 or 2J05, or WOMEN ST 2A06  
Cross-list: WOMEN ST 3X03  
Offered in alternate years.

**HISTORY 3X33**  
**EARLY LATIN AMERICA**  
From the Amerindian cultures to 1823. The course will deal with the pre-Columbian civilizations, the Spanish conquest and its consequences until the wars for independence from Spain.  
Three lectures; one term  
Prerequisite: Registration in Level II and above  
Alternates with HISTORY 3Y33.

**HISTORY 3Y03**  
**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 lectures; one term  
Prerequisite: Registration in Level II and above  
Alternates with HISTORY 3X33.

**HISTORY 3Z03**  
**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: Open to students in Level II and above  
Cross-list: RELIG ST 3Z03

**HISTORY 4A06**  
**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 2N06, 3QQ3, 3SS3, or 3TT3, and registration in Level III or IV of any Honours programme in History  
Enrolment is limited. Departmental permission required.

**HISTORY 4B06**  
**SPECIAL TOPICS IN THE HISTORY OF TUDOR AND STUART ENGLAND**  
Studies in the political, religious, intellectual and social life of Tudor and Stuart England.  
Seminar (two hours); two terms  
Prerequisite: One of HISTORY 2N06, 3QQ3, 3SS3, or 3TT3, and registration in Level III or IV of any Honours programme in History  
Students may take only two of HISTORY 4B06, 4CC6, 4H06, 4T06 and 4W06.  
Enrolment is limited. Departmental permission required.

**HISTORY 4C06**  
**SPECIAL TOPICS IN THE HISTORY OF 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 programme 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 programme  
Enrolment is limited. Departmental permission required.

**HISTORY 4C6**  
**SPECIAL TOPICS IN THE SOCIAL AND CULTURAL HISTORY OF VICTORIAN CANADA**  
An examination of the social and cultural development of English Canada between 1837 and 1901.  
Seminar (two hours); two terms  
Prerequisite: HISTORY 2J06 and registration in Level III or IV of any Honours programme in History  
Students may take only two of HISTORY 4B06, 4CC6, 4H06, 4T06 and 4W06.  
Enrolment is limited. Departmental permission required.

**HISTORY 4D06**  
**SPECIAL TOPICS IN GREEK HISTORY**  
Investigations into Greek social history and its interpretation.  
Seminar (two hours); two terms  
Prerequisite: Six units from HISTORY 2L03, 3L13, 3UU3, CLASSICS 2K03, and registration in Level III or IV of any Honours programme in History  
Cross-list: CLASSICS 4D06  
Enrolment is limited. Departmental permission required.

**HISTORY 4E06**  
**SPECIAL TOPICS IN THE HISTORY OF VICTORIAN BRITAIN**  
An examination of such themes as the two-party system, the Irish question, working-class life, religious and literary movements, evolving industrialism, imperialism and social reform.  
Seminar (two hours); two terms  
Prerequisite: HISTORY 2N06 and registration in Level III or IV of any Honours programme in History  
Enrolment is limited. Departmental permission required.

**HISTORY 4F06**  
**SPECIAL TOPICS IN THE HISTORY OF MODERN CHINA**  
Aspects of the political, social, and cultural history of nineteenth- and twentieth-century China.  
Seminar (two hours); two terms  
Prerequisite: One of HISTORY 2B06, 2GG3 or 3GG3 and registration in Level III or IV of any Honours programme in History  
Alternates with HISTORY 4B06.  
Enrolment is limited. Departmental permission required.
HUMANITIES

HUMANITIES (GENERAL)

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 1
Enrolment is limited.

HUMAN 2C03  CRITICAL THINKING
This course aims to improve skills in analyzing and evaluating arguments and presentations found in everyday life and academic contexts, and to improve critical judgment.
Two lectures; one tutorial; one term
Prerequisite: Registration in Level II and above
Antirequisite: ARTS & SCI 1B06, PHIL 2P03
HUMAN 2C03 is administered by the Department of Philosophy.

HUMAN 2F03  SELECTED INTERDISCIPLINARY TOPICS IN MEDIEVAL LIFE AND CULTURE
The course will focus on themes to promote discussion and analysis of the roles played by women and men in the Middle Ages. It will explore some of the following topics: the history of health care and life cycles; the depiction of women by Latin and vernacular writers; female/male roles in the realm of spirituality; women as patrons and performers, authors, musicians and artists in medieval society; gender issues in legislation and law enforcement.
Three lectures; one term
Prerequisite: Registration in Level II or above
HUMAN 2F03 is administered by the School of Art, Drama and Music for 1999-2000.

HUMAN 3W03  APPLIED HUMANITIES I
An opportunity for students to gain applied experience in a field related to a Humanities discipline. A student will apply 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 programme offered by the Faculty of Humanities. Students must contact the Dean's Office, CNH-112, for information on opportunities that are available for the coming year.
Enrolment is limited.

HUMAN 4W03  APPLIED HUMANITIES II
An opportunity for students to gain applied experience in a field related to a Humanities discipline. A student will apply 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 programme offered by the Faculty of Humanities. Students must contact the Dean's Office, CNH-112, for information on opportunities that are available for the coming year.
Enrolment is limited.

INDIGENOUS STUDIES
An Interdisciplinary Minor in Indigenous Studies is offered. Please refer to the Interdisciplinary Minors and Thematic Areas section of this Calendar.

Director
D. J. Martin-Hill/ B.A., M.A., Ph.D. (McMaster)

Lecturer
R. Monture/ B.A., M.A. (McMaster)

Committee of Instructors
S. Buck, Clan Mother, Six Nations
T. Deere, Mohawk Language Instructor
A. Jacobs, Artist
J. Longboat, Traditional Herbalist
D. McGregor, B.Sc. (Toronto), M.Envir. St. (York)
V. Shawanda, Ojibwe Language Instructor
**INDIGENOUS STUDIES**

*Associate Elders*
- H. Longboat, Confederacy Chief, Six Nations
- A. General, Confederacy Chief, Six Nations
- N. General, Faithkeeper, Six Nations

*President's Committee on Indigenous Issues*

*Co-Chairs*
- S. Bowerbank (McMaster University Representative)
- L. Hill-MacDonald (Six Nations of the Grand River Representative)

## Courses

*If no prerequisite is listed, the course is open.*

### INDIGENOUS STUDIES (INDIG ST)...

**INDIG ST 1A06 INTRODUCTION TO INDIGENOUS STUDIES**  
A study of the world views of Indigenous peoples, including the Inuit, First Nations and the Métis, and of contemporary Indigenous societies' social systems, political organization and economic development.  
Three hours (lecture and seminars); two terms

**INDIG ST 2A06 INTRODUCTION TO INDIGENOUS PEOPLES' SPIRITUALITY**  
A review of the Indigenous peoples' views of the world, particularly as they relate to the natural world, their spirituality and their social systems.  
Three hours (lecture and seminars); two terms  
Prerequisite: INDIG ST 1A06

**INDIG ST 2C03 INTRODUCTION TO CONTEMPORARY INDIGENOUS SOCIETIES**  
A review of the geographic, cultural and demographic composition of Inuit, First Nations and Métis, and of the major current developments on land, cultural integrity, treaties, economic development, community social development and self-government.  
Three hours (lecture and seminars); one term  
Prerequisite: INDIG ST 1A06

**INDIG ST 2D03 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 1A06  
Not open to students with credit in INDIG ST 3CC3, CONTEMPORARY INDIGENOUS SOCIETIES: SELECTED TOPICS, if the topic was Traditional Indigenous Ecological Knowledge.

**INDIG ST 3A03 THE SPIRITUAL TEACHINGS OF ELDERs**  
An examination of the Great Law of the Iroquois people, the teachings of the Council of Three Fires, and other related teachings of other groups.  
Three hours (lecture and seminar); one term  
Prerequisite: INDIG ST 2A06

**INDIG ST 3B03 HISTORY OF THE EASTERN WOODLAND PEOPLE**  
A detailed study of the heritage of the main tribal groups from the Atlantic Coast to North-western Ontario, with an examination of social, political and economic systems.  
Three hours (lecture and seminar); one term  
Prerequisite: A Level II Indigenous Studies course

**INDIG ST 3BB3 HISTORY OF CONTEMPORARY INDIGENOUS PEOPLES**  
An intensive examination of the history of aboriginal groups selected from the Northern Peoples (Cree, Inuit, Dene), the western peoples, or the Métis. The exact groups selected and range of topics will vary depending on the instructor.  
Three hours (lecture and seminar); one term  
Prerequisite: A Level II Indigenous Studies course

**INDIG ST 3C03 STUDY OF IROQUOIS FIRST NATIONS IN CONTEMPORARY TIMES**  
An intensive examination of the Iroquois First Nations Confederacy and its attempts to maintain its culture, socio-political systems and economic independence.  
Three hours (lecture and seminar); one term  
Prerequisite: A Level II Indigenous Studies course

**INDIG ST 3CC3 CONTEMPORARY INDIGENOUS SOCIETIES: SELECTED TOPICS**  
1999-2000: Aboriginal Peoples and Film  
An intensive examination of selected political, economic, or social problems faced by selected Indigenous peoples.  
Three hours (lecture and seminar); first term  
Prerequisite: A Level II Indigenous Studies Course

**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 examined include appropriation of voice, native identity, women in indigenous societies, and stereotyping.  
Three hours (lecture and seminars); one term  
Prerequisite: INDIG ST 1A06 or ENGLISH 1D06 or permission of the instructor  
Cross-list: ENGLISH 3W03

**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 (lecture and seminars); one term  
Prerequisite: INDIG ST 1A06 or ENGLISH 1D06 or permission of the instructor  
Not open to students with credit in WOMEN ST 3D06, WOMEN IN CROSS-CULTURAL PERSPECTIVE, if taken in 1994-95 or 1995-96.

**INDIG ST 3G03 INDIGENOUS CULTURAL ARTS & DRAMA**  
1999-2000: Native Approaches to Drama and Performance  
The creative processes of Indigenous cultures are studied through the examination of selected forms of artistic expression, which may include art, music, dance and/or drama.  
Term two  
Prerequisite: INDIG ST 2A06 or permission of the instructor

**INDIG ST 3H03 TRADITIONAL APPROACHES TO HEALING AND WELLNESS 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 visits to locations of health, wellness and healing.  
Three hours (lecture and seminars); one term  
Prerequisite: A Level II Indigenous Studies Course  
Not open to students with credit in INDIG ST 3CC3, CONTEMPORARY INDIGENOUS SOCIETIES: SELECTED TOPICS, 1996-97, if the topic was Traditional Approaches to Healing and Wellness.

**INDIG ST 3H33 TRADITIONAL APPROACHES TO HEALING AND WELLNESS 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 (lecture and seminars); one term  
Prerequisite: A Level II Indigenous Studies Course  
Not open to students with credit in INDIG ST 3CC3, CONTEMPORARY INDIGENOUS SOCIETIES: SELECTED TOPICS, 1998-99 if the topic was Traditional Approaches to Healing and Wellness.

**CAYUGA ...**

**CAYUGA 1Z06 INTRODUCTION TO CAYUGA LANGUAGE AND CULTURE**  
This course will study the Cayuga language, its spoken and written forms, in the context of Iroquoian cultural traditions, values, beliefs and customs.  
Three hours (lecture and seminars); two terms

**CAYUGA 2206 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); two terms  
Prerequisite: CAYUGA 1Z06
CAYUGA 3Z06 ADVANCED CAYUGA
An in-depth study of the structure and literature of the Cayuga language and a comparison of the different Cayuga dialects.
Three hours (lecture and seminars); two terms
Prerequisite: CAYUGA 2Z06

MOHAWK 1Z06 INTRODUCTION TO MOHAWK LANGUAGE AND CULTURE
This course will study the Mohawk language, in its spoken and written forms, in the context of iroqquan cultural traditions, values, beliefs and customs.
Three hours (lecture and seminars); two terms
Prerequisite: MOHAWK 1Z06

MOHAWK 2Z06 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); two terms
Prerequisite: MOHAWK 2Z06

MOHAWK 3Z06 ADVANCED MOHAWK
An in-depth study of the structure and literature of the Mohawk language and a comparison of the different Mohawk dialects.
Three hours (lecture and seminars); two terms
Prerequisite: MOHAWK 2Z06

OJIBWE 1Z06 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); two terms
Prerequisite: OJIBWE 1Z06

OJIBWE 2Z06 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); two terms
Prerequisite: OJIBWE 2Z06

OJIBWE 3Z06 ADVANCED OJIBWE
An in-depth study of the structure and literature of the Ojibwe language and a comparison of the Central dialect with other Ojibwe dialects.
Three hours (lecture and seminars); two terms
Prerequisite: OJIBWE 2Z06

INQUIRY
Note:
These Level 1 courses unite the expertise of the Faculties’ scholars and researchers with the University’s distinctive inquiry-based approach to instruction. Students examine a key research question, as a class of no more than 25, in smaller groups, or in combination with other classes that are examining the same question in a section led by a different instructor.

Courses

INQUIRY 1HU3 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
Enrollment is limited.

INQUIRY 1SC3 INQUIRY IN SCIENCE
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 Science.
Three hours; one term
Prerequisite: Registration in Science I
Enrollment is limited.

INQUIRY 1SS3 INQUIRY IN THE SOCIAL SCIENCES
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 Social Sciences.
Three hours; one term
Prerequisite: Registration in Social Sciences I or Kinesiology I
Enrolment is limited.

ITALIAN
(SEE MODERN LANGUAGES, ITALIAN)

JAPANESE AND JAPANESE STUDIES
(SEE MODERN LANGUAGES, JAPANESE)

JEWISH STUDIES
(SEE INTERDISCIPLINARY MINORS AND THEMATIC AREAS)

KINESIOLOGY

Faculty as of January 15, 1999

Chair
Janet L. Stankes

Professors
Cameron J. Bliimke/B.A., B.P.E. (McMaster), V.A., Ph.D. (Western Ontario)
Digby Elliott/B.Sc., M.Sc., Ph.D. (Waterloo)
Timothy D. Lee/B.H.K., M.A. (Windsor), Ph.D. (Louisiana State)
J. Duncan MacDougall/BA., B.P.H.E. (Queen's), M.S. (Oregon), Ph.D. (Wisconsin)
Neil McCartney/B.Ed. (Exeter), Ph.D. (McMaster)
Digby G. Sale/B.P.H.E. (Toronto), M.A. (Western Ontario), Ph.D. (McMaster)
Janet L. Stankes/B.A. (Western Ontario), M.Sc., Ph.D. (Waterloo)

Associate Professors
Nicola Ciptano/B.P.H.E., M.Sc. (Lakehead)
James J. Dowling/B.H.K., M.H.K. (Windsor), Ph.D. (Waterloo)
Robert J. Henderson/B.P.E. (McMaster), M.A., Ph.D. (Alberta)
Audrey Hicks/B.P.E., M.Sc., Ph.D. (McMaster)
Susan E. Inglis/B.P.E., M.A. (Alberta), Ph.D. (Ohio State)
Mary E. Keyes/B.A., M.A. (Western Ontario), Ph.D. (Ohio State)
Cindy Rasch/V.B.A., B.P.H.E., B.Ed., M.Sc. (Queen's), Ph.D. (Waterloo)
David C. Wilson/Cert.Ed. (St. Paul's College), B.Ed. (Bristol), M.A. (York)

Assistant Professors
Nancy B. Bouchier/B.A., M.A., Ph.D. (Western Ontario)
Kathleen A. Martin/B.Sc. (Toronto), M.A. (Western Ontario), Ph.D. (Waterloo)
Mark A. Tamopoleky/B.P.E., M.D., Ph.D., F.R.C.P. (C), (McMaster)

Associate Members
Oodod Bar-Ori(Pediatrics), M.D. (Hebrew Univ., Jerusalem)
Vicki Galsai/Rehabilitation Science), B.Sc., M.Sc. (Waterloo), Ph.D. (McMaster)
A.J. McComas (Medicine), B.Sc., M.B., B.S. (Durham), F.R.C.P.(C)
Robert S. McKeivel (Medicine), B.Sc., M.D. (Western Ontario), Ph.D. (McMaster)
Michael Pierncynowski (Rehabilitation Science), B.Sc., M.Sc. (Waterloo), Ph.D. (Simon Fraser)
Laurie Wishart (Rehabilitation Science), Dtp.P&OT, B.Sc. (Toronto), M.Sc. Ph.D. (McMaster)

Professors Emeriti
Frank J. Hayden/B.A. (Western Ontario), M.A., Ph.D. (Illinois)
Alan J. Smith/B.S.A., M.Ed. (Toronto), D.Ed. (SUNY, Buffalo)
KINESIOLOGY

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. (Exceptions may be made for some students completing Kinesiology as a Second Degree).
2. Not all Level III and IV Kinesiology courses are taught every year.
3. KINESIOL 1A06 is available to all students (subject to enrolment restrictions).
4. The following courses are available for elective credit for students enrolled in Level III or above of a non-Kinesiology programme: KINESIOL 3DD3, 3F03, 3JJ3, 3L03, 3M03, 3P03, 3QQ3, 3SS3, 4J3, 4M03, 4T03 and 4Y03. Enrolment for such students is limited and places are assigned on a first-come basis. Enrolment in some Level III and IV Kinesiology courses is limited.
5. All courses are open only to Kinesiology students unless otherwise specified. (See Notes 3 and 4 above.)

Courses

KINESIOL 1A06 ANATOMY/PHYSIOLOGY
Macroscopic and microscopic anatomy and physiology of the skeletal, muscular, nervous, cardiovascular, and respiratory systems. The basic anatomy of the integumentary, immune, digestive, endocrine, and urogenital systems will also be presented.
Three hours (lectures, labs); two terms
Enrolment is limited. (See Note 3 above.)

KINESIOL 1D03 THE 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

KINESIOL 1E03 PSYCHOMOTOR BEHAVIOUR
The behavioural and psychological principles underlying motor control and motor learning.
Three hours (lectures, labs); one term

KINESIOL 1F03 FITNESS, LIFESTYLE AND RECREATIONAL ACTIVITIES
An experiential course which teaches a holistic lifestyle, using both instructional and practical-based learning, to enhance the student's quality of life.
One hour; two terms

KINESIOL 2A03 BIOMECHANICS
An introduction to basic mechanical principals and concepts as applied to human physical activity and the musculoskeletal system.
Three hours (lectures, lab); one term

KINESIOL 2B03 SOCIOLOGY OF SPORT
Critical examination of contemporary issues and problems of sport in Canadian society.
Three hours; one term

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

KINESIOL 2F03 ASPECTS OF FITNESS, LIFESTYLE AND RECREATIONAL ACTIVITIES
An experiential course emphasizing participation in structured and unstructured physical activity sessions. Factors influencing personal fitness and living an active lifestyle will be explored. Students will design a personal fitness programme and take part in a variety of recreational activities.
Two hours; two terms
Prerequisite: Registration in Level II Kinesiology
This is a required non-credit course and must be completed in Level II. Last offered in 1999-2000.

KINESIOL 2G03 INTRODUCTION TO HEALTH BEHAVIOUR
An introduction to health psychology issues including stress, exercise, weight control and diet, health promotion, addictions and coping with illness.
Three hours (lectures); one term

KINESIOL 3A03 HISTORY OF PHYSICAL CULTURE AND SPORTS MEDICINE
Selected topics in the social and cultural history of physical culture and sports medicine in the Western World, with a particular emphasis on nineteenth and twentieth century developments in North America.
Three hours (lectures); one term
Enrolment is limited.

KINESIOL 3A03 BIOMECHANICS II
Study of kinematics and kinetics of human movement, including electromyography, fluid and tissue mechanics with applications.
Three hours (lectures, lab); one term
Antirequisite: KINESIOL 2A06

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
Corequisite: Registration in KINESIOL 3B03 which is a field placement with special populations.

KINESIOL 3C03 STATISTICS AND RESEARCH DESIGN
Research design and descriptive and inferential statistics in Kinesiology.
Three hours (lectures, labs); one term

KINESIOL 3D03 GROWTH, MATURATION AND PHYSICAL ACTIVITY
Growth, development and maturation changes underlying morphologic and functional development of selected physiological systems which influence human exercise capacity during childhood.
Two lectures, one poster presentation; one term

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

KINESIOL 3F03 MANAGEMENT CONCEPTS AND PROGRAMME DELIVERY IN HUMAN MOVEMENT WORK ENVIRONMENTS
Combining theory and practice, the course includes concepts and issues related to organizations, volunteering, planning, policy, marketing and fiscal, legal and ethical issues.
Three hours (lectures, seminars, group projects); one term
This course may be taken as elective credit by undergraduates in Level III or above of a non-Kinesiology programme; however, enrolment for such students is limited.

KINESIOL 3H03 HISTORICAL INTERPRETATIONS OF SPORT AND PHYSICAL ACTIVITY
Critical inquiry into the development of physical activity and sport from ancient to modern civilizations in the perspective of cultural change.
Two lectures, one seminar; one term
Enrolment is limited.

KINESIOL 3J03 HISTORY OF MODERN DANCE
A survey of trends in modern dance including modern dance forerunners, pioneers, second generation, post-moderns, and new dance. Students attend performances and participate in workshops.
Three hours (lectures, practical); one term
This course may be taken as elective credit by undergraduates in Level III or above of a non-Kinesiology programme; however, enrolment for such students is limited.
Antirequisite: KINESIOL 4J03

KINESIOL 3K03 SPORTS INJURIES
Common athletic injuries will be discussed under the following headings: mechanism of injury, prevention, preliminary assessment, tissue healing, basic taping techniques, and emergency care.
Two lectures, one lab; one term (Approximately $25.00 will be charged for supplies used in labs.)
Enrolment is limited. Priority will be given to Level IV Kinesiology students.

KINESIOL 3L03 ORGANIZATIONAL BEHAVIOUR AND THE APPLICATION TO HUMAN MOVEMENT WORK ENVIRONMENTS
An examination of concepts and issues of organizational behaviour in a variety of work environments. Topics include communications, leadership, conflict management, individuals and groups at work.
Three hours (lectures and seminars); one term
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, group cohesion, psychological considerations for youth in sport, ethics in coaching and psychological techniques for optimizing performance.
Three hours (lectures); one term
This course may be taken as elective credit by undergraduates in Level III or above of a non-Kinesiology programme; however, enrolment for such students is limited.

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: KINESIOL 2B03 or SOCIOL 1A06
This course may be taken as elective credit by undergraduates in Level III or above of a non-Kinesiology programme; however, enrolment for such students is limited.

KINESIOL 3Q03 SPORT AND SOCIALIZATION
Analysis of the process of becoming involved in sport, sustaining and changing that involvement, and retirement.
Three hours (lectures and discussion); one term
Prerequisite: KINESIOL 2B03 or SOCIOL 1A06
This course may be taken as elective credit by undergraduates in Level III or above of a non-Kinesiology programme; however, enrolment for such students is limited.

KINESIOL 3S03 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: KINESIOL 2B03 or SOCIOL 1A06
This course may be taken as elective credit by undergraduates in Level III or above of a non-Kinesiology programme; however, enrolment for such students is limited.

KINESIOL 3Z03 HUMAN MOVEMENT PRACTICUM
Experiential learning in three movement activities selected from team games, individual sports, indoor and outdoor recreational activities, body awareness, and dance.
Students may not select any practicum for which they have already received previous Practicum (PR) credit.

KINESIOL 4A06 ADVANCED BIOMECHANICS
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: One of KINESIOL 2A03 or 2A06
Prerequisite (Beginning in 2000-2001): KINESIOL 2A03 and 3A03
Enrolment is limited.

KINESIOL 4A03 LEISURE IN SOCIETY
Investigation of modern leisure with particular emphasis on the social construction of leisure, democratization and commercialization of leisure, and failure to achieve the promised leisure society.
Three hours (lectures, group work); one term
Not open to students who have taken KINESIOL 4F03, SELECTED TOPICS IN KINESIOLOGY, if the topic was Sociology of Leisure.

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 and 2C06

KINESIOL 4C03 CARDIO-RESPIRATORY AND METABOLIC ASPECTS OF HUMAN PHYSICAL PERFORMANCE
Cardio-respiratory factors and metabolic aspects affecting human physical performance with emphasis on understanding the physiological and biochemical integration occurring during exercise.
Three hours (lectures, labs); one term
Prerequisite: KINESIOL 2C06
Enrolment is limited.

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 2C06
Enrolment is limited.

KINESIOL 4D03 OUTDOOR EDUCATION
An examination of skills, pedagogy and perspectives of outdoor (expeditionary) education. This course involves a 9-day canoe/camping field component before classes start.
Three hours (lectures, tutorials, field experiences); one term
(Exact cost of field component is $320.00)
Enrolment is limited.

KINESIOL 4E03 ADVANCED PLACEMENT
Students take part in a supervised practical experience that links classroom knowledge to professional practice. Placements are offered in dance, special needs populations, management, teaching and coaching, cardiac rehabilitation and outdoor education.
Placement experience equivalent to one day per week, seminars; one term
Prerequisite: One of KINESIOL 3B03, 3F03, 3M03, 4B03, 4D03 and 4JJ3 including completion of the corresponding non-credit field placement; registration in Level IV Kinesiology; a minimum C.A. of 70 and permission of the Undergraduate Coordinator and instructor

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, seminars); one term
Enrolment is limited for some topics.

KINESIOL 4G03 PEDAGOGY OF CONTEMPORARY AND TRADITIONAL WILDERNESS TRAVEL
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 midterm recess.
Three hours (lectures, tutorials, field experiences); one term
Prerequisite: KINESIOL 4D03
(Exact cost of field component is $550.00)
Enrolment is limited.

KINESIOL 4H03 PHYSICAL ACTIVITY AND LIFESTYLE INFLUENCES ON CHRONIC DISEASE
The relationship between physical activity and associated lifestyle influences on selected chronic diseases is examined from a biological perspective.
Three hours (lectures, poster presentation); one term

KINESIOL 4H03 HOCKEY IN CANADIAN CULTURE
Analysis of the myths, structures and significance of "Canada's national sport".
Three hours (lectures); one term
Not open to students with credit in KINESIOL 4F03, SELECTED TOPICS IN KINESIOLOGY, if the topic was Hockey in Canadian Culture.

KINESIOL 4J03 DANCE IN CONTEMPORARY SOCIETY
A survey of topics pertaining to the dance industry and the lifestyles of dancers in contemporary society. Content includes dance careers, administration, production, technology, education, health and special populations.
Three hours (lectures, seminars); one term
This course may be taken as elective credit by undergraduates in Level III or above of a non-Kinesiology programme.
Antirequisite: KINESIOL 4J03
Enrolment is limited.

KINESIOL 4K03 PERCEPTUAL-MOTOR BEHAVIOUR
An advanced examination of current topics regarding perceptual-motor behaviour with particular reference to everyday experiences.
Three hours (lectures, labs); one term
Enrolment is limited.
KINESIOL 4KK3  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 3K03
Enrollment is limited.

KINESIOL 4L03  COMPARATIVE SPORT (SELECTED TOPICS)
Contemporary physical education and sport in selected countries, with special attention given to international sports competition and the study of government sport systems.
One lecture, one two-hour seminar; one term
This course may be taken as elective credit by undergraduates in Level III or above of a non-Kinesiology programme.
Enrollment is limited.

KINESIOL 4M03  SPORT PSYCHOLOGY
Principles of sport psychology are applied to individual and team performance issues. Research is emphasized and topics include: personality, motivation, arousal, perception, biofeedback, the process of competition, children in sport, and ethics in sport psychology.
Two lectures, one lab; one term
This course may be taken as elective credit by undergraduates in Level III or above of a non-Kinesiology programme.
Enrollment is limited.

KINESIOL 4N03  ATHLETIC COACHING: TRAINING AND PLANNING PERSPECTIVES
An analysis of factors that facilitate sport performance at the elite level. Topics include periodization, talent identification, environmental factors, optimal arousal and scuffling.
Three hours (lectures); one term
Prerequisite: KINESIOL 3N03

KINESIOL 4P03  PAEDIATRIC EXERCISE PHYSIOLOGY
Physiologic aspects of physical activity in children and adolescents in health and disease.
Two lectures, one lab; one term
Prerequisite: KINESIOL 3D03
Enrollment is limited.

KINESIOL 4R03  INDEPENDENT RESEARCH
Investigation of a selected theoretical or applied problem mutually acceptable to instructor and student.
Prerequisite: Registration in Level IV Kinesiology; a minimum C.A. of 7.0 and permission of the Undergraduate Coordinator and Instructor
Antirequisite: KINESIOL 4R6

KINESIOL 4R6  THESIS
Independent project involving a research topic under the supervision of a faculty member. The project involves a literature review, design of methodology, data collection, analysis and a research report or equivalent appropriate to the sub-discipline.
Prerequisite: Registration in Level IV Kinesiology; a minimum CA of 7.0 and permission of the Undergraduate Coordinator and Instructor by April 30
Antirequisite: KINESIOL 4R6

KINESIOL 4S03  PHYSICAL ACTIVITY IN CHRONIC HEALTH IMPAIRMENTS
Focus on specific health impairments prevalent in our society and the various benefits/risks of physical activity in these populations.
Three hours (two lectures, one seminar); one term
Prerequisite: KINESIOL 3B03 and one of KINESIOL 3B03 or 3R89
Enrollment is limited.

KINESIOL 4S33  HUMAN AGING: BIOLOGICAL AND LIFESTYLE INFLUENCES
The interrelationship between biological processes of aging and associated lifestyle factors (e.g., exercise/inactivity) will be explored in various human systems.
Three hours (lectures); one term

KINESIOL 4T03  GENDER, SPORT AND LEISURE
The influence of sport and leisure on the social construction of masculinity and femininity.
Three hours (seminars); one term

KINESIOL 2B03 or SOCIOL 2Q06
This course may be taken as elective credit by undergraduates in Level III or above of a non-Kinesiology programme.
Enrollment is limited.

KINESIOL 4U03  ADVENTURE BASED LEARNING
Adventure based learning foundations, philosophy, and pedagogy will be examined through a combination of practices and theories relevant to contemporary educational issues.
Lectures, tutorials, and field experiences; one term
(Approximate field component cost is $120.00)

KINESIOL 4V03  HUMAN FACTORS AND ERGONOMICS
The abilities and limitations of human performance are examined with respect to how individuals interact with objects in their environment.
Three hours (lectures, labs); one term
Enrollment is limited.

KINESIOL 4W03  POSTURE AND GAIT
An examination of neural and mechanical factors in posture and gait control in normal and special populations. The format will be lectures, labs and group discussion of case studies. The first part of the course will include neuroanatomy labs.
Three hours (lectures, labs); one term
Prerequisite: KINESIOL 3E03 or 4E03
Enrollment is limited.

KINESIOL 4X03  SELECTED TOPICS IN ADMINISTRATIVE STUDIES
A senior level seminar course which explores selected topics related to administrative theory and practice in human movement work environments.
Three hours (seminars and presentations); one term
Prerequisite: KINESIOL 3F03 and 3L03

NON-CREDIT FIELD PLACEMENTS...

KINESIOL 3B03  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 programmes in a variety of community settings.
Coquisite: KINESIOL 3B03
This placement must be completed in conjunction with KINESIOL 3B03.

KINESIOL 3F03  MANAGEMENT PLACEMENT
This placement is designed to provide practical experience in applying management concepts in a variety of community settings.
This placement may be completed in conjunction with KINESIOL 3F03.

KINESIOL 3J03  DANCE PLACEMENT
This placement is designed to provide practical experience in dance production, choreography and improvisation.
This placement may be completed in conjunction with KINESIOL 3J03 or 4J03.

KINESIOL 3M03  COACHING PLACEMENT
This placement is designed to apply the principles and theories of athletic coaching in a practical setting. The student will coach an athletic team for one season.
This placement may be completed in conjunction with KINESIOL 3M03 or 4M03.

KINESIOL 4B03  CARDIAC REHABILITATION PLACEMENT
This placement is designed to supplement the student's classroom learning of the major issues in post-coronary exercise rehabilitation. Students serve as exercise leaders in the McMaster Cardiac Rehabilitation programme.
This placement may be completed in conjunction with KINESIOL 4B03.

KINESIOL 4D03  OUTDOOR EDUCATION PLACEMENT
This placement is designed to allow the student to experience a variety of outdoor education activities.
This placement may be completed in conjunction with KINESIOL 4D03.
LABOUR STUDIES
Faculty as of January 15, 1999

Director
W. Lewchuk

Professors
W. Lewchuk/B.A., M.A. (Toronto), Ph.D. (Cambridge)

Associate Professors
R. Storey/B.A. (Toronto), M.A. (Dalhousie), Ph.D. (Toronto)
D. Wells/B.A. (Western Ontario), M.A. (British Columbia), Ph.D. (Toronto)
C. Yates/B.A. (Winnipeg), M.A. (Queen’s), Ph.D. (Carleton)

Assistant Professors
O. Rafferty/B.A. (Western Ontario), M.A., Ph.D. (McMaster)
L. Vosko/B.A. (Trent), M.A. (Simon Fraser), Ph.D. (York)

Associate Members
R. Adams (Business) B.A. (Pennsylvania State), M.A., Ph.D. (Wisconsin)
P. Daenzer (Social Work) B.A., B.S.W. (York), M.S.W., Ph.D. (Toronto)
A. Robb (Economics) B.A., M.A. (British Columbia), Ph.D. (Essex)
P. Sugman (Sociology) B.A., M.A., Ph.D. (Toronto)

Note:
The following courses may be taken for elective credit by qualified students registered in any programme, however, enrolment for such students is limited and permission of the instructor is required.

LABR ST 2A03 Trade Unions
LABR ST 2D03 Different Labours, Different Voices
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 Trade Unionism
LABR ST 3F03 Selected Topics in Labour Studies
LABR ST 3G03 Economic Restructuring and Work Organization

The Honours B.A. Programme and the B.A. Programme in Labour Studies are supervised and coordinated by an interdisciplinary Committee of Instruction.

Committee of Instruction
Chair
W. Lewchuk (Economics/Labour Studies)
B. Basadur (Business)
A. Budros (Sociology)
A. Harrison (Dean) ex officio
S. Palmer (Social Work)
J. Pringle (Business)
J. Rose (Business)
R. Storey (Labour Studies/Sociology)
D. Wells (Labour Studies/Political Science)
C. Yates (Labour Studies/Political Science)

Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>LABR ST 1A03</td>
<td>AN INTRODUCTION TO THE CANADIAN LABOUR MOVEMENT</td>
</tr>
<tr>
<td>LABR ST 1203</td>
<td>AN INTRODUCTION TO ISSUES IN LABOUR STUDIES</td>
</tr>
<tr>
<td>LABR ST 2A06</td>
<td>TRADE UNIONS</td>
</tr>
<tr>
<td>LABR ST 2B03</td>
<td>SOCIAL WELFARE I</td>
</tr>
<tr>
<td>LABR ST 2BB3</td>
<td>SOCIAL WELFARE II</td>
</tr>
<tr>
<td>LABR ST 2C03</td>
<td>THEORETICAL FOUNDATIONS OF THE LABOUR MOVEMENT</td>
</tr>
<tr>
<td>LABR ST 2D03</td>
<td>DIFFERENT LABOURS, DIFFERENT VOICES</td>
</tr>
<tr>
<td>LABR ST 3A03</td>
<td>ECONOMICS OF LABOUR MARKET ISSUES</td>
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<tr>
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<td>LABOUR LAW AND POLICY</td>
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</tr>
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<td>SELECTED TOPICS IN LABOUR STUDIES</td>
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<tr>
<td>LABR ST 3G03</td>
<td>ECONOMIC RESTRUCTURING AND WORK ORGANIZATION</td>
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LABR ST 2A06
An examination of trade unions and their economic and social environment. Topics may include collective bargaining, labour-state relations, internal union decision-making processes and public sector unions. Lectures and discussion; one term.
Prerequisite: Registration in a Labour Studies programme or permission of the instructor.

LABR ST 2B03
An examination of social welfare policy and the income security system in Canada in historical perspective. Lectures and discussion; one term.
Prerequisite: Registration in a Labour Studies programme.
Cross-list: SOC WORK 2B03.
Students in a Labour Studies programme must register for this course as LABR ST 2B03.

LABR ST 2BB3
An examination of particular social problems and the institutional arrangements intended to address them. Lectures and discussion; one term.
Prerequisite: LABR ST 2B03 and registration in a Labour Studies Programme.
Corequisite: Must be taken in the same academic session as LABR ST 2B03.
Cross-list: SOC WORK 2BB3

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 attempts 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 programme or permission of the instructor.

LABR ST 2D03
DIFFERENT LABOURS, DIFFERENT VOICES
An overview of the ways in which people's changing experiences of work are shaped by gender, race, class and culture in Canada and the wider global context.
Lectures and discussion; one term.
Prerequisite: Registration in a Labour Studies programme or permission of the instructor.

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.
Prerequisites: ECON 1A06 or 1B03 and 1BB3; registration in a Labour Studies programme or permission of the instructor.
Cross-list: ECON 2A03

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 1B03 and 1BB3, and registration in a Labour Studies programme.
Cross-list: ECON 2T03

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 2A06 or 2A03; registration in a Labour Studies programme 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 a Labour Studies programme or permission of the instructor
Generally offered in alternate years.

LABR ST 3E03  WOMEN, WORK AND TRADE UNIONISM
An examination of the historical and contemporary relations between women and work, and women and trade 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: Registration in a Labour Studies programme 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 or 2A06; registration in a Labour Studies programme 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 or 2A06; registration in a Labour Studies programme or permission of the instructor
Antirequisite: LABR ST 3A03

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) and will attend seminars to develop practical and research skills related to labour studies. 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 any Honours programme in Labour Studies

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 origin 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 4B03 and registration in Level III or IV of a Labour Studies programme
Cross-list: COMMERCE 4B03

LABR ST 4D03  COMPARATIVE INDUSTRIAL RELATIONS
A discussion of industrial relations, policies and practices in several selected countries. Topics will include the development, structure, objectives and strategies of labour and management organizations.
Lectures and discussion; one term
Prerequisite: Registration in Level III or IV of a Labour Studies programme
Cross-list: COMMERCE 4B03

LATIN

(SEE CLASSICS, LATIN)

LINGUISTICS

(SEE MODERN LANGUAGES, LINGUISTICS)
MAN TECH 3FT3 FORMING TECHNOLOGY
Plasticity theory, yield surfaces, kinematic hardening, anisotropic plasticity and slip line field models; forming processes: plasticity models, process optimization; fabrication for metal and non-metallic materials including composites and polymers.
Three lectures, laboratory (one hour); one term
Corequisite: ENG TECH 1MA3

MAN TECH 3MT3 MECHATRONICS
Sensors; actuators: DC, AC and stepper motors, actuators; programmable controllers: modelling of dynamic systems. System identification; computer simulation and control; computer interfacing. Analog to digital conversion. Communication interfaces; case studies.
Three lectures, laboratory (one hour); one term
Prerequisite: ENG TECH 2CT3

MAN TECH 3ST3 STATISTICAL PROCESS AND QUALITY CONTROL
Statistical methods; statistical process control; control charts for variables, rational sampling and attributes; experimental design; two factor level designs; Taguchi's approach to quality of design; ISO 9000; reliability and life testing; management of quality.
Three lectures; one term
Prerequisite: ENG TECH 1PG3
Corequisite: ENG TECH 1MA3

MATERIALS SCIENCE AND ENGINEERING
Faculty as of January 15, 1999

Chair
M.B. Ives

University Professors

Professors
C.H. Chev/B.A.Sc. (Ottawa), M.A.Sc., Ph.D. (Toronto)/part-time
Gordon A. Iorns/B.A.Sc. (Victoria), Ph.D. (McGill), F.C.M.I., P.Eng., Dofasco/NSERC Industrial Research Chair in Process Metallurgy
M. Brian Ives/B.Sc., Ph.D. (Bristol), F.A.S.M., P.Eng.
Gyan P. Johari/B.Sc., M.Sc., Ph.D. (Gorakhpur), D.H.C. (Lyon), F.R.S.C.
S.R. MacEwen/B.A.Sc., Ph.D. (Toronto)/part-time

Adjunct Professors
Prasad A. Apted/B.Tech. (IIT, Bombay), Ph.D. (McMaster)
Yves Brechet/D.E.A. (Ecole Polytechnique), Ph.D. (Grandeville)
Michael J. Graham/B.Sc., Ph.D. (Liverpool), F.N.A.C.E.
Zoran D. Popovic/Dipl.Eng., M.Sc. (Beograd), Ph.D. (McMaster)
BARRY A. STRATHWAY/B.A.Sc., Ph.D. (Toronto), P.Eng.
S.V. Mani Subramanian/B.Sc. (Bangalore), M.Mot., Ph.D. (Sheffield)
Gregory X. Zhang/B.Sc. (Beijing Inst. of Aeronautics), M.Sc., Ph.D. (Free University of Brussels)

Associate Professors
Ken S. Coley/B.Sc. (Strathclyde), Ph.D., D.I.C. (Imperial College, London)
Adrian Kital/B.Sc. (McMaster), Ph.D. (Cornell), P.Eng.
Gu Xu/M.Sc., Ph.D. (Pittsburgh), D.E.S. (Columbia)
Shiiping Zhu/B.Eng. (Zhejiang), Ph.D. (McMaster)

Assistant Professor
Marcie Niewczas/M.Sc., Ph.D. (Kracow)

Professors Emeriti
Wei-Kao Lu/B.S. (Cheng-Kung), Ph.D. (Minnesota)


Courses
If no prerequisite is listed, the course is open.

MATLS 1A03 INTRODUCTION TO MATERIALS
Introduction to the world of modern materials science. The relationship of the fundamental concepts of bonding and atomic, molecular, and macroscopic structure of condensed materials, to the properties of silicate minerals, glasses, polymeric materials, and metals and alloys.
Two lectures, one tutorial; second term
Prerequisite: Registration in or completion of Science I (or Natural Sciences I)
Antirequisite: Registration in the Faculty of Engineering, or ENGINEER 2E03, 2003, 2004

MATLS 2B03 THERMODYNAMICS OF MATERIALS I
Thermodynamics of gases and chemical phenomena. The three laws of thermodynamics applied to materials processing; reactions in gases and condensed phases; Ellingham Diagrams. An Introduction to statistical thermodynamics.
Three lectures, one tutorial; first term
Prerequisite: CHEM 1A03 or 1A06 or 1E03
Antirequisite: MATLS 2B06

MATLS 2D03 THERMODYNAMICS OF MATERIALS II
Solution thermodynamics, reactions and equilibria; Gibbs phase rule; aqueous electrochemistry.
Three lectures, one tutorial; second term
Prerequisite: CHEM 1A03 or 1A06 or 1E03; MATLS 2B03
Antirequisite: MATLS 2B06

MATLS 2H03 MEASUREMENTS AND COMMUNICATION
Methods of technical communication, involving oral and written practice; basic experimental methods of acquiring, analyzing and presenting data.
Two labs (three hours); first term: one lab (three hours); second term
Prerequisite: COMP SCI 1MA3 or 1MC3 or ENGINEER 1D04, and CHEM 1A03, 1A06 or 1E03, and registration in a program administered by the Department of Materials Science and Engineering.

MATLS 2K02 CRYSTALLINE STRUCTURE OF MATERIALS
Crystal geometry, x-ray diffraction methods for the determination of crystal-line structures and chemical compositions, electron and neutron diffraction methods, microanalysis, crystalline defects.
One lecture, one lab (two and one half hours); second term
Prerequisite: ENGINEER 2C03

MATLS 3B03 MATERIALS PROCESSING I
Surface science and technology related to the preparation of particles and slurries of materials for metals and ceramics production. Hydrometallurgy and electrometallurgy.
Two lectures, one lab (three hours); second term
Prerequisite: MATLS 2B06, or MATLS 2B03 and 2C03

MATLS 3C03 SOLUTION THERMODYNAMICS
Solution thermodynamics and its relationship to binary equilibrium diagrams; aqueous and high temperature electrochemistry; use of computerized thermodynamics data bases.
Two lectures, one lab (three hours) every other week, one tutorial; one term
Prerequisites: MATLS 2B06 or 2D03
Antirequisite: MATLS 3I05

MATLS 3D03 THERMODYNAMICS AND KINETICS
Three lectures, one tutorial; second term
Prerequisite: MATLS 2B06 or 2D03
Antirequisite: MATLS 3I05

MATLS 3E04 MASS TRANSFER
Phenomenological and mechanistic approaches to diffusion; boundary conditions; diffusion in fluids and solids; point defects in solids.
Three lectures, two tutorials; first term.
Prerequisite: MATH 2M06; or 2003 and one of MATH 2A03, 2G03

MATLS 3M03 MECHANICAL BEHAVIOUR OF MATERIALS
Elastic and plastic deformation, creep, fatigue and fracture of engineering materials. Basic concepts of fracture mechanics, materials selection by use of computer based databases of material properties.
Two lectures, one tutorial and/or laboratory; first term
Prerequisites: ENGINEER 2E06 or MATLS 1A03 and ENGINEER 2P04
Antirequisite: ENGINEER 3P03, MATLS 3P03
MATLS 3T04 PHASE TRANSFORMATIONS
Review of thermodynamics, binary phase diagrams and solid state diffusion. Role of interfaces; solidification, diffusional and martensitic transformations; welding; oxidation. Materialographic examination will be featured in laboratory work.
Three lectures or tutorial, one lab (three hours); one term
Prerequisite: MATLS 2X02 or ENGINEER 2003
Corequisite: MATLS 3D03 (or 3I05), 3E04

MATLS 4A02 SEMINARS AND PLANT VISITS
Seminars and discussions by technical personnel from industry. Corresponding plant visits made by the class and reported both in written and oral form. Presentations and workshops on: Statistical process control; ISO 9000; industrial health and safety.
One seminar/tutorial/plant visit (three hours); both terms.
Prerequisite: Registration in the final level of a programme administered by the Department of Materials Science and Engineering

MATLS 4B04 MATERIALS PROCESSING II
Fundamentals of processing, building on a knowledge of heat and mass transfer. High temperature processing of materials, focussing on heat sources, solid state processing of powders and liquid state processing.
Three lectures, one lab or tutorial (three hours); first term
Prerequisite: CHEM ENG 2A04 or MATLS 3A03, and MATLS 3E04
Corequisite: MATLS 4B04

MATLS 4D03 CORROSION
The oxidation of metals and alloys; electrochemical principles and methods applied to aqueous corrosion and its control.
Three lectures; one term
Prerequisite: CHEM ENG 2F04 or MATLS 3I05

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 6.0 and registration in the final level of a programme administered by the Department of Materials Science and Engineering

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); one term
Prerequisite: Registration in final year of a Materials Engineering programme

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 2W44, ENGINEER 2003, MATH 2M06

MATLS 4R03 CERAMIC SCIENCE
Microstructural development and properties of traditional ceramics. Acidic, basic, neutral and nonconductive refractories; ferro-electric, piezo-electric and ferromagnetic ceramics; superionic and structural ceramics.
Three lectures; one term
Prerequisite: GEO 2M04 (formerly GEOLOGY 2B04), MATLS 3B03, 3D03 (or 3I05), any of which may be taken concurrently
Antirequisite: MATLS 4P04
Offered in alternate years.
Offered in 1999-2000.

MATLS 4S03 GLASS SCIENCE
Theoretical and experimental aspects of silicates, metallic glasses, and glass ceramics. Modern concepts, and application of non-crystalline solids in optical communication, electrical conductor, and as high strength materials.
Three lectures, one lab; first term
Prerequisite: MATLS 3B03, 3D03 (or 3I05) any of which may be taken concurrently
Antirequisite: MATLS 4S04
Offered in alternate years.

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; one term
Prerequisite: ENGINEER 3P03 or MATLS 3M03 or 3P03

MATLS 4V04 INDUSTRIAL PROJECTS
Projects, in cooperation with industry, involving materials design in manufacturing, complemented by lectures in group problem solving and design methodology.
One lecture, one lab (three hours); first term: Two labs (three hours); both terms
Prerequisite: Registration in Level IV or V of any programme in Materials Engineering

MATHMATICS AND STATISTICS
Faculty as of January 15, 1999

Chair
Ian Hambleton

Associate Chair
Ernest R. Mead

Professors
N. Balakrishnan/B.Sc., M.Sc. (Madras), Ph.D. (I.T., Kanpur)
Thomas M.K. Davison/B.Sc. (Sir George Williams), M.A., Ph.D. (Toronto)
Abdel H. El-Shaarawi/B.Sc., M.Sc. (Cairo), Ph.D. (Waterloo)/part-time
Pengfei Guan/B.Sc. (Zhejiang), Ph.D. (Princeton)
Ian Hambleton/B.Sc., M.Sc. (Toronto), Ph.D. (Yale)
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)
Manfred Kolster/Dipl. (Hamburg), Dr. rer. nat. (Saxbrucken), Habil. (Münster)/Graduate Advisor, Mathematics
Peter D.M. Macdonald/B.Sc., M.Sc. (Toronto), D.Phil. (Oxford)/Graduate Advisor, Statistics
Maung Min-Oo/B.Sc. (Rangoon), Dipl.Math., Dr rer. nat. (Bonn)
Gregory H. Moore/B.A. (Berkeley), M.A., M.Sc., Ph.D. (Toronto)
Andrew J. Nicas/B.Sc. (McGill), M.A., Ph.D. (Princeton)
Carl R. Reihm/B.A. (Toronto), Ph.D. (Princeton)
Eric T. Sawyer/B.Sc., Ph.D. (McGill)
Jordan Slade/B.A., M.Sc., Ph.D. (British Columbia)
Matthew A. Valeriote/B.Math. (Waterloo), Ph.D. (Berkeley)/Undergraduate Advisor
McKenzie Y.-K. Wang/A.B. (Princeton), Ph.D. (Stanford)
Gail S.K. Wolkowicz/B.Sc., M.Sc. (McGill), Ph.D. (Alberta)
Patrick C. Yip/B.Sc. (Memorial), Ph.D. (McMaster)

Adjunct Professor
Ron A. Kerman/Brock University) B.A. (Manitoba), Ph.D. (Toronto)

Associate Professors
Stanley A. Alama/B.S. (Columbia), M.S., Ph.D. (Courant, N.Y.U.)
Lia Bronsard/B.A. (Montreal), M.S., Ph.D. (Courant, N.Y.U.)
Andrew S. Dancer/B.A., D. Phil. (Oxford)
Shul Fang/B.Sc., M.Sc. (Beijing Normal), Ph.D. (Carleton)
Jean-Pierre Gabardo/B.Sc. (Université de l’Etat a Mons), Ph.D. (Maryland)
Bradd Hambleton/B.Math. (Waterloo), Ph.D. (McGill)
Zdzisław K. Kowalik/M.Sc. (Charles, Prague), Ph.D. (Toronto)
Ernest R. Mead/B.A., M.A., Ph.D. (Western Ontario), A.S.A.
Roman Viveros-Aguilera, B.A. (Veracruzana, Mexico), M.A. (National Polytechnic Inst., Mexico), Ph.D. (Waterloo)

Assistant Professors
Nicholas Kevlahan/B.Sc. (British Columbia), Ph.D. (Cambridge)
Mirsadov Lovric/B.S. (Zagreb), M.S., Ph.D. (Ohio State)
MATH 1A03
Differential calculus, the definite integral, techniques of integration, differential equations with applications. Three lectures, one tutorial; one term
Prerequisite: OAC Calculus or MATH 1K03 and one of OAC Finite Mathematics, OAC Algebra and Geometry, STAT 1L03
Antirequisite: MATH 1N03, ARTS & SCI 1D06 (See Note 2 above.)

MATH 1A3
Differential calculus I
Power series, partial derivatives, extremal problems, multiple integrals. Three lectures, one tutorial; one term
Prerequisite: MATH 1A03 (See Note 2 above.)
Antirequisite: MATH 1N03, ARTS & SCI 1D06

MATH 1B03
LINEAR ALGEBRA I
Vectors, matrices, determinants, solvability of linear systems, Euclidean geometry, complex numbers, with applications. Three lectures, one tutorial; one term
Prerequisite: One of OAC Finite Mathematics, OAC Algebra and Geometry, STAT 1L03
Antirequisite: MATH 1N03

MATH 1H05
ENGINEERING MATHEMATICS I
Matrices and determinants, vectors and vector spaces, lineal transformations, complex numbers, eigenvalues and eigenvectors, with applications. Two lectures, one tutorial; first term; Three lectures, one tutorial; second term
Prerequisite: Registration in Engineering I
Antirequisite: MATH 1B03

MATH 1K03
INTRODUCTORY CALCULUS FOR BUSINESS, HUMANITIES AND THE SOCIAL SCIENCES
An introduction to differential and integral calculus. Three lectures, one tutorial; one term
Prerequisite: Grade 12 Mathematics (Advanced)
Normally not open to students who have completed OAC Calculus.
Students transferring to the Faculty of Social Sciences do not retain credit for this course.

MATH 1L03
CALCULUS FOR BUSINESS, HUMANITIES AND THE SOCIAL SCIENCES
Differential and integral calculus. Three lectures, one tutorial; one term
Prerequisite: MATH 1K03, or OAC Calculus
Not open to students with credit or registration in MATH 1A03, 1N03, ARTS & SCI 1D06.
Students transferring to the Faculty of Social Sciences do not retain credit for this course. Students considering upper year mathematics courses should take MATH 1A03.

MATH 1N03
CALCULUS FOR ENGINEERING I
Differential calculus, the definite integral, techniques of integration, applications. Three lectures, one tutorial; one term
Prerequisite: Registration in Engineering I
Antirequisite: MATH 1A03

MATH 1N03
CALCULUS FOR ENGINEERING II
Applications of integration, differential equations, sequences and series, differen­
tial calculus of several variables, applications. Three lectures, one tutorial; one term
Prerequisite: MATH 1N03
Antirequisite: MATH 1A03

MATH 2A03
CALCULUS III
Functions of several variables, chain 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 term
Prerequisite: One of MATH 1A03, 1N03, ARTS & SCI 1D06 and credit or registra­
tion in one of MATH 1B03, 1H05
Antirequisite: MATH 2L03

MATH 2L03
INTRODUCTION TO REAL ANALYSIS
Fundamental topics in analysis; properties of real numbers, sequences and series, power series, uniform continuity, uniform convergence. Three lectures; one term
Prerequisite: MATH 1A03 and credit or registration in 1B03
Antirequisite: MATH 2A03

MATH 2L03
DIFFERENTIAL EQUATIONS
Ordinary differential equations, Laplace transforms, series solutions, partial differential equations, separation of variables, Fourier series. Three lectures; one term
Prerequisite: One of MATH 1A03, 1N03, ARTS & SCI 1D06, and one of MATH 1B03, 1H05
Antirequisite: MATH 2003

MATH 2E03
INTRODUCTION TO MODELLING
General features of modelling. Examples from chemistry, physics, biology and economics 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, ARTS & SCI 1D06 and credit or registra­
tion in one of MATH 1B03, 1H05
Enrolment is limited. However, all students in programmes requiring this course will be admitted. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

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, 1N03, ARTS & SCI 1D06

MATH 2L03
MATHEMATICAL METHODS FOR BUSINESS AND SOCIAL SCIENCES
Topics in optimization, Markov chains, differential equations, and the calculus of several variables. Three lectures; one term
Prerequisite: One of MATH 1A03, 1N03, ARTS & SCI 1D06, and one of MATH 1B03, STAT 1L03, OAC Finite Mathematics
Antirequisite: MATH 2A03
Not open to students registered in Science or Engineering programmes.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 2M06</td>
<td>ENGINEERING MATHEMATICS II</td>
<td>Ordinary differential equations, Laplace transforms, Fourier series, vector calculus, orthogonal curvilinear coordinates, integral theorems, with engineering applications. Three lectures; two terms. Prerequisite: MATH 1H05 and 1NN3</td>
</tr>
<tr>
<td>MATH 2P04</td>
<td>DIFFERENTIAL EQUATIONS FOR ENGINEERING</td>
<td>Ordinary differential equations, systems of linear ordinary differential equations, Laplace transform, power series solutions, Fourier series with engineering applications. Three lectures and two tutorials; one term. Prerequisite: Either MATH 1H05 and 1NN3; or registration in Honours Neural Computation and credit or registration in MATH 1B03</td>
</tr>
<tr>
<td>MATH 2Q04</td>
<td>ADVANCED CALCULUS FOR ENGINEERING</td>
<td>Vector algebra, 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: Either MATH 1H05 and 1NN3; or registration in Honours Neural Computation and credit or registration in MATH 1B03</td>
</tr>
<tr>
<td>MATH 2R03</td>
<td>LINEAR ALGEBRA II</td>
<td>Abstract vector spaces, basis and dimension, linear transformations, linear equations, inner product spaces, eigenvalues, spectral theorems. Three lectures; one term. Prerequisite: One of MATH 1AA3, 1NN3, ARTS&amp;SCI 1D06 and one of MATH 1B03, 1H05</td>
</tr>
<tr>
<td>MATH 2S03</td>
<td>LINEAR ALGEBRA III</td>
<td>Canonical forms, determinants, bilinear forms, groups of linear transformations, other topics selected by the instructor. Three lectures; one term. Prerequisite: MATH 2R03 Antirequisite: MATH 2T03</td>
</tr>
<tr>
<td>MATH 2T03</td>
<td>APPLIED LINEAR ALGEBRA</td>
<td>Canonical forms, norms, matrix decomposition theorems, sensitivity analysis, Markov chains, iterative methods, applications selected by the Instructor. Three lectures; one term. Prerequisite: MATH 2R03 Antirequisite: MATH 2S03</td>
</tr>
<tr>
<td>MATH 3A03</td>
<td>REAL ANALYSIS I</td>
<td>The real number system, metric spaces, compactness, sequences and series, continuity, differentiability, the Riemann-Stieltjes integral, uniform convergence. Three lectures; one term. Prerequisite: MATH 2AB3, 2C03, and 2R03</td>
</tr>
<tr>
<td>MATH 3A03</td>
<td>REAL ANALYSIS II</td>
<td>Equicontinuous functions, functions of several variables, the inverse function theorem, the implicit function theorem, the rank theorem, Stokes' Theorem, the Lebesgue integral. Three lectures; one term. Prerequisite: MATH 3A03</td>
</tr>
<tr>
<td>MATH 3B03</td>
<td>INTRODUCTION TO DIFFERENTIAL GEOMETRY</td>
<td>Curves and surfaces, Gaussian curvature, geodesics, parallel transport, Gauss-Bonnet theorem, selected topics by the instructor. Three lectures; one term. Prerequisite: MATH 2A03 and 2R03</td>
</tr>
<tr>
<td>MATH 3C03</td>
<td>MATHEMATICAL PHYSICS I</td>
<td>Linear algebra and eigenvalue problems; partial differential equations, orthogonal functions, Fourier series, Legendre functions, spherical harmonics. Three lectures; one term. Prerequisite: One of MATH 2A03, 2Q04; and one of MATH 2C03, 2003, 2P04. One of PHYSICS 2B06, 2C03, 2003, 2P03, or 2K03 is recommended. Not open to students with credit or registration in MATH 3FF3, 3J04.</td>
</tr>
<tr>
<td>MATH 3D03</td>
<td>MATHEMATICAL PHYSICS II</td>
<td>Functions of a complex variable, probability and statistics, boundary value problems. Bessel functions. Three lectures; one term. Prerequisite: MATH 3C03 Antirequisite: MATH 3K03</td>
</tr>
<tr>
<td>MATH 3E03</td>
<td>ALGEBRA I</td>
<td>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</td>
</tr>
<tr>
<td>MATH 3E03</td>
<td>ALGEBRA II</td>
<td>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 3E03</td>
</tr>
<tr>
<td>MATH 3F03</td>
<td>ADVANCED DIFFERENTIAL EQUATIONS</td>
<td>Systems of ordinary differential equations, autonomous systems in the plane, phase portraits, linear systems, stability, Lyapunov's method, Poincaré-Bendixon theorem, applications. Three lectures; one term. Prerequisite: MATH 2A03, 2C03, and credit or registration in MATH 2R03</td>
</tr>
<tr>
<td>MATH 3F03</td>
<td>PARTIAL DIFFERENTIAL EQUATIONS I</td>
<td>First order equations, well-posedness, characteristics, wave equation, heat equation, Laplace equation, boundary conditions, Fourier series, applications. Three lectures; one term. Prerequisite: MATH 2A03, 2C03, 2R03</td>
</tr>
<tr>
<td>MATH 3H03</td>
<td>NUMBER THEORY</td>
<td>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 Level II Mathematics or Statistics</td>
</tr>
<tr>
<td>MATH 3J03</td>
<td>PARTIAL DIFFERENTIAL EQUATIONS FOR ENGINEERING</td>
<td>Topics in partial differential equations of interest to mechanical, material and civil engineering, including the wave equation, the heat diffusion equation and Laplace equation, in various co-ordinate systems. Three lectures; first term. Prerequisite: MATH 2M06, or MATH 2P04 and 2Q04 or registration in Level III or IV of a programme In the Department of Materials Science and Engineering</td>
</tr>
<tr>
<td>MATH 3J04</td>
<td>ENGINEERING MATHEMATICS III</td>
<td>Topics in mathematics of interest for civil engineering, including probability and statistics, partial differential equations, numerical analysis, and matrix algebra. Four hours; one term. Prerequisite: MATH 2M06</td>
</tr>
<tr>
<td>MATH 3K03</td>
<td>ENGINEERING MATHEMATICS III</td>
<td>Complex variable theory with applications to electrical and computer engineering. Three lectures; one term. Prerequisite: MATH 2P04 and 2Q04 Antirequisite: MATH 3C03</td>
</tr>
<tr>
<td>MATH 3N03*</td>
<td>MATHEMATICAL BIOLOGY</td>
<td>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 2EC03 and 3F03</td>
</tr>
<tr>
<td>MATH 3Q03</td>
<td>NUMERICAL ANALYSIS</td>
<td>An introduction to the methods of numerical analysis, including methods for interpolation, numerical differentiation and integration, and the solution of transcendental, differential and matrix equations. Three lectures; one term. Prerequisite: MATH 2M06; or one of MATH 2A03, 2Q04 and one of MATH 2C03, 2003, 2P04. One of COMP SCI 1MC3, 1SA3, ENGINEER 1D04 is recommended.</td>
</tr>
<tr>
<td>MATH 3R03*</td>
<td>LINEAR PROGRAMMING</td>
<td>The general linear programming problem, simplex procedures, dual problems, degeneracy procedures, parametric linear programming, interior point methods. Applications including the transshipment and assignment problems. Three lectures; one term. Prerequisite: MATH 1B03</td>
</tr>
<tr>
<td>MATH 3S03</td>
<td>SET THEORY AND GENERAL TOPOLOGY</td>
<td>Naive set theory, Zorn's Lemma, metric spaces, point set topology. Three lectures; one term. Prerequisite: MATH 2R03 Antirequisite: MATH 4F03</td>
</tr>
</tbody>
</table>
MATH 3X03  COMPLEX ANALYSIS I
Analytic functions, Cauchy's theorem, Cauchy's integral formula, residues, zeros of analytic functions; Laurent series, the maximum principle.
Three lectures; one term
Prerequisite: MATH 2AB3, 2C03, and 2H03

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

MATH 4B03  CALCULUS ON MANIFOLDS
Review of multivariable calculus, basic properties of manifolds, differential forms, Stokes' theorem, de Rham cohomology and applications.
Three hours; one term
Prerequisite: MATH 3C03; or MATH 2S03 and one of MATH 2A3A, or 2A3B

MATH 4BB3  DIFFERENTIAL GEOMETRY
Riemannian metrics, connections, curvature, topological and analytical properties of Riemannian manifolds.
Three lectures; one term
Prerequisite: MATH 4B03

MATH 4C03*  COMBINATORICS
Inversion formulae, systems of distinct representatives, block designs and other configurations; and other topics.
Three lectures; one term
Prerequisite: MATH 2A03 and 2H03

MATH 4E03  ALGEBRA II
Selected topics in algebra, such as an introduction to algebraic number theory, commutative algebra or algebraic geometry.
Three lectures; one term
Prerequisite: MATH 3E03

MATH 4E3  ALGEBRA IV
Selected topics in algebra, such as: representation theory, rings and modules, homological algebra.
Three lectures; one term
Prerequisite: MATH 3E03

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 4G3  PARTIAL DIFFERENTIAL EQUATIONS II
Elliptic, parabolic, and hyperbolic equations in several space dimensions: fundamental solutions, maximum principle, Sobolev spaces, variational methods, nonlinear equations, applications.
Three lectures; one term
Prerequisite: MATH 3F03. MATH 3A03 is recommended.

MATH 4J03*  GRAPH THEORY
Graphs, trees, bipartite graphs, connectivity, graph colouring, matrix representations, applications.
Three lectures; one term
Prerequisite: MATH 2A03 and 2R03

MATH 4K03  MEASURE THEORY AND PROBABILITY
Introduction to the theory of measure and integration with applications to probability theory.
Three lectures; one term
Prerequisite: MATH 3A03

MATH 4L03  INTRODUCTION TO MATHEMATICAL LOGIC
First order logic, deduction systems, completeness and compactness theorems, model theory.
Three lectures; one term
Prerequisite: MATH 3E03
Antirequisite: MATH 3L03

MATH 4Q03  NUMERICAL METHODS FOR ORDINARY AND PARTIAL DIFFERENTIAL EQUATIONS
Three lectures; second term
Prerequisite: Credit or registration in MATH 3F03 or 3D03, or permission of the instructor

MATH 4S03*  THE THEORY OF COMPUTABILITY
Automata and regular languages, Turing machines, recursive functions, decidability, Gödel's incompleteness theorems.
Three lectures; one term
Prerequisite: One of MATH 2S03, 2T03
Antirequisite: COMP SCI 4TC3
Alternates with COMP SCI 4TC03.

MATH 4T03  ALGEBRAIC TOPOLOGY
Fundamental groups and covering spaces, topics selected by the instructor.
Three lectures; one term
Prerequisite: MATH 3E03, 3S03

MATH 4V03  APPLIED MATHEMATICAL ANALYSIS
Lebesgue integration, distribution theory, Fourier Analysis, partial differential equations, integral equations, calculus of variations; additional topics.
Three lectures; one term
Prerequisite: One of MATH 3D03, 3F03

MATH 4W03  DIRECTED READING
Directed reading in an area of mathematics of interest to the student and the instructor.
Prerequisite: Permission of the Chair of the Department. Application for permission must be received by March 31st of the previous year.

MATH 4X03  COMPLEX ANALYSIS II
Conformal maps, analytic continuation, harmonic functions, the Riemann mapping theorem, Riemann surfaces.
Three lectures; one term
Prerequisite: MATH 3X03

MATH 4Y03  INQUIRY IN MATHEMATICS
Research, problem solving, group discussion and directed readings relating to one of a variety of mathematical themes ranging from pure mathematics to life science and earth science applications.
Three hours; one term
Prerequisite: Registration in Level IV of a Honours programme in the Faculty of Science which requires Science Inquiry.
Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Sciences section of the Calendar.

STATISTICS ...

Department Note:
Students wishing to enrol in Honours Statistics 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: Grade 12 Mathematics
Not open to students registered in the Faculty of Science.
Not open to students with credit or registration in COMMERCE 2Q3A, ECON 2B03, PSYCH 2R03, 2RR3, SOC SCI 2J03, STATS 1CC3, 2D03, 2A3A, 2M03, STATS 2R06

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 1A03 or 1B03
Antirequisite: COMMERCE 2QA3, ECON 2B03, PSYCH 2G03, 2R03
Not open to students with credit in any Level II or above Statistics course.
See Department Note above.

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: Grade 12 Mathematics
Not open to students with credit in OAC Finite Mathematics or STATS 1CC3, 2D03, 2A3A, 2M03, 2R06
Not open to students registered in Science or Engineering programmes.
Students transferring to the Faculty of Science do not retain credit for this course.
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, 1X03 and credit or registration in MATH 1B03
Not open to students with credit or registration in STATS 2A03*, 2M3A, 2R06.

STATS 2M3A 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 1C3; one of MATH 1A03, 1M03
Antirequisite: ECON 2B03, PSYCH 2R03
Not open to students with credit or registration in COMMERCE 2Q4A, ECON 2B03, SOC SCI 2J03, STATS 2A03*, 2R06, 2D03, 2M3A.

STATS 2B03 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.

Three lectures; one term
Prerequisite: STATS 2D03
Antirequisite: ECON 2B03, PSYCH 2R03, 2R03, STATS 2R06
Not open to students with credit or registration in COMMERCE 2Q4A, ECON 2B03, SOC SCI 2J03, STATS 2A03*, 2R06.

STATS 3D06 MATHEMATICAL STATISTICS
The multivariate normal distribution, point and interval estimation, sampling distributions, tests of hypotheses, elementary linear regression, and other topics.

Three lectures; two terms
Prerequisite: STATS 2D03 and one of MATH 2A03, 2L03, 2Q04

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 or registration in MATH 2K03
Offered in alternate years.

STATS 3H03* ACTUARIAL MATHEMATICS II
Multiple life functions, multiple decrement models, valuation theory for pension plans.

Three lectures; one term
Prerequisite: STATS 3G03*
Offered in alternate years.

STATS 3N03 STATISTICAL METHODS FOR ENGINEERING
Introduction to statistical methods and applications: data analysis and statistical methods.

Three lectures; one term
Prerequisite: Registration or credit in Level III, IV or V Engineering; or registration in Level III or IV of a programme in the Department of Materials Science and Engineering; or registration in Level II of a programme in the Department of Chemical Engineering.
Antirequisite: STATS 3Y03

STATS 3S03* 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 and 2M3

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: STATS 2D03 and MATH 2A03

STATS 3Y03* STATISTICAL ANALYSIS FOR ENGINEERING
Introduction to probability, statistical inference, regression, correlation and decision making.

Three lectures; one term
Prerequisite: Registration in an Engineering and Management programme or a programme in the Departments of Materials Science and Engineering or Mechanical Engineering, and credit in either MATH 2M06 or MATH 2P04 and MATH 2Q04; or permission of the instructor
Antirequisite: STATS 3N03, 4R03*

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: STATS 2D03 and MATH 3A03

STATS 4H03* OPERATIONS RESEARCH
Network models and algorithms, dynamic models, queuing models and other topics.

Three lectures; one term
Prerequisite: Credit or registration in STATS 3D06

STATS 4M03 MULTIVARIATE ANALYSIS
Multivariate distributions: Normal, Wishart, T2 and others; regression, correlation, factor analysis, general linear hypothesis.

Three lectures; first term
Prerequisite: STATS 3D06, and one of MATH 2503, 2T03

STATS 4R03* ORDER STATISTICS

Three lectures; one term
Prerequisite: STATS 3D06

STATS 4P03* 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 3D06 and 4M03. Credit or registration in STATS 4T03 and one of STATS 3S03, 4H03, 4R03*

STATS 4R03* REGRESSION ANALYSIS
Linear and non-linear models; least squares theory; analysis of residuals; stepwise regression; weighted least squares; prediction and calibration; selected topics in regression.

Three lectures; one term
Prerequisite: STATS 3D06
Antirequisite: STATS 3Y03

STATS 4T03 DESIGN OF EXPERIMENTS
Analysis of variance and covariance; linear models; randomized block designs; Latin squares; factorial experiments. Emphasis on applications.

Three lectures; one term
Prerequisite: STATS 3D06

STATS 4U03* NONPARAMETRIC METHODS IN STATISTICS
Rank tests and nonparametric methods; rank correlation; comparisons with parametric methods.

Three lectures; one term
Prerequisite: Credit or registration in STATS 3D06

MECHANICAL ENGINEERING
Faculty as of January 15, 1999

Chair
M.A. Elbestawi

Professors
Mamduh Shoukri/B.Sc. (Cairo), M.Eng., Ph.D., (McMaster), P.Eng.
David S. Weaven/B.A.Sc., M.A.Sc. (Toronto), Ph.D. (Waterloo), P.Eng.

Associate Professors
Albert M. C. Chan/B.Sc. (Alberta), M.Eng., Ph.D. (McMaster)/part-time
Don R. Metzger/B.A.Sc., M.A.Sc., Ph.D. (Waterloo)
Mateusz P. Sklad/M.Sc., Ph.D. (Warsaw)
Samir Ziada/B.Sc. (Cairo), M.Eng. (McMaster), Ph.D. (Lehigh)
MECHANICAL ENGINEERING 209

Assistant Professors
Gary Bone/B.Sc. App. Sc. (Queens), M.Eng., Ph.D. (McMaster)
Dan Ewing/B.A.Sc. (Waterloo), Ph.D. (SUNY, Buffalo)
Marilyn F. Lightstone/B.A.Sc. (Queens), M.A.Sc., Ph.D. (Waterloo)
Allan Spencer/B.Math., M.A.Sc. (Waterloo), Ph.D. (British Columbia), P.Eng.
Vincent M. Sowa/B.Sc. (Illinois), M.A. (Purdue), Ph.D. (Waterloo)/part-time

Associate Members
Dwaker Gupta/(Business) B.Tech. (New Delhi), M.A.Sc., Windsor, Ph.D. (Waterloo)
Andrew N. Hrymak/(Chemical Engineering) B.Eng. (McMaster), Ph.D. (Carnegie Mellon)
W.F. Skipper Poobhlain/(Computing and Software) B.S. (Niagara), B.Sc. (Brock), M.Sc., Ph.D. (McMaster), P.Eng.
Philip E. Wood/(Chemical Engineering) B.A.Sc. (Waterloo), Ph.D. (California Institute Tech.), P.Eng.

Professors Emeriti
Mohammed A. Dokainish/B.Sc. (Cairo), M.A.Sc., Ph.D. (Toronto), P.Eng.
Brian Latto/B.Sc. (London), Ph.D. (Glasgow), P.Eng., C.Eng.
George F. Round/B.Sc., Ph.D., D.Sc. (Birmingham), P.Eng.

Department Note:
Enrolment in Mechanical Engineering courses by students in programmes other than those administered by the Department may be restricted.

MANUFACTURING ENGINEERING ...

Courses If no prerequisite is listed, the course is open.

MANUFACT 2C03 MECHANICAL ENGINEERING DESIGN I
Two design projects involving modelling, analysis, synthesis, computing and drawing graded on the basis of participation and formal report preparation.
Two labs (three hours); second term
Prerequisite: ENGINEER 1C04, 1D04, 2P04

MANUFACT 3M02 MANUFACTURING LABORATORY I
Laboratory exercises in metalworking processes, measurements and solid mechanics.
One lab (three hours); both terms
Prerequisite: Registration in Manufacturing Engineering

MANUFACT 4A03 COMPUTER AIDED MANUFACTURING
Fixturing and part setups for machining and inspection. Detailed coverage of numerical control codes, computer aided tool path generation and part processing. Real time linear and circular interpolation algorithms. Geometric dimensioning and tolerancing. Training to coordinate measuring machines.
Two lectures, one lab (three hours); second term
Prerequisite: Registration in Level III or Level IV of a programme administered by the Department of Mechanical Engineering.

MANUFACT 4M04 PROJECT
A major project in the area of manufacturing engineering. It may be of a design or experimental nature, to be completed under the supervision or co-supervision of a faculty member holding an appointment in the Department of Mechanical Engineering.
One lab (three hours), first term, three labs (three hours); second term
Prerequisite: Registration in Level IV of Manufacturing Engineering or Level V of Manufacturing Engineering and Management or Manufacturing Engineering and Society

MANUFACT 4P02 MANUFACTURING LABORATORY II
Laboratory exercises in metalworking practices, solid mechanics and controls.
One lab (three hours); both terms
Prerequisite: MANUFACT 3M02

MECHANICAL ENGINEERING ...

Courses If no prerequisite is listed, the course is open.

MECH ENG 2A03 KINEMATICS OF MECHANISMS
Analysis and synthesis of planar mechanisms. Displacement, velocity and acceleration analysis methods. Design of four-bar mechanisms. Cam design, gears and gear trains. Mechanical advantage.
Two lectures, one lab (three hours): first term
Prerequisite: MATH 1H05, 1N06 or 1N03 and 1N31, and PHYSICS 1D03

MECH ENG 2B03 MECHANICAL ENGINEERING MEASUREMENTS
Introduction to the theory and practice of engineering measurement techniques. Theory of measurement; precision shop measurements and laser metrology; measurements of pressure, flow, temperature and power; combustion analysis and gas analysis, measurement of strain and force; elementary statistical analysis.
One lecture, one lab (three hours), first term, one lab (three hours); second term
Prerequisite: MATH 1H05, PHYSICS 1D03

MECH ENG 2C03 MECHANICAL ENGINEERING DESIGN II
Two design projects involving modelling, analysis, synthesis, computing and drawing graded on the basis of participation and formal report presentation. One tutorial (two hours), one lab (three hours); second term
Prerequisite: ENGINEER 1C04, 1D04, 2P04

MECH ENG 2W04 ENGINEERING THERMODYNAMICS
Introduction to the principles of thermodynamics, and applications in engineering. Basic concepts: energy systems, properties of pure substances, entropy. Laws of thermodynamics, power and refrigeration cycles.
Three lectures, one tutorial; second term
Prerequisite: CHEM 1E03 and credit or registration in MATH 2M06, or MATH 2P04 and 2Q04
Antirequisite: ENGINEER 2W04

MECH ENG 3A03 ENGINEERING MECHANICS
Singularity functions, generalized Hooke's law; shear stress, shear flow in beams; shear centres. Biaxial and unsymmetrical bending, analysis of indeterminate beams and frames using energy methods, impact loads. Buckling of compression members. Introduction to yield criteria.
Three lectures; first term
Prerequisite: ENGINEER 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 handing, assembly, cleaning, packaging.
Three lectures; second term
Prerequisite: Registration in a programme administered by the Department of Mechanical Engineering

MECH ENG 3D03 MECHANICAL ENGINEERING THERMODYNAMICS
Re-examination of the thermodynamic laws, developed in MECH ENG 2W04. Applied thermodynamics including advanced engineering thermodynamic processes, psychrometry, and an introduction to combustion, compressible flow and environmental problems.
Three lectures; second term
Prerequisite: MECH ENG 2W04

MECH ENG 3E04 MECHANICAL ENGINEERING DESIGN II
3-D stress transformation, curved beams, thick walled pressure vessels, contact stresses, fatigue, boiled and welded joints, machine elements. The laboratories feature a major design project from concept development through analysis to formal report preparation.
Three lectures, one lab (three hours); second term
Prerequisite: ENGINEER 2P04, 2Q04, MECH ENG 3A03

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 modeling of mechanical systems.
Three lectures; one tutorial; first term
Prerequisite: Registration in a programme administered by the Department of Mechanical Engineering.

MECH ENG 3M02 COMPOSITE LABORATORY
Laboratory exercises in fluid mechanics, thermodynamics and solid mechanics.
One lab (three hours); both terms
Prerequisite: Registration in a programme administered by the Department of Mechanical Engineering
MECH ENG 3D04 FLUID MECHANICS I
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, or MATH 2P04 and 2Q04
MECH ENG 3R03 HEAT TRANSFER
Three lectures; second term
Prerequisite: MATH 2M06, MECH ENG 2W04
MECH ENG 4D03 MANUFACTURING PROCESSES (METAL REMOVAL)
Three lectures; second term
Prerequisite: MECH ENG 3C03
MECH ENG 4H03 MECHATRONICS
Integration of mechanical engineering with electronics and computer control. Sensors, actuators (including pneumatic and hydraulic), modelling using building block and state space methods, model-based control, programming of PLCs with practical demonstrations.
Three lectures; second term
Prerequisite: One of MECH ENG 4R03, ELEC ENG 3CA3 or 3CK4
MECH ENG 4J03 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 4K03 INTRODUCTION TO ROBOTIC MECHANICS
Spatial descriptions and transformations, manipulator kinematics, inverse kinematics, Jacobians, dynamics.
Three lectures; first term
Prerequisite: ENGINEER 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: MANUFACT 2C03 or MECH ENG 2C03
MECH ENG 4M04 PROJECT
A major project related to any option or branch of engineering which may be of a design or experimental nature, to be completed under the supervision of a faculty member holding an appointment in the Department of Mechanical Engineering.
One lab (three hours); first term; three labs (three hours); second term
Prerequisite: Registration in Level IV Mechanical Engineering, or in 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 a programme administered by the Department of Mechanical Engineering
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.
Two lectures, one tutorial (two hours); first term
Prerequisite: ENGINEER 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; first term
Prerequisite: STATISTICS 3Y03
Antirequisite: ELEC ENG 3CA3 or 3CK4
MECH ENG 4S03 FLUID MECHANICS II
Introduction to potential flows, internal and external laminar and turbulent incompressible flows. Introduction to compressible flows and incompressible flow machines.
Three lectures; first term
Prerequisite: MECH ENG 3D04
MECH ENG 4T03 FINITE ELEMENT APPLICATIONS
The finite element method and its application to mechanical systems including static and dynamic analysis.
Three lectures; second term
Prerequisite: MECH ENG 4Q03
MECH ENG 4U03 ADVANCED THERMODYNAMICS
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 3D03
MECH ENG 4V03 THERMO-FLUIDS SYSTEMS DESIGN AND ANALYSIS
The analysis and synthesis of thermo-fluid systems including renewable energy source systems. Approaches to modelling including techniques for the design and analysis of the performance of thermo-fluid systems.
Three lectures; second term
Prerequisite: MECH ENG 3D03, 3R03, 4S03
MECH ENG 4X03 CODIFIED DESIGN AND FAILURE ANALYSIS
Application of mechanical design to engineering practice. Topics include codified design of steel structures and the analysis of common failures occurring in service.
Three lectures; second term
Prerequisite: MECH ENG 3A03
MECH ENG 4Y03 COMPUTER AIDED DESIGN
Project-oriented CAD course, 3-D modelling and graphics, design by features. I-DEAS and mechanical design application packages used on SUN workstations.
Two lectures, one tutorial (one hour), one lab (two hours); first term
Prerequisite: Registration in Level IV or Level V of a programme administered by the Department of Mechanical Engineering

MIDWIFERY
Faculty as of January 15, 1999

Chair
Karyn Kaufman

Professor
Karyn Kaufman B.S.N. (Michigan), M.S. (New York), Dr.P.H. (North Carolina), R.M.

Assistant Professors
Eileen Hutton B.N.Sc. (Queens), M.N.Sc. (Toronto), R.M.
Helen McDonald M.H.Sc. (McMaster), R.M.
Patricia McNiven M.Sc. (Toronto), Ph.D. (Toronto), R.M.
Bruce Wainman B.Sc. (Laurentian), M.H.Sc. (McMaster), Ph.D. (York)

Courses
If no prerequisite is listed, the course is open.

MIDWIF 1A06 INTRODUCTION TO MIDWIFERY
Orientation to the midwife’s role and the philosophy of practice in Ontario will be covered. Includes two terms of following clients after a one-week intensive workshop as well as a weekly three-hour small group tutorial.
Two terms
Prerequisite: Registration in the Midwifery Education Programme
Antirequisite: MIDWIF 1A03

MIDWIF 1C03 LIFE SCIENCE FOR MIDWIFERY
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 term
Prerequisite: Registration in the Midwifery Education Programme
Co-requisite: HTH SCI 1D06

MIDWIF 2A03 MIDWIFERY CARE I - CLINICAL SKILLS INTENSIVE
Structured learning experiences are completed to prepare for MIDWIF 2E/2F. Students will learn fundamental clinical skills and theoretical information.
Four weeks
Prerequisite: MIDWIF 1A06
Antirequisite: MIDWIF 1B03, 1B12
Students are provided with an extended period of clinical experience within a midwifery practice. The course begins with a seven to ten day intensive workshop. A weekly tutorial based on case situations and self-study materials will cover topics in preconception, antepartum, intrapartum, postpartum and newborn care.

One term
Prerequisite: MIDWIF 2E12
Antirequisite: MIDWIF 2B12

MIDWIF 2C15 MIDWIFERY CARE II
This course is a continuation of clinical practice which will further develop the knowledge and skills relating to topics in preconception, antepartum, intrapartum, postpartum and newborn care.

One term
Prerequisite: MIDWIF 2B15
Antirequisite: MIDWIF 2C12

MIDWIF 2D03 REPRODUCTIVE PHYSIOLOGY
This course provides an in-depth understanding of human reproduction with particular emphasis on intrinsic control mechanisms and extrinsic methods of regulation of reproduction. This course will also provide the basis for understanding alterations from normal mechanisms including the influence of medical conditions on reproductive processes.

One term
Prerequisite: HTH SCI 1D06

MIDWIF 2E12 MIDWIFERY CARE I-CLINICAL PRACTICUM
A clinical placement is completed which focuses on assessment skills of prenatal and postnatal clients and observation of births. Included is a weekly situation-based, small group tutorial which will focus on thorough assessment of situations and integration of basic knowledge with clinical observations.

Eight weeks
Prerequisite: MIDWIF 2A03
Antirequisite: MIDWIF 1B12, 1E09

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.

One term
Prerequisite: HTH SCI 1D06

MIDWIF 3A09 COMMUNITY BLOCK PLACEMENTS
Two placements of one month each will be organized with a family physician and an obstetrician. The third placement will be an elective chosen by the student. International experiences are possible.

One term
Prerequisite: One of MIDWIF 2B12 or 2B15

MIDWIF 3B15 MIDWIFERY CARE IV
This clinical course integrates theoretical and clinical content progressively. The weekly tutorial situations will increasingly focus on the recognition of indications for consultation and referral and the relationships with other health care providers.

One term
Prerequisite: MIDWIF 2C15
Antirequisite: MIDWIF 3B12

MIDWIF 3C12 MIDWIFERY CARE CLERKSHIP
Clinical judgement and decision-making skills form the basis of this final clinical course. The weekly tutorial problems will focus on all phases of childbirth and will integrate content related to inter-professional relationships, the organization of the health care system, the legal, ethical and professional responsibilities of a midwife, and the critical evaluation of practice.

One term
Prerequisite: One of MIDWIF 3B12 or 3B15

MIDWIF 3D03 HEALTH EDUCATION AND HEALTH PROMOTION
This reading self-study course will incorporate concepts and principles from areas that contribute to the understanding of human behaviour in health related situations. A variety of topics will be covered.

One term
Prerequisite: HTH SCI 1C06

MIDWIF 3E03 PROFESSIONAL ISSUES
Seminars and presentations will be used to cover various topics related to the profession of midwifery. Includes a two week intensive workshop.

One term
Prerequisite: One of MIDWIF 3B12 or 3B15
Co-requisite: MIDWIF 3C12

MIDWIF 3F03 FINAL SYNTHESIS PAPER
Each student will submit an academic paper concerning an aspect of midwifery within the wider social context. External readers with relevant expertise will be used to assist in the evaluation of papers.

One term
Prerequisite: Registration in Level III of the Midwifery Education Programme

MODERN LANGUAGES

Faculty as of January 15, 1999

Chair
Nina Kolosnikoff

Professors
Joseph Adamson/B.A. (Trent), M.A., Ph.D. (Toronto)
John D. Browning/B.A., M. Phil. (London), Ph.D. (Essex)
Nina Kolosnikoff/M.A. (Moscow State), Ph.D. (Alberta)
Walter Smyrnai/B.A. (McMaster), M.A., Ph.D. (Toronto)
George Thomas/B.A., Ph.D. (London)

Associate Professors
Maria del C. Cerezo/B.A. (Puerto Rico), M.A. (McGil), Ph.D. (Toronto)
Gabrielle Erasm/B.A. (Yale), M.A., Ph.D. (Minnesota)
Florijio Mineill/B.A., M.A. (Western Ontario), Ph.D. (Brown)
Hans H. Schulte/Assessor (Munich), D. Phil. (Augsburg)
Marla M. Stroinski/M.A., (Warsaw), Ph.D. (Edinburgh)
M. Jean Wilson/B.A. (McMaster), B.Ed., M.A., Ph.D. (Toronto)

Assistant Professors
Vittorina Cecchette/B.A., M.A., Ph.D. (Toronto)
Inga Dolinine/M.A., Ph.D. (Leningrad)
Geoffrey Rockwell/B.A. (Haverford College), M.A., Ph.D. (Toronto)

Associate Member
Cyril H. Levitt/Sociology B.A., M.A. (Waterloo), Dr. Phil. (Free Univ. Berlin)

Lecturers
Elko Virginia Aroga/M.A. (Toronto), M.A. (Texas)
Tsuneo Iwai/B.A. M.Ed. (Toronto)
Ping-Mei Law/B.A., M.A. (Toronto)
Anna L. Moro/B.A., M.A., Ph.D. (Toronto)
Ruth Thomas/Staatsexamen (Bochum), M.A. (McMaster)

Research Associate
Branca Popovic/M.A., Ph.D. (Beiggrade)

Professors Emeriti
Antonio G. Alessio/D.Litt. (Genoa)
Samuel D. Cioran/B.A. (McMaster), Ph.D. (Toronto)
Stello Cro/Lo en L. (Buenos Aires), Dott. Ling. e Lett. (Venice)
Karl Denner/M.A. (Kentucky), Ph.D. (Johns Hopkins)
Gerhart Teuscher/Dip. -Uebersetzer (Mainz-Germersheim), M.A. (Toronto), Ph.D. (SUNY, Buffalo)

Department Notes
1. The Department of Modern Languages administers all courses in Comparative Literature, German, Hispanic Studies, Italian, Japanese, Linguistics, Polish, and Russian. For information and counselling, please contact the departmental office, Togo Salmon Hall, Room 611.
2. Not all courses are offered on an annual basis. Students should consult the timetable for available courses.
Courses and programmes in Comparative Literature are administered within the Department of Modern Languages of the Faculty of Humanities. For information and counselling, please contact the departmental office, Togo Salmon Hall, Room 611.

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.

Courses

If no prerequisite is listed, the course is open.

**COMP LIT 1A06  THE EUROPEAN LITERARY TRADITION**
An Introduction to the origins and continuity of the Western literary tradition from the Bible and classical literature to modern literature, as seen in representative texts. Attention is given to the development of critical skills in reading and writing. Three lectures; one term
Prerequisite: COMP LIT 1A06

**COMP LIT 2A03  MODERN EUROPEAN LITERATURE I**
A study of the central themes and ideas shaping the Enlightenment and Romanticism through the reading of representative works. Three lectures; one term
Prerequisite: COMP LIT 1A06

**COMP LIT 2B03  SURVEY OF ITALIAN LITERATURE**
Formerly: MOD LANG 2B03
This course will study the development of Italian literature from its beginnings to the present with emphasis on major authors and works. This will include some account of its influence upon other European literatures. Three lectures; one term
Prerequisite: Registration in Level II and above
Antirequisite: MOD LANG 2B03

**COMP LIT 2C03  INTRODUCTION TO LITERARY STUDIES**
Formerly: MOD LANG 2C03
An examination of the fundamental questions about the nature of literature and the purpose and methodology of literary studies, focusing on the interdisciplinary and cultural aspects of literature. Three lectures; one term
Prerequisite: Registration in Level II and above
Antirequisite: MOD LANG 2C03

**COMP LIT 2G03  BIBLE AS STORY**
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
Prerequisite: Registration in Level II and above
Cross-list: RELIG ST 2V23

**COMP LIT 2H03  GREEK AND ROMAN DRAMA**
Selected Greek and Roman Tragedies and Comedies will be read in translation. The course will concentrate on characterization and the philosophical and religious aspects of ancient drama. Three lectures; one term
Prerequisite: Registration in Level II and above
Antirequisite: COMP LIT 2H06
Cross-list: CLASSICS 2H03

**COMP LIT 2H03  MASTERWORKS OF GERMAN LITERATURE**
Formerly: MOD LANG 2H03
A survey of major works from a variety of genres, by Goethe, Kleist, Heine, Böchner, Mann, Rilke, Brecht and others. Three lectures; one term
Prerequisite: Registration in Level II and above
Antirequisite: MOD LANG 2H03

**COMP LIT 2M03  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. Three lectures; one term
Prerequisite: Registration in Level II and above
Antirequisite: MOD LANG 2M03

**COMP LIT 3A03  LITERATURE AND POLITICS IN GERMANY 1914-1945**
Formerly: MOD LANG 3A03
A study of the literary responses to the social, political and cultural upheaval from the beginning of the First World War to the end of the Second. The course will involve a close scrutiny of the forms and functions of political rhetoric, manifestoes and literature engaged. Three lectures; one term
Prerequisite: Registration in Level II and above
Antirequisite: MOD LANG 3A03

**COMP LIT 3B03  RUSSIAN DRAMA SINCE 1800**
Formerly: MOD LANG 3B03
An introduction to the major works of Russian theatre. Three lectures; one term
Prerequisite: Registration in Level II and above
Antirequisite: MOD LANG 3B03

**COMP LIT 3CC3  MODERN EUROPEAN DRAMA FROM BRECHT TO THE PRESENT**
A study of representative plays by ten major dramatists, including Garcia Lorca, Cocteau, Frisch, Sarrie, Weiss, Genet, Darío Fo. Seminar (two hours), plus play readings; one term
Prerequisite: Registration in Level III or IV of a Comparative Literature programme
Cross-list: DRAMA 3CC3
Alternate with COMP LIT 3E03.

**COMP LIT 3D03  TOPICS IN LITERARY GENRES I**
Previous topics include: Lyric Poetry, The Novel. Consult the Department concerning topic to be offered. Seminar (two hours); one term
Prerequisite: Registration in Level II and above of a Comparative Literature programme
COMP LIT 3D03 may be repeated, if on a different topic, to a total of six units.

**COMP LIT 3D03  TOPICS IN LITERARY GENRES II**
Previous topics include: Short Fiction, Comedy, Tragedy. Consult the Department concerning topic to be offered. Seminar (two hours); one term
Prerequisite: Registration in Level II and above of a Comparative Literature programme
COMP LIT 3D03 may be repeated, if on a different topic, to a total of six units.

**COMP LIT 3E03  MODERN EUROPEAN DRAMA FROM IBSEN TO PIRANDELLO**
A study of representative plays by eight major dramatists, including Strindberg, Chekhov, Goekli, Wedekind and Kaiser. Seminar (two hours), plus play readings; one term
Prerequisite: Registration in Level III or IV of a Comparative Literature programme
Cross-list: DRAMA 3C03
Alternate with COMP LIT 3CC3.

**COMP LIT 3F03  THE METAMORPHOSES OF DON JUAN**
Formerly: MOD LANG 3F03
The development of the myth of Don Juan from its origins to the present. Three lectures; one term
Prerequisite: Registration in Level II and above
Antirequisite: MOD LANG 3J03

**COMP LIT 3F03  THE LITERATURE OF THE DELINQUENT**
Formerly: MOD LANG 3J03
A study of the picaresque mode in European literature from 1550 to 1800. Three lectures; one term
Prerequisite: Registration in Level II and above
Antirequisite: MOD LANG 3J03

**COMP LIT 3G03  GERMAN DRAMA**
Formerly: MOD LANG 3G03
A study of representative plays by major dramatists of the German-speaking world, from the 18th century to the present. Three lectures; one term
Prerequisite: Registration in Level II and above
Antirequisite: MOD LANG 3G03
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Prerequisite</th>
<th>Antirequisite</th>
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<tbody>
<tr>
<td>COMP LIT 3103</td>
<td>TOPICS IN GREEK AND ROMAN LITERATURE I</td>
<td>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.</td>
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<td>COMP LIT 3113</td>
<td>TOPICS IN GREEK AND ROMAN LITERATURE II</td>
<td>Topics include: Greek and Roman Epic. Consult the Department concerning topic to be offered.</td>
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<td>COMP LIT 3200</td>
<td>A CRITICAL STUDY OF THE LITERATURE OF THE</td>
<td>Three lectures; two terms</td>
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<td>20TH-CENTURY RUSSIAN LITERATURE</td>
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<td>Formerly: MOD LANG 3K03</td>
<td>Three lectures; one term</td>
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<td></td>
<td>A study of Russian literature of the 1920s and</td>
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<td>1930s with special attention to Akhmatova,</td>
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<td>Bulgakov and Sholokhov.</td>
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<td>COMP LIT 3K13</td>
<td>CONTEMPORARY RUSSIAN LITERATURE</td>
<td>Three lectures; one term</td>
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<td>Formerly: MOD LANG 3K13</td>
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<td>A study of contemporary Russian literature since</td>
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<td>1955, with special attention to Pasternak,</td>
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<td>Solzhenitsyn and Yevtushenko.</td>
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<td>COMP LIT 3L03</td>
<td>LITERATURE AND FILM</td>
<td>Three lectures; one term</td>
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<td>Formerly: MOD LANG 3L03</td>
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<td>An examination of the particular characteristics of both literature and film and the relationships between them through a detailed study of selected novels, short stories and plays and the films that have been based on them.</td>
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<td>COMP LIT 3L3</td>
<td>SURVEY OF SPANISH THEATRE</td>
<td>Three lectures; one term</td>
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<td>Formerly: MOD LANG 3L3</td>
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<td>A study of the development of Spanish drama and stage from Lope to Lorca.</td>
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<td>COMP LIT 3P03</td>
<td>LITERATURE AND POLITICS IN SPANISH AMERICA</td>
<td>Three lectures; one term</td>
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<td>An exploration of the ways in which politics and aesthetics combine in Spanish American literature. Emphasis will be on the 20th-century works, but writings from previous centuries will also be included.</td>
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<tr>
<td>COMP LIT 3Q03</td>
<td>THE HISTORY AND THEORY OF CRITICISM</td>
<td>Three lectures; one term</td>
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<td>Formerly: MOD LANG 3Q03</td>
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<td></td>
<td>A survey of the main developments in the theory and practice of literary criticism from Plato to the early 20th century.</td>
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<th>Course Code</th>
<th>Course Title</th>
<th>Prerequisite</th>
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<tr>
<td>MODERN LANGUAGES</td>
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<th>Course Code</th>
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<tr>
<td>MOD LIT 3Q03</td>
<td>MODERN CRITICAL THEORY</td>
<td>The theory and practice of literary criticism from Eliot to the present.</td>
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<td>Three lectures; one term</td>
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<td>Prerequisite: Registration in Level III or IV of a Comparative Literature programme</td>
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<td>Cross-list: ENGLISH 3Q03</td>
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<tr>
<td>MOD LIT 3R08</td>
<td>POSTCOLONIAL LITERATURES: THEORY AND PRACTICE</td>
<td>A study of postcolonial literary theory and practice. Texts written in English from a variety of formerly colonized regions will be studied; these may include Africa, the Caribbean, South and Southeast Asia, Australia and New Zealand. The focus will be on such topics as imperialism, race, gender, ethnicity, nation, language, and representation.</td>
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<td>Three lectures; two terms</td>
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<td>Prerequisite: Registration in Level III or IV of a Comparative Literature programme</td>
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<td>Cross-list: ENGLISH 3R08</td>
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<tr>
<td>MOD LIT 3S03</td>
<td>19TH-CENTURY RUSSIAN LITERATURE I</td>
<td>Formerly: MOD LANG 3R03</td>
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<td>A study of the major prose of Gogol and Turgenev.</td>
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<td>Three lectures; one term</td>
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<td>Prerequisite: Registration in Level II and above</td>
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<td>Antirequisite: MOD LANG 3R03</td>
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<td>Alternates with COMP LIT 3S03</td>
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<tr>
<td>MOD LIT 3T03</td>
<td>THEATRE OF GREECE AND ROME</td>
<td>The history of theatres and theatrical production in Greece and Rome with consideration of the social significance of drama in antiquity. The course will also include archaeological material.</td>
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<td>Three lectures; one term</td>
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<td>Prerequisite: COMP LIT 2H03 or six units of Classics</td>
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<td>Antirequisite: COMP LIT 2H06</td>
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<td>Cross-list: CLASSICS 3T03</td>
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<tr>
<td>MOD LIT 3V03</td>
<td>TOPICS IN NATIONAL CINEMAS I</td>
<td>Formerly: MOD LANG 3T03</td>
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<td></td>
<td></td>
<td>Previous topics include: Soviet and East European Cinema, Consult the School of Art, Drama and Music concerning the topic to be offered.</td>
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<td>Two lectures, plus one weekly film screening; one term</td>
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<td>Prerequisite: DRAMA 2X06</td>
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<td>Antirequisite: MOD LANG 3T03</td>
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<td>Cross-list: DRAMA 3T03</td>
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<td>COMP LIT 3V03 may be repeated, if on a different topic, to a total of six units.</td>
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<tr>
<td>MOD LIT 3V3</td>
<td>TOPICS IN NATIONAL CINEMAS II</td>
<td>Formerly: MOD LANG 3T7T</td>
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<td></td>
<td>Previous topics include: Canadian Cinema, French Cinema and Japanese Cinema, Consult the School of Art, Drama and Music concerning the topic to be offered.</td>
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<td>Two lectures, plus one weekly film screening; one term</td>
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<td>Prerequisite: DRAMA 2X06</td>
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<td>Antirequisite: MOD LANG 3T7T</td>
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<td>Cross-list: DRAMA 3T7T</td>
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<td>COMP LIT 3V3 may be repeated, if on a different topic, to a total of six units.</td>
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<tr>
<td>MOD LIT 3W03</td>
<td>GERMAN WOMEN WRITERS</td>
<td>Formerly MOD LANG 3W03</td>
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<td>A study of selected works by German women writers from the eighteenth century to the present.</td>
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<td>Three lectures; one term</td>
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<td>Prerequisite: Registration in Level II and above</td>
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<td>Antirequisite: MOD LANG 3W03</td>
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<tr>
<td>MOD LIT 4A03</td>
<td>TOPICS IN LITERARY MOVEMENTS</td>
<td>Previous topics include: European Romanticism. Consult the Department concerning topic to be offered.</td>
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<td>Seminar (two hours); one term</td>
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<td>Prerequisite: Registration in Level III or IV of a Comparative Literature programme</td>
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<td>COMP LIT 4A03 may be repeated, if on a different topic, to a total of six units.</td>
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</table>
Courses and programmes in German are administered within the Department of Modern Languages of the Faculty of Humanities. For information and counselling, please contact the departmental office, Togo Salmon Hall, Room 611.

Notes:
1. Students should note that the Department has classified its German language courses under the following categories:
   - Introductory Level Language Course
   - Intermediate Level Language Course
   - Advanced Level Language Courses
2. Not all courses are offered on an annual basis. Students should consult the timetables for available courses.

Courses
- If no prerequisite is listed, the course is open.

GERMAN 1B06
- INTRODUCTION TO GERMAN STUDIES
An intensive review of the grammatical structures of German and an introduction to composition, together with oral practice. There will also be an introduction to the culture and civilization of the German-speaking peoples.
- Prerequisite: OAC German or permission of the Department

GERMAN 1Z06
- BEGINNER'S INTENSIVE GERMAN
This course is designed to give students the ability to express themselves reasonably well in German. In addition, they will acquire the basics of German grammar and considerable reading skill. Small tutorial groups will ensure maximum participation by each student. This course is enhanced by a CALL (Computer-Aided Language Learning) module.
- Prerequisite: OAC German

GERMAN 2A03
- INTRODUCTION TO GERMAN LITERATURE
Lectures outline the development of German literature against its cultural background and readings of literary texts.
- Prerequisite: GERMAN 1B06 or concurrent registration in GERMAN 2Z06

GERMAN 2E03
- GERMAN GRAMMAR
A systematic review of grammar; this knowledge will be applied to writing short essays and translations.
- Prerequisite: One of GERMAN 1B06 or 2206

GERMAN 2G03
- ORAL PRACTICE IN GERMAN
The course develops the skills of speaking, writing and listening comprehension. Emphasis will be on fluent and correct expression in dialogue situations.
- Prerequisite: GERMAN 1B06 or 2Z06

GERMAN 3B03
- GERMAN LITERATURE IN THE CLASSIC-ROMANTIC AGE
The development of German literature and thought from the period of Storm and Stress and German Classicism through the Romantic age, with close readings from Goethe and Schiller to Eckendorff and Heine.
- Prerequisite: GERMAN 2A03

GERMAN 3C03
- GERMAN LITERATURE OF THE NINETEENTH AND TWENTIETH CENTURIES
A study of authors and literary movements from Realism to the present, with emphasis on shorter prose texts and lyric poetry.
- Prerequisite: GERMAN 2A03

GERMAN 3Z03
- ADVANCED ORAL AND WRITTEN LANGUAGE PRACTICE
A practically-oriented course designed to increase the student’s facility in using German as a means of oral and written communication. Students will be required to express their views on a variety of topics in written assignments and subsequent class discussions. Extensive reading will expand the students' vocabulary and improve general language ability.
- Prerequisite: GERMAN 2A03

GERMAN 4A03
- TOPICS IN GERMAN LITERATURE II
Topics include: Modern Literature and the Arts; History of the German Language. Consult with the Department concerning topic to be offered.
- Prerequisite: Nine units of German above Level I, including GERMAN 2A03

GERMAN 4C03
- TRANSLATION: TECHNIQUES AND PRACTICE
Practice in the translation of texts of a literary and non-literary nature. (English to German and German to English). This course makes use of a special Annnotated Screen programme available in the Humanities Computer Laboratory.
- Prerequisite: GERMAN 3Z03

GERMAN 4I03
- 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

GERMAN 4T03
- TOPICS IN GERMAN LITERATURE I
Previous topics include: German Symbolism and Expressionism; German Literature 1933-45; The So-Called Inner Emigration. Consult with the Department concerning topic to be offered.
- Prerequisite: GERMAN 3Z03
Courses and programmes in Hispanic Studies are administered within the Department of Modern Languages of the Faculty of Humanities. For information and counselling, please contact the departmental office, Togo Salmon Hall, Room 611.

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 1A06, 2A03, 2Z06
   - Advanced Level Language Courses
     - HISPANIC 3D03, 3D03, 4G03

   - Not all courses are offered on an annual basis. Students should consult the timetable for available courses.

Courses

**HISPANIC 1A06** Intermediate Spanish

A course designed to further the student’s command of the language in its oral and written forms. There will be some review of basic grammar, but emphasis will be upon composition, expansion of vocabulary, and the more advanced aspects of the language.

Three hours; two terms

Prerequisite: OAC Spanish or permission of the Department

Enrolment is limited

Students with prior knowledge of the language as determined by a placement test may be required to enroll in an appropriate alternative.

**HISPANIC 1Z06** Beginner’s Intensive Spanish

A course designed to cover the rudiments of the language in both written and oral forms. This course also provides preparation for more advanced work in Spanish. This course is enhanced by a CALL (Computer-Aided Language Learning) module.

Four hours (including lab practice); two terms

Antirequisite: OAC Spanish or equivalent

Enrolment is limited

Students with prior knowledge of the language as determined by a placement test may be required to enroll in an appropriate alternative.

**HISPANIC 2A03** Language Practice I

A course devoted to the expansion of vocabulary, the improvement of comprehension, and the achievement of greater confidence and versatility in the language by using different and creative forms of communication.

Three hours; one term

Prerequisite: HISPANIC 1A06; or credit in or concurrent registration in HISPANIC 2Z06; or permission of the Department

Not available to students who have native fluency in Spanish.

**HISPANIC 2B03** Introduction to Spanish Literature and Civilization

A survey of Spanish literature from the Middle Ages to the present. Discussions will bring into focus the historical, intellectual and aesthetic context in which this literature flourished.

Three lectures; one term

Prerequisite: HISPANIC 1A06 or 1Z06

**HISPANIC 2L03** Spanish American Literature and Civilization

A survey of Spanish American literature from the fifteenth century to the present. The most significant cultural currents and representative writers will be studied with the purpose of understanding the development of literary genres and the cultural, political and social context in which they flourished.

Three lectures; one term

Prerequisite: HISPANIC 2A06 or 1Z06

**HISPANIC 2Z06** Intermediate Spanish

A course designed to further the student’s command of the language in its oral and written forms. There will be some review of basic grammar, but emphasis will be upon composition, expansion of vocabulary, and the more advanced aspects of the language.

Three hours; two terms

Prerequisite: HISPANIC 1Z06

Antirequisite: HISPANIC 1A06

Enrolment is limited.

**HISPANIC 3D03** Language Practice II

The emphasis is on precision, conciseness and other pertinent aspects of the language. Students will prepare business documents such as letters, memos, application forms and résumés and will develop related vocabulary.

Three lectures; one term

Prerequisite: HISPANIC 2A03

**HISPANIC 3DD3** Advanced Language Practice

The main objective is to develop the students’ abilities in the kinds of writing they are expected to do at university level such as outlines, book reviews and essays.

Three hours; one term

Prerequisite: HISPANIC 3D03

**HISPANIC 4G03** Introduction to 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 in précis writing.

Three hours; one term

Prerequisite: HISPANIC 3D03, or permission of the department

**HISPANIC 4L03** 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 4T03** Topics in Spanish Literature

Previous topics include: The Enlightenment in Spain. Consult the Department concerning topic to be offered.

Three lectures; one term

Prerequisite: Nine units of Hispanic Studies above Level I

**HISPANIC 4T04** Topics in Spanish American Literature

Topics may include: The Spanish American Essay, The Spanish American Short Story, The Spanish American Novel. Consult the Department concerning topic to be offered.

Three lectures; one term

Prerequisite: Nine units of Hispanic Studies above Level I

**HISPANIC 4T13** Topics in Spanish American Literature

Topics may include: The Spanish American Essay, The Spanish American Short Story, The Spanish American Novel. Consult the Department concerning topic to be offered.

Three lectures; one term

Prerequisite: Nine units of Hispanic Studies above Level I

**ITALIAN**

Courses and programmes in Italian are administered within the Department of Modern Languages of the Faculty of Humanities. For information and counselling, please contact the departmental office, Togo Salmon Hall, Room 611.

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 1A06, 1Z26
   - Advanced Level Language Courses
     - ITALIAN 2G03, 3D03, 4A03, 4B03

   - 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.

**ITALIAN 1A06** Intermediate Italian

An intensive review of the grammatical structures of Italian and an introduction to composition, together with oral practice.

Four hours; two terms

Prerequisite: OAC Italian or permission of the Department

Antirequisite: ITALIAN 2Z06

**ITALIAN 1Z06** Beginner’s Intensive Italian

An intensive beginner’s course designed for students with no prior knowledge of the language. The course gives the student a basic knowledge of Italian grammar and the opportunity to practise the spoken language. This course is enhanced by a CALL (Computer-Aided Language Learning) module.

Four hours (including lab practice); two terms

Antirequisite: OAC Italian, or ITALIAN 1Z26

Enrolment is limited.

Students who speak or understand an Italian dialect or Standard Italian may not register in this course, but should register in ITALIAN 1Z26.
ITALIAN 1Z26 BEGINNER'S INTENSIVE ITALIAN FOR DIALECT SPEAKERS
An intensive beginner's course designed for students who understand an Italian dialect other than Standard Italian. The course gives the student a basic knowledge of Italian grammar and the opportunity to practise the spoken language. This course is enhanced by a CALL (Computer-Aided Language Learning) module.
Four hours (including lab practice); two terms
Antirequisite: OAC Italian, or ITALIAN 1Z06
Enrolment is limited.
Students with prior knowledge of the language as determined by a placement test may be required to enrol in an appropriate alternative.
ITALIAN 2F03 CONTEMPORARY ITALIAN LITERATURE AND CULTURE
This course will study Italian literature from Fascism and the Second World War, focusing on Neorealism in literature and film, and on major contemporary authors, from Moravia to Calvino.
Three lectures; one term
Prerequisite: ITALIAN 1A06 or 2206
ITALIAN 2G03 ADVANCED GRAMMAR PRACTICE
This course is designed to improve the student's written and oral proficiency through exercises, compositions, and analysis of texts.
Three hours; one term
Prerequisite: ITALIAN 1A06 or 2206
Antirequisite: ITALIAN 2A03 or 2D03
ITALIAN 2Z06 ITALIAN GRAMMAR PRACTICE
An intensive review of the grammatical structures of Italian and an introduction to composition, together with oral practice.
Four hours; two terms
Prerequisite: ITALIAN 1Z06 or 1Z26
Antirequisite: ITALIAN 1A06
ITALIAN 3D03 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.
Three hours; one term
Prerequisite: ITALIAN 2A03, 2D03, or 2G03
ITALIAN 3N03 EARLY TWENTIETH-CENTURY ITALIAN LITERATURE AND CULTURE
This course will study Italian literature and drama with emphasis on D'Annunzio, Svevo, Pirandello and the Hermetic school of poetry.
Three lectures; one term
Prerequisite: ITALIAN 1A06 or 2206
ITALIAN 3R03 DANTE
This course will focus on the Canzoniere, with special reference to its historical and literary significance.
Three lectures; one term
Prerequisite: ITALIAN 1A06 or 2206
Antirequisite: MOD LANG 3R03
ITALIAN 3RR3 BOCCACCIO AND PETRARCH
A study of Petrarachi's Canzoniere and Boccaccio's Decameron.
Three lectures; one term
Prerequisite: ITALIAN 1A06 or 2206
Antirequisite: MOD LANG 3R03
ITALIAN 4A03 COMPOSITION AND STYLISTICS II
An advanced course in composition and stylistics designed to develop the student's skills in critical writing and oral expression.
Three hours; one term
Prerequisite: ITALIAN 3D03
Antirequisite: ITALIAN 4R03
ITALIAN 4R03 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 3D03
ITALIAN 4G03 NINETEENTH-CENTURY ITALIAN LITERATURE AND CULTURE
This course will study Italian poetry, fiction and drama, with special emphasis on the works of Pascoli, Manzoni, Leopardi, Carducci, Verga, Fogazzaro and Pascoli.
Three lectures; one term
Prerequisite: ITALIAN 1A06 or 2Z06
ITALIAN 4I13 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 4R03 RENAISSANCE
A study of the literature of the Renaissance.
Three lectures; one term
Prerequisite: ITALIAN 1A06 or 2Z06
Antirequisite: MOD LANG 3S03

JAPANESE...

Japanese courses are administered within the Department of Modern Languages of the Faculty of Humanities. The Combined Honours in Japanese Studies and Another Subject Programme is coordinated by an interdisciplinary Committee of Instruction. For information and counselling, please contact the departmental office, Togo Salmon Hall, Room 611.

Committee of Instruction
Acting Director
David Barrett (History)
Koichi Shinohara (Religious Studies)
Tsuneo Iwasawa (Modern Languages)
Elise Virginia Arige (Modern Languages)
Kenneth S. Chiu (Economics)
J.S. Chang (Engineering Physics)
Phyllis Gronoff (Religious Studies)
K. L. Liow (Geography and Geology)
Richard Stubbs (Political Science)
François Winnick (Chemistry)

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
This course is designed to give students basic listening, speaking, reading and writing skills in Japanese. Exercise in the computerized language laboratory is an essential part of this course.
Five hours (including lab practice); two terms
Students with prior knowledge of the language as determined by a placement test may be required to enrol in an appropriate alternative.

JAPANESE 2Z06 INTERMEDIATE INTENSIVE JAPANESE
This course aims to develop students' communicative skills in Japanese through conversational exercises, creative writing and practice speaking, listening, reading and writing. Emphasis will be placed upon refining the knowledge of grammar and expanding vocabulary (kanji characters).
Four hours; two terms
Prerequisite: JAPANESE 1Z06, with a grade of at least B-, or permission of the instructor

JAPANESE 3Z03 BUSINESS JAPANESE
Three hours; one term
Prerequisite: JAPANESE 2Z06, with a grade of at least B-, or permission of the instructor

JAPANESE 3Z26 ADVANCED INTENSIVE JAPANESE
This course continues the study of written and spoken Japanese begun in JAPANESE 1Z06 and 2Z06. Particular attention will be focused on the development of the following language skills: conversational practice based on situational drills; study of advanced grammar structures; development of reading skills based on selected literary materials; writing short essays; continued study of kanji.
Four hours; two terms
Prerequisite: JAPANESE 2Z06, or permission of the instructor
JAPANESE LITERATURE
Readings in the original of contemporary Japanese prose and poetry (Haiku and Tankan). Previous readings include: Murakami Haruki, Akutagawa, Isukide Hiroyuki, Oa Konzaburo, Toson, Siki, Baeho. Consult the Department for readings to be offered.
Three lectures; one term
Prerequisite: JAPANESE 3ZZ6, or permission of the instructor

JAPANESE 4203 ADVANCED PRACTICE IN JAPANESE
This course is designed to improve and increase the student's spoken and written proficiency through selected readings, exercises and class discussions.
Four hours; one term
Prerequisite: JAPANESE 3ZZ2, or permission of the instructor

JAPANESE STUDIES ...

JAPAN ST 2C03 ASIA-PACIFIC ECONOMIES
Economic conditions and factors influencing economic growth in selected countries in the Asia-Pacific region. Topics include government policies related to exchange rates and trade and development, as well as the Japanese style of management, the bonus system and job tenure.
Three hours; one term
Prerequisite: ECON 1A06 with a grade of at least C-
Cross-list: ECON 2C03

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 and above
Cross-list: RELIG ST 2P06

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 and above. One of RELIG ST 1B06 or 2M06 or JAPAN ST 2P06 is recommended.
Cross-list: RELIG ST 3B03

JAPAN ST 3E03 JAPANESE RELIGION
Two lectures, one tutorial; one term
Prerequisite: Registration in Level II and above. One of RELIG ST 1B06 or 2M06 or JAPAN ST 2P06 is recommended.
Cross-list: HISTORY 3B03

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
Cross-list: RELIG ST 3H03

JAPAN ST 3J03 GEOGRAPHY OF JAPAN
Human and physical geography of Japan with emphasis on historical, international, demographic and economic aspects.
Three lectures; one term
Prerequisite: GEOG 1B06 or registration in a Japanese Studies programme
Cross-list: GEOG 3J03

JAPAN ST 3S03 ISSUES IN ASIAN RELIGIOUS THOUGHT: EAST ASIA
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 and above.
Cross-list: ARTS&SCI 3S03, RELIG ST 3S03

JAPAN ST 3U03 CH'AN AND ZEN BUDDHISM
An examination of Ch'an and Zen Buddhist myth, history, doctrine, monastic, culture, and ritual practice.
Two lectures, one tutorial; one term
Cross-list: Arts & Sci 3U03, RELIG ST 3U03

JAPAN ST 4A06 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 a Japanese Studies programme 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 a Japanese Studies programme and permission of the Director

LINGUISTICS ...

LINGUIST 1A05 THE STUDY OF LANGUAGE
An introduction to the study of linguistics—the scientific study of language and communication. The main topics covered in the course are: background concepts in linguistics; the traditional sub-fields (phonetics/phonology, morphology, syntax and semantics); historical linguistics; linguistic typology, sociolinguistics, psycholinguistics and language acquisition.
Two lectures, one tutorial; two terms
Antirequisite: ENGLISH 3J06

LINGUIST 2A03 THE MAKING OF THE EUROPEAN LINGUISTIC LANDSCAPE
The history of language use in Europe from antiquity to the present day. The course will illustrate the different functions of language in social life and the growth of national, standardized idiomics. It will also serve as an introduction to the history of linguistics as a discipline.
Three lectures; one term
Prerequisite: Registration in Level II and above
Antirequisite: ANTHROP 2A03

LINGUIST 2A05 THE ORIGIN AND DEVELOPMENT OF THE EUROPEAN LANGUAGES
The phonetic, morphological, syntactic and lexical features of Indo-European languages and the role of these features in the genesis and development of English, German, French, Russian, Italian and Spanish and other Indo-European-based languages of Europe.
Three lectures; one term
Prerequisite: LINGUIST 1A06 or 2A03
Antirequisite: ANTHROP 2A03, LINGUIST 3B03

LINGUIST 2L03 INTRODUCTION TO TYPOLOGY
A study of the diversity of languages of the world and of three major classifications of languages (genetic, areal and typological) with concentration on typological classification: language universals, cross-linguistic analysis of grammatical systems and methods of typological descriptions of languages.
Three hours (lectures and discussion); one term
Prerequisite: LINGUIST 1A06 or permission of the Department
Antirequisite: ANTHROP 2L03

LINGUIST 3B03 PSYCHOLINGUISTICS
The course focuses on the relationship of language and the way language is represented 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 hours (lectures and discussion); one term
Prerequisite: LINGUIST 3I03 or 3M03, or permission of the Department

LINGUIST 3I03 SYNTAX
A study of the syntax of the world's languages. The emphasis will be on the Functional approach in comparison with other syntactic theories.
Three hours (lectures and discussions); one term
Prerequisite: LINGUIST 2L03, or permission of the Department
Antirequisite: ANTHROP 3I03

LINGUIST 3I03 SEMANTICS
The study of patterns of meaning in language; a critical survey of theories and issues.
Three lectures; one term
Prerequisite: LINGUIST 3I03 or 3M03
Antirequisite: ANTHROP 3I03
MODERN LANGUAGES

LINGUIST 3M03  MORPHOLOGY
The study of word formation in the languages of the world; a critical survey of current theories and issues.
Three lectures; one term
Prerequisite: LINGUIST 2L03
Antirequisite: ANTHROP 3M03

LINGUIST 3P03  PRAGMATICS AND DISCOURSE
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.
Prerequisite: LINGUIST 1A06 or FRENCH 2H03
Antirequisite: ANTHROP 3P03

LINGUIST 3X03  SOCIOLINGUISTICS
An introduction to sociolinguistics with particular emphasis on the social situation of the major European languages. Topics covered include linguistic variation (geographic, social, situational), social and ethical issues (language and sex/gender), language and disadvantage/power, and pragmatics.
Three lectures; one term
Prerequisite: LINGUIST 2A03
Antirequisite: ANTHROP 3X03

LINGUIST 4B03  APPLIED LINGUISTICS
The course is designed to acquaint the student with the contributions that the linguist, psychologist, sociolinguist can make to the planning, organization and implementation of a language-teaching methodology. CAI/CALL will be one of the methodologies investigated with particular emphasis.
Three lectures; one term
Prerequisite: Registration in Level III or IV of a Linguistics programme, or permission of the Department
Antirequisite: ANTHROP 4B03

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: Registration in Level III or IV of a Linguistics programme, or permission of the Department

LINGUIST 4I13  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: 18 units of Linguistics above Level I and permission of the Department

LINGUIST 4X03  TOPICS IN SOCIOLINGUISTICS
Topics include: Languages in Contact; Standard Languages; Gender and Language
Seminar (two hours); one term
Prerequisite: LINGUIST 3X03
LINGUIST 4X03 may be repeated, if on a different topic, to a total of six units.

LINGUIST 4X33  TOPICS IN TYPOLGY
Topics include: Linguistic Typology; Advanced Phyllology
Seminar (two hours); one term
Prerequisite: Registration in Level III or IV of a Linguistics programme, or permission of the Department
LINGUIST 4X33 may be repeated, if on a different topic, to a total of six units.

MODERN LANGUAGES ...

Former Modern Languages courses are now listed as Comparative Literature courses. Students having credit in Modern Languages courses may not take the corresponding course under the Comparative Literature designation. To determine the new Comparative Literature designation of a former Modern Language course, please see below. To determine the former Modern Language designation of a Comparative Literature course, please see Comparative Literature in the Course Listings section of this Calendar.

Former Course  New Course  Course Title
MOD LANG 2A03  COMP LIT 2C03  Introduction to Literary Studies
MOD LANG 2B03  COMP LIT 2B03  Survey of Italian Literature
MOD LANG 2H03  COMP LIT 2H43  Masterworks of German Literature
MOD LANG 3G03  COMP LIT 3G03  German Drama
MOD LANG 3T03  COMP LIT 3B03  Russian Drama Since 1800
MOD LANG 3G03  COMP LIT 3G03  German Drama
MOD LANG 3J03  COMP LIT 3F03  The Metamorphoses of Don Juan
MOD LANG 3J13  COMP LIT 3F13  The Literature of the Delinquent
MOD LANG 3K03  COMP LIT 3K03  20th-Century Russian Literature
MOD LANG 3K03  COMP LIT 3K03  Contemporary Russian Literature
MOD LANG 3L03  COMP LIT 3L03  Survey of Spanish Theatre
MOD LANG 3P03  COMP LIT 3P03  Literature and Politics in Spanish America
MOD LANG 3R03  COMP LIT 3R03  19th-Century Russian Literature I
MOD LANG 3R03  COMP LIT 3R03  19th-Century Russian Literature II
MOD LANG 3T03  COMP LIT 3T03  Topics in National Cinemas I
MOD LANG 3T03  COMP LIT 3T03  Topics in National Cinemas II
MOD LANG 3W03  COMP LIT 3W03  German Women Writers
MOD LANG 4T03  COMP LIT 4T03  Special Topics

POLISH ...

Courses in Polish are administered within the Department of Modern Languages of the Faculty of Humanities. For information and counselling, please contact the departmental office, Togo Salmon Hall, Room 611.

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.

POLISH 1Z06  BEGINNER’S POLISH
An introduction to basic conversational and written Polish, teaching the skills of listening, speaking, reading and writing.
Five hours (lectures and lab practice); two terms
Students with prior knowledge of the language, as determined by a placement test, may be required to enrol in an appropriate alternative.
Alternates with POLISH 2Z06.

POLISH 2Z06  INTERMEDIATE POLISH
A course designed to further the student’s command of oral and written Polish. It will concentrate on developing conversational skills, as well as studying basic grammatical structures and rules of composition.
Four hours; two terms
Prerequisite: POLISH 1Z06
Alternates with POLISH 1Z06.

RUSSIAN ...

Courses and programmes in Russian are administered within the Department of Modern Languages of the Faculty of Humanities. For information and counselling, please contact the departmental office, Togo Salmon Hall, Room 611.

Notes:
1. Students should note that the Department has classified its Russian language courses under the following categories:
   Introductory Level Language Course
   RUSSIAN 1Z06
   Intermediate Level Language Course
   RUSSIAN 2C06
   Advanced Level Language Courses
   RUSSIAN 3G03, 3G03, 4G03, 4G03
2. Not all courses are offered on an annual basis. Students should consult this timetable for available courses.

Courses  If no prerequisite is listed, the course is open.

RUSSIAN 1Z06  BEGINNER’S INTENSIVE RUSSIAN
An intensive beginner’s course designed for students with no prior knowledge of the language. This course gives the student a basic knowledge of Russian grammar, while emphasizing spoken Russian. The course is enhanced by a CALL (Computer-Aided Language Learning) module.
Four hours (including lab practice); two terms
Students with prior knowledge of the language as determined by a placement test may be required to enrol in an appropriate alternative.

RUSSIAN 2B03  RUSSIAN SHORT STORY
Reading of short stories in the original language to develop comprehension, writing and speaking skills.
Three lectures; one term
Prerequisite: RUSSIAN 1Z06
RUSSIAN 2C06 INTERMEDIATE LANGUAGE STUDY
Intermediate Russian will continue the study of Russian grammar for both the conversational and written language. 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; two terms
Prerequisite: OAC Russian or RUSSIAN 1Z06

RUSSIAN 3G03 ADVANCED LANGUAGE PRACTICE I
This course is designed to enhance the student’s writing and reading skills in Russian through readings of narrative texts, writings of short compositions and translations from Russian into English and from English into Russian.
Three hours; one term
Prerequisite: RUSSIAN 2C06
Antirequisite: RUSSIAN 3C06

RUSSIAN 3G33 INTENSIVE CONVERSATIONAL PRACTICE I
This course is designed to increase the student’s ability to converse in Russian and to understand various modes of spoken Russian. The oral assignments and class discussions shall be based on readings of newspaper articles, viewing of films and video recordings of newscasts.
Three hours; one term
Prerequisite: RUSSIAN 2C06
Antirequisite: RUSSIAN 3C06

RUSSIAN 4G03 ADVANCED LANGUAGE PRACTICE II
The study of Russian syntax and advanced composition. Reading of selected texts from contemporary literature and magazines for the purpose of language study.
Three hours; one term
Prerequisite: RUSSIAN 3G03
Antirequisite: RUSSIAN 4C06

RUSSIAN 4G43 INTENSIVE CONVERSATIONAL PRACTICE II
This course concentrates on the development of oral skills, reading of selected dialogues, short plays and the viewing of Russian films and videotapes.
Three hours; one term
Prerequisite: RUSSIAN 3G33
Antirequisite: RUSSIAN 4C06

RUSSIAN 4I13 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 Russian above Level I and permission of the Department

RUSSIAN 4T03 TOPICS IN RUSSIAN LITERATURE I
Previous topics include: 19th-Century Lyric Poetry, 20th-Century Short Story, 19th-Century Drama. Consult the Department concerning topic to be offered.
Seminar (two hours); one term
Prerequisite: RUSSIAN 2C06
RUSSIAN 4T03 may be repeated, if on a different topic, to a total of six units.

RUSSIAN 4T33 TOPICS IN RUSSIAN LITERATURE II
Previous topics include: Soviet Plays of the 1920's. Consult the Department concerning topic to be offered.
Seminar (two hours); one term
Prerequisite: RUSSIAN 2C06
RUSSIAN 4T33 may be repeated, if on a different topic, to a total of six units.

MOHAWK
(SEE INDIGENOUS STUDIES, 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, Biology and Pathology and the McMaster Institute for Molecular Biology and Biotechnology. Information and counselling may be obtained from the Programme Coordinator.

Courses: If no prerequisite is listed, the course is open.

MOL BIOL 4F03 MOLECULAR INVESTIGATIONS IN DEVELOPMENT
Students will investigate a topical problem in developmental biology, make two presentations, and write a research proposal. The research is self-and group-directed.
Three lectures; one term
Prerequisite: BIOLOGY 3M03 or 3NN3; or permission of the Instructor. Application for permission must be received by March 31st of the previous year. Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

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 oncogenes, transgenic mouse models, and tumour viruses.
Two lectures; one tutorial; one term
Prerequisite: One of BIOLOGY 3H03, 3HH3, BIOCHEM 3B03, 3G03; or permission of the Instructor

MOL BIOL 4I03 MOLECULAR IMMUNOLOGY
This advanced course applies small group based learning to immunological problems. Problems concern development of immunosystems, resistance to infection and immunity in health and disease.
One session (two hours) per week, one tutorial; one term
Prerequisite: One of BIOLOGY 4I03, 3I03 and one of BIOLOGY 3H03, BIOCHEM 3B03, 3G03; or permission of the Instructor
Cross-list: BIOCHEM 4I03

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.
Prerequisite: Registration in Level IV Honours Molecular Biology and permission of the Course Coordinator. Application for permission must be received by March 31st of the previous year. Normally, a CA of at least 8.5 is required. Antirequisite: BIOLOGY 4F06; BIOCHEM 4L03, 4P03
Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

MULTIMEDIA

Assistant Professors
Joanne Buckley/B.A., M.A., Ph.D. (Western Ontario)
Andrew Mactavish/B.A., (Mount Saint Vincent), M.A. (Dalhousie), PhD. (Alberta)
Geoffrey Rockwell/B.A. (Haverford College), M.A., Ph.D. (Toronto)

Courses If no prerequisite is listed, the course is open.

MMEDIA 1A03 INTRODUCTION TO COMPUTERS IN THE HUMANITIES
An introduction to issues in Humanities Computing. Students will study the history and present state of computing and information technology with particular attention given to issues around communication and electronic texts. Students will also learn skills such as word processing, electronic mail, electronic textbases, how to browse the Internet and how to create a WWW page.
One lecture (two hours); one tutorial; one term
Antirequisite: HUMAN 2E03
Enrolment is limited.

MMEDIA 1B03 THE DIGITAL IMAGE
An introduction to the critique and creation of digital images. Readings will explore issues concerning the digital image and graphic design for the Internet. Students will be expected to use graphics software and create WWW pages in order to complete design assignments.
One lecture (two hours); one tutorial; one term
Antirequisite: HUMAN 2H03
Enrolment is limited.

MMEDIA 1C03 WRITING IN THE ELECTRONIC AGE
An introduction to grammar and essay composition in the context of new writing technologies. Students will use supplementary writing software, WWW materials, e-mail discussion lists and readings to explore the effects of information technology on communication.
One lecture; one tutorial; one lab; one term
Antirequisite: HUMAN 1A03
Enrolment is limited.

MMEDIA 2A03 INTRODUCTION TO MULTIMEDIA
This course presents arts students with the fundamentals of computer-based multimedia. Students will read about and discuss how to critique multimedia works, create such works, and consider the application of multimedia technology.
One lecture (two hours); one tutorial; one term
Prerequisite: One of MMEDIA 1A03 or 1B03, HUMAN 2E03 or 2H03
Antirequisite: HUMAN 3G03
Enrolment is limited.
MMEDIA 2B03  DIGITAL MEDIA (AUDIO AND VIDEO)
A study of digital media where students will create and critique digital audio and video. Readings will explore the evolution of digital media and the technical and social aspects of digital audio and video.
One lecture (two hours); one tutorial; one term
Prerequisite: One of MMEDIA 1A03 or 1B03, HUMAN 2E03 or 2H03
Enrolment is limited.

MMEDIA 2C05  COMPUTER ARCHITECTURE AND NETWORK SERVICES
Students will study the fundamentals of microcomputers, operating systems, and network systems. Emphasis will be on knowledge of the hardware, operating systems and network services used in the area of multimedia. Readings will cover the history of computing, networking, and the Internet.
Two lectures (one hour); one lab (three hours) every other week; two terms
Prerequisite: Registration in Level II of the Combined Honours in Multimedia Programme
Enrolment is limited.

MMEDIA 2D03  ELECTRONIC TEXTS AND THEIR STUDY
An introduction to the fundamentals of computer-assisted text-analysis in the humanities. In the context of humanities research, students will learn to use text-analysis tools and will be introduced to computational linguistics. Students will be expected to work on projects related to another subject.
One lecture (two hours); one tutorial; one term
Prerequisite: One of MMEDIA 1A03, 1B03, 2E03 or 2H03
Antirequisite: HUMAN 3F03
Enrolment is limited.

MMEDIA 2E03  COMPUTER GRAPHICS
This course develops both technical and conceptual aspects of computer drawing using standard computer graphics tools. Students will concentrate on developing drawing abilities through the computer and will be expected to present their work and discuss that of others.
One lecture (one hour); one tutorial (one hour); one hour of independent study; one term
Prerequisite: MMEDIA 1B03 or HUMAN 2H03
Enrolment is limited.

MMEDIA 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
Cross-list: ART HIST 2F03

MMEDIA 2G03  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 Programme
Enrolment is limited.

MMEDIA 2H03  INTRODUCTION TO ANIMATION
This class will begin with an introduction to the history and basic principles of animation. Students will be expected to create a significant work of computer animation in which they display a variety of techniques. Readings and discussions will cover theatre, film studies and narrative. Students will be expected to attend screenings.
One lecture (two hours); one tutorial/screening; one term
Prerequisite: MMEDIA 1B03 or HUMAN 2H03
Enrolment is limited.

MMEDIA 2I03  RHETORIC AND COMMUNICATION IN THE ELECTRONIC AGE
An introduction to the history of rhetoric, the study of classical and electronic examples of oral discourse. Students will analyze the persuasive technique of examples of oral communication collected from print and electronic media. There will be a practicum where students deliver an expository speech with multimedia support.
Two lectures; one tutorial; one term
Prerequisite: Registration in Level II or above
Antirequisite: HUMAN 2J03
Enrolment is limited.

MMEDIA 3A03  ADVANCED MULTIMEDIA
A study of multimedia programming. This course expands upon the issues and techniques introduced in MMEDIA 2A03. Students will design and develop multimedia applications that combine text, images, sound, video, and animation. Critical readings and discussion will cover theories of interactivity, hypertext, and instructional technology.
One lecture (two hours); one tutorial; one term
Prerequisite: MMEDIA 2A03 or HUMAN 3G03
Enrolment is limited.

MMEDIA 3B03  TOPICS IN THE PHILOSOPHY AND HISTORY OF COMPUTING
One lecture (two hours); one tutorial; one term
Prerequisite: One of MMEDIA 1A03 or 1C03, HUMAN 1A03 or 2E03
Antirequisite: HUMAN 3A03
MMEDIA 3B03 may be repeated, on a different topic, a total of six units.

MMEDIA 3C03  ADVANCED COMPUTER MUSIC
Digital audio workstations, including hard disk recording techniques, computer scoring, and multimedia applications. Students will be responsible for at least one extended original work which may be produced in collaboration with other students in this or another approved course.
Two lectures; one tutorial; one term
Prerequisite: MMEDIA 2G03
Enrolment is limited.

MMEDIA 3D03  TECHNICAL WRITING AND COMMUNICATION
An introduction to technical writing and documentation. Students will explore issues such as audience analysis, the role of jargon and specialized language. Students will be asked to complete a project of their own devising, including a proposal, a final report, and a videotaped presentation.
One lecture (two hours); one tutorial; one term
Prerequisite: One of MMEDIA 1C03, 2I03, HUMAN 1A03 or 2J03
Antirequisite: HUMAN 3B03
Enrolment is limited.

MMEDIA 3E03  HYPERTEXT THEORY
This class will consider the history of hypertext systems and key theoretical issues in the area of hypertext and hypermedia. Students will be expected to try significant hypertext systems and read current theories of hypertext. Assignments will include reviews of hypertexts, presentations, and the creation of a hypertext essay.
One lecture (two hours); one tutorial; one term
Prerequisite: One of MMEDIA 1A03 or 1C03, HUMAN 1A03 or 2E03

MMEDIA 3F03  HUMAN COMPUTER INTERFACE DESIGN
This course explores the history and design of computer interfaces. A variety of design approaches and techniques will be surveyed to understand the relationship between computers and people. Topics such as usability and evaluation of computer interfaces: drama, narrative, and interface; interface and representation; and the politics of interface design will be covered.
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 Programme
Enrolment is limited.

MMEDIA 4A03  THE MANAGEMENT OF MULTIMEDIA
Multimedia development requires collections of media and teams of developers. Students will study case histories, learn how to build and manage content collections and learn how to lead and participate in team-based multimedia production. Readings will 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 Programme

MMEDIA 4B03  SENIOR THESIS PROJECT
The Senior Thesis Project provides students with an opportunity to pursue an individual advanced multimedia project under the supervision of a Thesis Committee. Students will propose a multimedia project and have it approved by the Multimedia Programme Committee. Students will be expected to present their completed project publicly.
Prerequisite: Registration in Level IV of the Combined Honours in Multimedia Programme
**MUSIC**

Courses and programmes in Music are administered within the School of Art, Drama and Music of the Faculty of Humanities.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUSIC 1A06</td>
<td>INTRODUCTION TO MUSIC</td>
<td>An introductory survey of Western art music from ancient times to the present. The historical development of styles and genres within major music periods. Instruction in elementary theory. No previous musical knowledge required. Three lectures; two terms. Antirequisite: Registration in Honours Music.</td>
</tr>
<tr>
<td>MUSIC 1B06</td>
<td>HISTORY OF WESTERN MUSIC (c. 500-1600)</td>
<td>A survey of medieval, renaissance, baroque and classical music. Includes consideration of performance practices, and influences of the other arts and of socio-political developments. Three lectures, one tutorial; two terms. Prerequisite: Registration in a Music programme; or MUSIC 1A06 or permission of the School of Art, Drama and Music.</td>
</tr>
<tr>
<td>MUSIC 1CC3</td>
<td>HARMONY</td>
<td>The analysis and writing of functional harmony. Includes study of music by J.S. Bach and others. Three lectures; two terms. Prerequisite: Registration in a Music programme, or qualifying tests.</td>
</tr>
<tr>
<td>MUSIC 1D03</td>
<td>AURAL SKILLS</td>
<td>Sight-singing and dictation. Two lectures; one lab; two terms. Prerequisite: Registration in a Music programme, or qualifying tests.</td>
</tr>
<tr>
<td>MUSIC 1E06</td>
<td>SOLO PERFORMANCE</td>
<td>Intensive study of the technique and repertoire of an orchestral instrument, piano, organ, harpsichord, voice, recorder, saxophone, or guitar. 12 one-hour meetings per term; two terms. Prerequisite: Registration in a Music programme or permission of the School of Art, Drama and Music.</td>
</tr>
<tr>
<td>MUSIC 1G03</td>
<td>ENSEMBLE PERFORMANCE</td>
<td>McMaster Chamber Orchestra, McMaster University Choir, McMaster Concert Band, McMaster Jazz Band, or any other ensemble approved by the School of Art, Drama and Music. Successful audition required.</td>
</tr>
<tr>
<td>MUSIC 2A03</td>
<td>POPULAR MUSIC</td>
<td>A survey of 20th-century popular music from the late 1940’s to the present. Topics include: rhythm and blues (Chuck Berry), rock and roll (Led Zeppelin), and punk (Sex Pistols). Three lectures; one term. Prerequisite: Registration in Level II or above.</td>
</tr>
<tr>
<td>MUSIC 2B03</td>
<td>HISTORY OF WESTERN MUSIC (c. 1800-1914)</td>
<td>A survey of romantic and postromantic music. Three lectures; one term. Prerequisite: MUSIC 1B06.</td>
</tr>
<tr>
<td>MUSIC 2BB3</td>
<td>HISTORY OF WESTERN MUSIC (c. 1914 TO THE PRESENT)</td>
<td>A survey of 20th-century music. Three lectures; one term. Prerequisite: MUSIC 2B03 or 2B06.</td>
</tr>
<tr>
<td>MUSIC 2C03</td>
<td>MODAL COUNTERPOINT</td>
<td>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. Two lectures, term one; one lecture, term two. Prerequisite: Registration in a Music programme, or qualifying tests.</td>
</tr>
<tr>
<td>MUSIC 2C06</td>
<td>SOLO PERFORMANCE</td>
<td>A continuation of MUSIC 1E06. 12 one-hour meetings per term; two terms. Prerequisite: MUSIC 1E06 or 1E08, registration in a Music programme or permission of the School of Arts, Drama and Music. Lesson fees are charged to students taking MUSIC 2C06 if the course is not a specific requirement for their music degree programme.</td>
</tr>
<tr>
<td>MUSIC 2D03</td>
<td>KEYBOARD HARMONY</td>
<td>Keyboard Harmony. Two lectures; two terms. Prerequisite: Registration in a Music programme, or qualifying tests.</td>
</tr>
<tr>
<td>MUSIC 2E06</td>
<td>TOPICS IN MUSIC HISTORY: MEDIEVAL AND/OR RENAISSANCE MUSIC</td>
<td>Previous topics include: Gregorian chant, The Renaissance Madrigal. Consult the School of Art, Drama and Music concerning topic to be offered. Seminar (two hours); one term. Prerequisite: MUSIC 2B06 or 2B08, registration in Honours Music, or permission of the School of Art, Drama and Music.</td>
</tr>
<tr>
<td>MUSIC 2F03</td>
<td>ENSEMBLE PERFORMANCE</td>
<td>McMaster Chamber Orchestra, McMaster University Choir, McMaster Concert Band, McMaster Jazz Band, or any other ensemble approved by the School of Art, Drama and Music. Successful audition required.</td>
</tr>
<tr>
<td>MUSIC 2G03</td>
<td>ELEMENTARY MUSIC EDUCATION</td>
<td>A survey of elementary music education methods such as those of Kodaly, Orff and Suzuki. Three lectures; one term. Prerequisite: MUSIC 1A06 or 18 units of Music.</td>
</tr>
<tr>
<td>MUSIC 2H03</td>
<td>ANALYSIS</td>
<td>The traditional forms of Western art music as found in works by composers such as Bach, Mozart, Beethoven, and Brahms. Three lectures; one term. Prerequisite: MUSIC 1C03.</td>
</tr>
<tr>
<td>MUSIC 2J03</td>
<td>TOPICS IN MUSIC HISTORY: MUSIC OF THE ROMANTIC ERA</td>
<td>Previous topics include: Liszt’s Symphonic Poems, 19th-Century Piano Music. Consult the School of Art, Drama and Music concerning topic to be offered. Seminar (two hours); one term. Prerequisite: MUSIC 2B06 or 2B08, registration in Honours Music, or permission of the School of Art, Drama and Music.</td>
</tr>
<tr>
<td>MUSIC 2K03</td>
<td>SYMPHONY</td>
<td>McMaster Symphony. Consult the School of Art, Drama and Music concerning topic to be offered. Seminar (two hours); one term. Prerequisite: MUSIC 2B06 or 2B08, registration in Honours Music, or permission of the School of Art, Drama and Music.</td>
</tr>
<tr>
<td>MUSIC 2L03</td>
<td>ENSEMBLE PERFORMANCE</td>
<td>McMaster Chamber Orchestra, McMaster University Choir, McMaster Concert Band, McMaster Jazz Band, or any other ensemble approved by the School of Art, Drama and Music. Successful audition required.</td>
</tr>
<tr>
<td>MUSIC 2M03</td>
<td>TOPICS IN MUSIC HISTORY: MUSIC OF THE ROMANTIC ERA</td>
<td>Previous topics include: Liszt’s Symphonic Poems, 19th-Century Piano Music. Consult the School of Art, Drama and Music concerning topic to be offered. Seminar (two hours); one term. Prerequisite: MUSIC 2B06 or 2B08, registration in Honours Music, or permission of the School of Art, Drama and Music.</td>
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<tr>
<td>MUSIC 2N03</td>
<td>SYMPHONY</td>
<td>McMaster Symphony. Consult the School of Art, Drama and Music concerning topic to be offered. Seminar (two hours); one term. Prerequisite: MUSIC 2B06 or 2B08, registration in Honours Music, or permission of the School of Art, Drama and Music.</td>
</tr>
<tr>
<td>MUSIC 2O03</td>
<td>ENSEMBLE PERFORMANCE</td>
<td>McMaster Chamber Orchestra, McMaster University Choir, McMaster Concert Band, McMaster Jazz Band, or any other ensemble approved by the School of Art, Drama and Music. Successful audition required.</td>
</tr>
<tr>
<td>MUSIC 2P03</td>
<td>TOPICS IN MUSIC HISTORY: MUSIC OF THE ROMANTIC ERA</td>
<td>Previous topics include: Liszt’s Symphonic Poems, 19th-Century Piano Music. Consult the School of Art, Drama and Music concerning topic to be offered. Seminar (two hours); one term. Prerequisite: MUSIC 2B06 or 2B08, registration in Honours Music, or permission of the School of Art, Drama and Music.</td>
</tr>
<tr>
<td>MUSIC 2Q03</td>
<td>SYMPHONY</td>
<td>McMaster Symphony. Consult the School of Art, Drama and Music concerning topic to be offered. Seminar (two hours); one term. Prerequisite: MUSIC 2B06 or 2B08, registration in Honours Music, or permission of the School of Art, Drama and Music.</td>
</tr>
<tr>
<td>MUSIC 2R03</td>
<td>ENSEMBLE PERFORMANCE</td>
<td>McMaster Chamber Orchestra, McMaster University Choir, McMaster Concert Band, McMaster Jazz Band, or any other ensemble approved by the School of Art, Drama and Music. Successful audition required.</td>
</tr>
<tr>
<td>MUSIC 2S03</td>
<td>TOPICS IN MUSIC HISTORY: MUSIC OF THE ROMANTIC ERA</td>
<td>Previous topics include: Liszt’s Symphonic Poems, 19th-Century Piano Music. Consult the School of Art, Drama and Music concerning topic to be offered. Seminar (two hours); one term. Prerequisite: MUSIC 2B06 or 2B08, registration in Honours Music, or permission of the School of Art, Drama and Music.</td>
</tr>
<tr>
<td>MUSIC 2T03</td>
<td>SYMPHONY</td>
<td>McMaster Symphony. Consult the School of Art, Drama and Music concerning topic to be offered. Seminar (two hours); one term. Prerequisite: MUSIC 2B06 or 2B08, registration in Honours Music, or permission of the School of Art, Drama and Music.</td>
</tr>
<tr>
<td>MUSIC 2U03</td>
<td>ENSEMBLE PERFORMANCE</td>
<td>McMaster Chamber Orchestra, McMaster University Choir, McMaster Concert Band, McMaster Jazz Band, or any other ensemble approved by the School of Art, Drama and Music. Successful audition required.</td>
</tr>
<tr>
<td>MUSIC 2V03</td>
<td>TOPICS IN MUSIC HISTORY: MUSIC OF THE ROMANTIC ERA</td>
<td>Previous topics include: Liszt’s Symphonic Poems, 19th-Century Piano Music. Consult the School of Art, Drama and Music concerning topic to be offered. Seminar (two hours); one term. Prerequisite: MUSIC 2B06 or 2B08, registration in Honours Music, or permission of the School of Art, Drama and Music.</td>
</tr>
<tr>
<td>MUSIC 2W03</td>
<td>SYMPHONY</td>
<td>McMaster Symphony. Consult the School of Art, Drama and Music concerning topic to be offered. Seminar (two hours); one term. Prerequisite: MUSIC 2B06 or 2B08, registration in Honours Music, or permission of the School of Art, Drama and Music.</td>
</tr>
<tr>
<td>MUSIC 2X03</td>
<td>ENSEMBLE PERFORMANCE</td>
<td>McMaster Chamber Orchestra, McMaster University Choir, McMaster Concert Band, McMaster Jazz Band, or any other ensemble approved by the School of Art, Drama and Music. Successful audition required.</td>
</tr>
<tr>
<td>MUSIC 2Y03</td>
<td>TOPICS IN MUSIC HISTORY: MUSIC OF THE ROMANTIC ERA</td>
<td>Previous topics include: Liszt’s Symphonic Poems, 19th-Century Piano Music. Consult the School of Art, Drama and Music concerning topic to be offered. Seminar (two hours); one term. Prerequisite: MUSIC 2B06 or 2B08, registration in Honours Music, or permission of the School of Art, Drama and Music.</td>
</tr>
</tbody>
</table>
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 2E03 or 2E05
Antirequisite: MUSIC 3E06
Lesson fees are charged to students taking MUSIC 3E03 if the course is not a specific requirement for their music degree programme.

MUSIC 3E06
SOLO PERFORMANCE
A continuation of MUSIC 2E06.
12 one-hour meetings per term; two terms
Prerequisite: MUSIC 2E03 or 2E06
Antirequisite: MUSIC 3E03
Lesson fees are charged to students taking MUSIC 3E06 if the course is not a specific requirement for their music degree programme.

MUSIC 3G03
ENSEMBLE PERFORMANCE
McMaster Chamber Orchestra, McMaster University Choir, McMaster Concert Band, McMaster Jazz Band, or any other ensemble approved by the School of Art, Drama, and Music.
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 and 2H03 and registration in Honours Music Offered in alternate years.
Enrolment is limited.

MUSIC 3J03
ORCHESTRATION AND ARRANGING
A study of the orchestral/band instruments; scoring of music for various ensembles.
Two lectures; two terms
Prerequisite: MUSIC 2C03 and 2D03 and registration in a Music programme

MUSIC 3K03
BRASS METHODS
A study of the basic techniques of playing brass instruments. Brass literature for various educational levels. No previous study of brass required.
The instruments studied differ from those studied in MUSIC 4K03.
Two lectures, one lab; one term
Prerequisite: Registration in Honours Music or permission of the School of Art, Drama and Music
Alternates with MUSIC 4K03.
Enrolment is limited.

MUSIC 3L03
WOODWIND METHODS
A study of the basic techniques of playing woodwind instruments. Woodwind literature for various educational levels. No previous study of woodwinds required.
The instruments studied differ from those studied in MUSIC 4L03.
Two lectures, one lab; one term
Prerequisite: Registration in Honours Music or permission of the School of Art, Drama and Music
Alternates with MUSIC 4L03.
Enrolment is limited.

MUSIC 3M03
STRING METHODS
A study of the basic techniques of playing string instruments. String literature for various educational levels. No previous study of strings required.
The instruments studied differ from those studied in MUSIC 4M03.
Two lectures; two terms
Prerequisite: Registration in Honours Music or permission of the School of Art, Drama and Music
Alternates with MUSIC 4M03.
Enrolment is limited.

MUSIC 3N03
VOCAL METHODS
A study of the basic techniques of singing. The organization, conducting, and rehearsing of a choir. Choral literature. No previous study of voice required. Techniques and materials focus on the primary and junior levels.
Two lectures; one term
Prerequisite: Registration in Honours Music or permission of the School of Art, Drama and Music
Alternates with MUSIC 4N03.
Enrolment is limited.

MUSIC 3O03
CONDUCTING
Fundamental conducting techniques applied to works selected from the standard repertoire.
Three lectures; one term
Prerequisite: MUSIC 2D03 and registration in Honours Music or permission of the School of Art, Drama and Music
Enrolment is limited.

MUSIC 3P03
PERCUSSION METHODS
A study of the basic techniques of playing percussion instruments. Percussion literature for various educational levels. No previous study of percussion required.
Two lectures; one term
Prerequisite: Registration in Honours Music or permission of the School of Art, Drama and Music
Antirequisite: MUSIC 4P03
Enrolment is limited.

MUSIC 3R03
RESEARCH METHODS AND BIBLIOGRAPHY
An examination of the major reference and bibliographic sources. Historical, analytical, and critical methods of research.
Two lectures; one term
Prerequisite: MUSIC 2R03 or 2N03 and registration in Honours Music Offered in alternate years.
Enrolment is limited.

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 III 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
MUSIC EDUCATION SEMINAR
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 programme
Offered in alternate years.
Enrolment is limited.

MUSIC 3W03
TOPICS IN MUSIC HISTORY: BAROQUE AND/OR CLASSICAL MUSIC
Previous topics include: Choral music of Bach and Handel, Beethoven's Piano Sonatas. Consult the School of Art, Drama and Music concerning topic to be offered.
Seminar (two hours); one term
Prerequisite: MUSIC 2B03 or 2B06, registration in Honours Music or permission of the School of Art, Drama and Music
Alternates with MUSIC 4B03.

MUSIC 3X03
TOPICS IN MUSIC HISTORY: MUSIC OF THE 20TH CENTURY
Previous topics include: The Evolution of the Avant-garde, Shostakovich and the Soviet Union. Consult the School of Art, Drama and Music concerning topic to be offered.
Seminar (two hours); one term
Prerequisite: MUSIC 2B03 or 2B06, registration in Honours Music or permission of the School of Art, Drama and Music
Alternates with MUSIC 4B03.

MUSIC 4A03
HARMONY AND COUNTERPOINT
Advanced studies in the writing an analysis of classical and romantic music.
Seminar (two hours); one term
Prerequisite: MUSIC 3C03 and registration in Honours Music
Offered in alternate years.
Enrolment is limited.

MUSIC 4B03
TOPICS IN MUSIC HISTORY: BAROQUE AND/OR CLASSICAL MUSIC
Previous topics include: The Evolution of the Avant-garde, Shostakovich and the Soviet Union. Consult the School of Art, Drama and Music concerning topic to be offered.
Seminar (two hours); one term
Prerequisite: MUSIC 2B03 or 2B06, registration in Honours Music or permission of the School of Art, Drama and Music
Alternates with MUSIC 4B03.

MUSIC 4C03
HARMONY AND COUNTERPOINT
Advanced studies in the writing an analysis of classical and romantic music.
Seminar (two hours); one term
Prerequisite: MUSIC 3C03 and registration in Honours Music
Offered in alternate years.
Enrolment is limited.

MUSIC 4E03
SOLO PERFORMANCE
A continuation of MUSIC 3E03 or 3E06.
12 one-hour meetings; one term
Prerequisite: MUSIC 2E03 or 3E06
Antirequisite: MUSIC 4E06
Lesson fees are charged to students taking MUSIC 4E03 if the course is not a specific requirement for their music degree programme.

MUSIC 4E06
SOLO PERFORMANCE
A continuation of MUSIC 3E06 or 3E03.
12 one-hour meetings per term; two terms
Prerequisite: MUSIC 3E03 or 3E06
Antirequisite: MUSIC 4E03
Lesson fees are charged to students taking MUSIC 4E06 if the course is not a specific requirement for their music degree programme.
MUSIC 4G03 ENSEMBLE PERFORMANCE
McMaster Chamber Orchestra, McMaster University Choir, McMaster Concert Band, McMaster Jazz Band, or any other ensemble approved by the School of Art, Drama and Music.
Prerequisite: MUSIC 3G03 and successful audition

MUSIC 4H63 ANALYSIS
Advanced studies in analysis.
Seminar (two hours); one term
Prerequisite: MUSIC 2H03; either MUSIC 2BB3 or 2CC3 and registration in Honours Music
Offered in alternate years.
Enrolment is limited.

MUSIC 4J03 AESTHETICS AND CRITICISM
Philosophies of music. A discussion of major theories from the ancient Greeks to the present.
Seminar (two hours); one term
Prerequisite: One of MUSIC 2B03, 2B06 or one of MUSIC 2BB3, 3Y03 and registration in Honours Music
Offered in alternate years.
Enrolment is limited.

MUSIC 4K03 BRASS METHODS
A study of the basic techniques of playing brass instruments. Brass literature for various educational levels. No previous study of brass required. The instruments studied differ from those studied in MUSIC 3K03.
Two lectures, one lab; one term
Prerequisite: Registration in Honours Music, or permission of the School of Art, Drama and Music
Alternates with MUSIC 3K03.
Enrolment is limited.

MUSIC 4L03 WOODWIND METHODS
A study of the basic techniques of playing woodwind instruments. Woodwind literature for various educational levels. No previous study of woodwinds required. The instruments studied differ from those studied in MUSIC 3L03.
Two lectures, one lab; one term
Prerequisite: Registration in Honours Music, or permission of the School of Art, Drama and Music
Alternates with MUSIC 3L03.
Enrolment is limited.

MUSIC 4M03 STRING METHODS
A study of the basic techniques of playing string instruments. String literature for various educational levels. No previous study of strings required. The instruments studied differ from those studied in MUSIC 3M03.
Two lectures; two terms
Prerequisite: Registration in Honours Music, or permission of the School of Art, Drama and Music
Alternates with MUSIC 3M03.
Enrolment is limited.

MUSIC 4N03 VOCAL METHODS
A study of the basic techniques of singing. The organization, conducting, and rehearsing of a choir. Choral literature. No previous study of voice required. Techniques and materials focus on the intermediate and senior levels and beyond.
Two lectures; one term
Prerequisite: Registration in Honours Music, or permission of the School of Art, Drama and Music
Alternates with MUSIC 3N03.
Enrolment is limited.

MUSIC 4P03 PERCUSSION METHODS
A continuation of MUSIC 3P03.
One lecture, term one (choral); two lectures, term two (instrumental)
Prerequisite: MUSIC 3P03, and registration in Honours Music or permission of the School of Art, Drama and Music
Enrolment is limited.

MUSIC 4Q03 ADVANCED CONDUCTING
A continuation of MUSIC 3Q03.
One lecture, term one (choral); two lectures, term two (instrumental)
Prerequisite: MUSIC 3Q03, and registration in Honours Music or permission of the School of Art, Drama and Music
Enrolment is limited.

MUSIC 4R03 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 programme
Offered in alternate years.

MUSIC 4S03 SPECIAL STUDIES
Advanced supervised study in any area offered and approved by the School of Art, Drama and Music.
Times to be arranged between the student and instructor; one term
Prerequisite: Registration in Level IV of an Honours Music programme, and permission of the School of Art, Drama and Music.

MUSIC 4U03 JAZZ IMPROVISATION
Study and performance of jazz improvisations in various styles.
Two hours; one term
Prerequisite: MUSIC 3U03 and permission of the instructor
Offered in alternate years.

MUSIC 4V03 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
Offered in alternate years.

MUSIC 4Z03 COMPOSITION
The composition of various instrumental or vocal works.
Times to be arranged between the student and instructor; one term
Prerequisite: Registration in Level III or IV of an Honours Music programme, and permission of the instructor

NEURAL COMPUTATION

The Neural Computation Programme is administered within the Faculty of Science through a committee of instruction consisting of Dr. S. Haykin (Electrical and Computer Engineering), Dr. R. Racine (Psychology), Dr. S. Becker (Psychology), Dr. N. Balakrishnan (Mathematics and Statistics) and Dr. W. Smyth (Computing and Software) and draws on the Departments of Psychology, Mathematics and Statistics and Computing and Software.

Courses
If no prerequisite is listed, the course is open.

NEUROCOMP 3W03 NEURAL COMPUTATION
An introduction to the use of neural network computational models for understanding the neural bases of psychological processes, and for solving real-world problems.
Three lectures; one term
Prerequisite: COMP SCI 1MC3 or COMP SCI 1SA3 with a grade of at least B+ and one of MATH 1A03, 1N03, ARTS ASC 1D06. MATH 1B03 is strongly recommended.
Cross-list: PSYCH 3W03

NEUROCOMP 4D09 NEURAL COMPUTATION THESIS
Students conduct research projects with individual faculty members
Prerequisite: Registration in Level IV of Honours Neural Computation

Related Courses

BIOCHEM 2E03 Metabolism and Physiological Chemistry
BIOLOGY 2B03 Cell Biology
2C03 Genetics
4T03 Neurobiology

CHEM 2E03 Introductory Organic Chemistry

COMP SCI 3G03 Introduction to Computer Graphics
3S03 Computer Simulation Techniques
3T3A Introduction to Automata and Formal Language
4D03 Artificial Intelligence and Knowledge-Based Systems
4TC3 Recursive Function Theory and Computability

MATH 2E03 Introduction to Modelling
2P04 Differential Equations for Engineering
4S03 The Theory of Computability

PSYCH 2E03 Sensory Processes
2F03 Fundamentals of Neuroscience
2H03 Human Learning and Cognition
3FA3 The Neurobiology of Learning and Memory
3J03 Neuropsychology of Vision
3W03 Measuring The Mind
4I03 Computational Models of Mind and Brain

STATS 3D06 Mathematical Statistics
NURSE PRACTITIONER

(SEE NURSING, NURSE PRACTITIONER (C) STREAM)

NURSING

Faculty as of January 15, 1999

Associate Dean of Health Sciences (Nursing) and Director of the School of Nursing

Andrea Baumann

Associate Professors

Andrea Baumann/ B.Sc.N. (Windeor), M.Sc.N. (Western Ontario), Ph.D. (Toronto), R.N.
Gina Brown/ B.Sc.N. (Catherine Spaulding), M.S. (Boston), M.Ed., Ph.D. (Toronto), R.N.
Joan Crook/ B.Sc. (Niagara), M.A. (Dahlhouse), M.Sc. (McMaster), Ph.D. (Toronto), R.N.
Alba DiCenso/ B.Sc.N., M.Sc. (McMaster), Ph.D. (Waterloo), R.N.
Jo-Ann Fox-Threlkill/ B.Sc.N. (New Brunswick), M.Sc., Ph.D. (Queen's), R.N.
Susan French/ B.N. (McGill), M.S. (Boston), Ph.D. (Toronto), R.N.
Leah Parisi/ B.Sc.N. (Ohio State), M.A. (Lindonwood), Ed.D. (Peppardine), J.D. (Loyoila), R.N.
Robin Wein/ B.Sc.N. (Western Ontario), M.Sc. (Boston), M.Ed., Ph.D. (Toronto), R.N.

Associate Professors

Heather Arthur/ B.Sc.N. (McMaster), M.Sc.N., Ph.D. (Toronto), R.N.
Margaret Black/ B.Sc.N. (McGill), M.Sc.N. (Case Western Reserve), Ph.D. (Michigan), R.N.
Carolyn Byme/ M.H.Sc. (McMaster), R.N.
Donna Cifiska/ B.Sc.N., M.Sc.N. (Western Ontario), Ph.D. (Toronto), R.N.
Patricia Ellis/ B.Sc.N. (McGill), M.S. (Maryland), R.N.
Mary Fawcett/ B.Sc.N., M.H.Sc. (McMaster), CNN(C) (CNA), R.N.
Mabel Hunsberger/ B.S. (Goshen), M.Sc.N. (Pennsylvania), R.N.
Basant Majumdar/ B.Sc.N.(N.), M.Sc.N. (Delhi), M.Ed. (Columbia), Ph.D. (Michigan), R.N.
Ann Mohide/ B.Sc.N. (Toronto), M.H.Sc., M.Sc. (McMaster), R.N.
Janet Pinelli/ B.S. (Boston), M.Sc.N. (Toronto), D.N.S. (Buffalo), R.N.
Elizabeth Rideout/ B.Sc.N. (New Brunswick), M.H.Sc. (McMaster), M.Sc.N., Ph.D. (Toronto), R.N.
Jackie Roberts/ B.Sc.N., M.Sc. (McMaster), R.N.
Joan Royle/ B.Sc.N. (McMaster), M.Sc.N. (Toronto), R.N.
HeLEN Thomas/ B.Sc.N. (Queen's), M.Sc. (Waterloo), R.N.
Catherine Tompkins/ B.Sc.N. (Western Ontario), M.Ed. (Toronto), Ph.D. (California), R.N.

Assistant Professors

Gertrude Benson/ B.N. (McGill), M.Sc.N. (Boston), R.N.
Jennifer Blythe/ B.A. (Hull), M.A., Ph.D. (McMaster), M.L.S. (Toronto), R.N.
Seryl Bobin-Cummings/ B.Sc.N. (Alberta), M.Ed. (Alberta), Ph.D. (Toronto), R.N.
Denise Bryant-Lukosius/ B.Sc.N. (McMaster), M.Sc.N. (D'Youville), R.N.
Barbara Carpio/ B.Sc.N. (Alberta), M.Sc.N. (Toronto), M.Sc.(?) (McMaster), R.N.
Dauna Crooks/ B.Sc.N. (Toronto), M.Sc.N. (Western Ontario), D.N.S. (SUYN), R.N.
Michelle Drummond-Young/ B.Sc.N., M.H.Sc. (McMaster), R.N.
Anne Ehrlich/ B.Sc.N. (Queen's), M.Sc.N. (Toronto), R.N.
Heather Hoxby/ B.Sc.N., M.H.Sc. (McMaster), R.N.
Carolyn Ingram/ B.Sc.N. (Pittsburgh), M.Sc.N. (Maryland), R.N.
Michel LaDouceur/ B.S.N. (Victoria), M.P.H. (Boston), R.N.
Janet Landeen/ B.Sc.N. (Connecticut), M.Ed. (Victoria), R.N.
Jeanette LeGris/ B.N. (Manitoba), M.H.Sc. (McMaster), R.N.
Barbara Love/ B.Sc.N. (Toronto), M.H.Sc. (McMaster), R.N.
Glenda Lunny-Chill/ B.Sc.N. (McMaster), M.Sc.N. (Toronto), R.N.
Johanne Mousseau/ B.A. (Western Ontario), M.Sc. (McMaster), R.N.
Charlotte Noegegaard/ B.N. (McGill), M.Sc.N. (Western Ontario), R.N.
Cottie Otsu/ B.Sc.N. (McMaster), M.Ed. (Brock), Ph.D. (Toronto).
Linda O'Mara/ B.N., M.Sc.N. (McGill), R.N.
Marilyn Parsons/ B.Sc.N. (Queen's), M.H.Sc. (McMaster), R.N.
Chris Peterson/ B.Sc. (Waterloo), B.Sc.N. (McMaster), M.Sc.N. (Western Ontario), R.N.
Jenny Plaeg/ B.Sc.N., M.Sc.N. (Western Ontario), R.N.
Ott Sanchez-Sweetman/ M.Sc. (Toronto), Ph.D. (McMaster)
Dyanna Semegash/ B.N. (McGill), M.N. (Washington), R.N.
Jennifer Skelly/ M.Sc.N. (McMaster), Ph.D. (Toronto), R.N.
Wendy Sword/ B.Sc.N., M.Sc.(T) (McMaster), Ph.D. (Guelph), R.N.
Ruta Vaisaitis/ B.A., B.Sc.N. (Windsor), M.H.Sc. (McMaster), R.N.

Lecturer

Claire Mallette/ B.Sc.N. (McGill), M.Sc. (Toronto)

The Aga Khan University Based Faculty

Suzan Beato/ B.A. (Newcastle), M.Ed. (Manchester)
Anita Fisher/ B.A. (Windsor), M.H.Sc. (McMaster)
Marilane Lee/ B.A., B.Sc.N. (St. Louis), M.N. (S. Carolina)
Donna Seger/ B.Sc.N., M.Sc.N. (McMaster)
Grace Stanley/ B.N. (McGill), M.N. (Calgary)

Professors Emeriti

E. Mary Buzzell/ B. (McGill), M.Sc.N., M.Ed. (Boston), R.N.
Alina Reid/ B.A. (Toronto), R.N.
Karin von Schilling/ B.Sc.N. (Toronto), M.Sc.N. (California), R.N.

Note:
The School of Nursing has a large number of part-time faculty appointed from community health-care agencies. A complete list is available from the office of the Associate Dean of Health Sciences (Nursing).

School Notes:

1. This course listing is divided into eight parts:
   Basic (A) Stream: Those courses taken only by students registered in the B.Sc.N. programme, (A) Stream.
   Post-Diploma R.N. (B) Stream: Those courses taken only by students registered in the B.Sc.N. programme, (B) Stream.
   (A) and (B) Stream: Those courses taken by students registered in the B.Sc.N. programme, (A) or (B) Stream.
   Nurse Practitioner (C) Stream: Those courses taken only by students registered in the B.Sc.N. Nurse Practitioner programme, (C) Stream or Nurse Practitioner Certificate.
   Nursing Leadership/Management Courses: Those courses taken by nurses enrolled in the Nursing Management programme or by Diploma R.N (B) stream students with permission of the coordinator.
   Paediatric Oncology Courses: Those courses taken by nurses enrolled in the Paediatric Oncology programme.
   Adult Oncology Courses: Those courses taken by nurses enrolled in the Adult Oncology programme.
   Normally, registration in all courses above Level I will require satisfactory completion of the prerequisite Nursing courses with a grade of at least C+ in graded courses or a pass in clinical practice courses. (See the Faculty of Health Sciences, School of Nursing, Academic Regulations section in this Calendar.)
   Normally, Level I, II, III, and IV courses are available to Level I, II, III, and IV B.Sc.N. (A) and (B) Stream students respectively.
   The Nursing Leadership/Management courses are open to students registered in the Nursing Leadership/Management programme, which was previously administered and is currently endorsed by the Canadian Nurses Association. Students in the Diploma R.N. (B) stream may apply to the coordinator of the Nursing Leadership/Management programme for permission to take these courses.
   The Paediatric and Adult Oncology courses are respectively open to nurses working in or who have an interest in paediatric or adult oncology. A candidate must be currently registered as a nurse in a province or territory in Canada.

BASIC (A) STREAM...

Courses

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/problem-based tutorials); four hours (clinical lab); one term
Prerequisite: Registration in Level I of the B.Sc.N. (A) Stream
NURSING 1G04 INTRODUCTION TO NURSING AND HEALTH II
An introduction to reflective practice. Concepts and theories related to specific priority health issues are studied in problem-based tutorials. There is continued development of skills in health assessment and an introduction to health education. A clinical practice component includes laboratory and community experience. A continuation of NURSING 1F04.
Two and one half hours (lecture/problem-based tutorials); four hours (clinical lab); one term
Prerequisite: NURSING 1F04
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 and paediatric settings. This course is evaluated on a Pass/Fail basis. Nine hours (clinical lab); one term
Prerequisite: NURSING 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. A continuation of Nursing 1M03. Three hours (lecture/problem-based tutorials); one term
Prerequisite: NURSING 1M03
Normally to be taken concurrently with NURSING 2P03.
NURSING 2P03 GUIDED NURSING PRACTICE II
Planned and guided clinical practice in institutional setting. A continuation of Nursing 2L03. This course is evaluated on a Pass/Fail basis. Nine hours (clinical lab); one term
Prerequisite: NURSING 1F04
Normally to be taken concurrently with NURSING 2P03.
NURSING 2Q02 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 also provides experience in conducting a community assessment. Three hour (clinical lab) and one hour (lecture); one term
Prerequisite: NURSING 1G04
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 inferred to nursing practice. Two hours (lecture/student presentations); one term
Prerequisite: NURSING 2P03; HTH SCI 2250 or HTH SCI 2251
Normally to be taken concurrently with NURSING 3X04.
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); 13 weeks
Prerequisite: NURSING 2P03
Normally to be taken concurrently with NURSING 3Y04.
NURSING 3Y04 GUIDED NURSING PRACTICE IV
A continuation of Nursing 3X04 with emphasis on integration of scientific mechanisms. Twelve hours (clinical lab); 13 weeks
Prerequisite: NURSING 3X04
Normally to be taken concurrently with NURSING 3Z03.
NURSING 3Z03 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/probem-based tutorials); one term
Prerequisite: NURSING 2N03 and 2P03 for B.Sc.N. (A) Stream students or registration in Level III of the B.Sc.N. (B) or NP (C) Stream students
Normally to be taken concurrently with NURSING 3X04.
NURSING 3T03 NURSING CONCEPTS IN HEALTH AND ILLNESS I
A problem-based course in which students integrate theories from biological, physical, psychological, social and nursing sciences and apply them to health care situations. A continuation of Nursing 3T03.
Three hours (lecture/probem-based tutorials); one term
Prerequisite: NURSING 3T03 or registration in Level III of B.Sc.N. NP (C) Stream
Normally to be taken concurrently with NURSING 3Y04.
NURSING 4G07 GUIDED NURSING PRACTICE VI
A continuation of Nursing 4G07. This course is evaluated on a Pass/Fail basis. Normally to be taken concurrently with NURSING 4F03.
NURSING 4A02  CURRENT TRENDS AND ISSUES IN NURSING
issues facing the profession, and the implications of current changes in
the health field for future nursing practice.
Two hours (lecture/student presentation) every week; one term
Prerequisite: Registration in Level IV of the B.Sc.N. (A) or (B) Stream or Level III of the B.Sc.N. NP (C) Stream, or permission of the instructor

NURSING 4E03  ADVANCED NURSING CONCEPTS I
A problem based course in which students focus on theories and con­cepts related to client/patient care e.g., leadership and management, education of clients/patients, students, and staff. Student participation includes selecting appropriate situations and related theories for study, and identifying interventions and evaluation strategies.
Three hours (lecture/problem-based tutorials); one term
Prerequisite: NURSING 3T03 (for (A) and (B) Streams) and NURSING 3Y04 (for (A) Stream)

NURSING 4F03  ADVANCED NURSING CONCEPTS II
A problem based course in which students integrate concepts and theo­ries related to clinical practice issues. A continuation of NURSING 4E03.
Three hours (lecture/problem-based tutorials); one term
Prerequisite: NURSING 4E03

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 3B03 and registration in Level III or IV of the B.Sc.N. Programme or permission of the instructor
Antirequisite: HTH SCI 4H03

NURSE PRACTITIONER (C) STREAM ...

Note:
Distance education modalities are employed in all courses. Students must attend McMaster for the clinical laboratory components of the programme.

NURSPRAC 4A01  ADVANCED HEALTH ASSESSMENT
AND DIAGNOSIS
This course assists the students to determine and monitor health status and disease symptomology of diverse communities, families and individuals throughout the age spectrum. Students will conduct a full range of health assessment towards the goal of providing comprehensive primary health care based on advanced clinical decision making and diagnostic reasoning skills.
Three hours (tutorial), three hours (clinical lab); two terms
Prerequisite: Registration in Level IV of the B.Sc.N. NP (C) Stream; registration in or completion of NURSPRAC 4F03
Antirequisite: NURSPRAC 4A05, 4R05

NURSPRAC 4C13  NURSE PRACTITIONER
INTEGRATIVE PRACTICUM
This course builds on students' knowledge and experience gained in previous courses and focuses on methods to integrate theory and clinical practice. The tutorial component allows students to discuss and apply theories regarding the management of clients' clinical manifestations.
29 hours (clinical lab); six hours (tutorial); 13 weeks
Prerequisite: NURSPRAC 4A10, 4F03, 4R03, 4T10, registration in Level IV of the B.Sc.N. NP (C) Stream
Antirequisite: NURSPRAC 4C10, 4R03

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); one term
Prerequisite: HTH SCI 1C07, 2C07; registration in Level IV of the B.Sc.N. NP (C) Stream

NURSPRAC 4R03  NURSE PRACTITIONER ROLES
AND RESPONSIBILITIES
Historical development, legal and ethical considerations, scope of practice, interdisciplinary teams, primary health policy formation are addressed.
Three hours (tutorial); one term
Prerequisite: NURSING 4A02 and registration in Level III or IV of the B.Sc.N. NP (C) Stream

NURSPRAC 4T10  THERAPEUTICS IN PRIMARY HEALTH CARE
The course is designed to develop the knowledge, skill and competencies required of a nurse practitioner in managing health and injury through a variety of clinical therapeutic strategies, including counselling, pharmacol­ogy and complementary modalities. The effectiveness and efficiency of these strategies are examined.
Three hours (tutorial), three hours (clinical lab); two terms
Prerequisite: HTH SCI 1C07, 2C07; registration in Level IV of the B.Sc.N. NP (C) Stream; registration in or completion of NURSPRAC 4A10, 4P03
Antirequisite: NURSPRAC 4T05, 4T10

PAEDIATRIC ONCOLOGY COURSES...

NURSPRAC 3R03  NURSE PRACTITIONER ROLES
AND RESPONSIBILITIES
Biographical, physical, psychological, social and nursing sciences and apply them to paediatric haematology-oncology situations. A continuation of Nursing 3P03.
Three hours (lecture/problem-based tutorials); one term
Prerequisite: NURSPRAC 3P03; and either registration in the Paediatric Oncology programme; or registration in Level III of the B.Sc.N. (B) Stream and permission of the instructor
Antirequisite: NURSPRAC 3R03

NURSPRAC 3T05  GUIDED NURSING PRACTICE I
Guided nursing practice experience in a hospital or community-based paediatric haematology-oncology setting with an emphasis on the development of expanded role skills in areas such as illness-response, health maintenance and promotion, client education, client assessment and client treatment and support. This course is evaluated on a “Pass/Fail” basis.
Eight hours (clinical lab), two hours (tutorial); one term
Prerequisite: NURSPRAC 3T05; and either registration in the Paediatric Oncology programme; or registration in Level III of the B.Sc.N. (B) Stream and permission of the instructor
Antirequisite: NURSPRAC 3T05

NURSPRAC 3V05  GUIDED NURSING PRACTICE II
A problem-based course in which students integrate theories from biological, physical, psychological, social and nursing sciences and apply them to paediatric haematology-oncology situations. A continuation of Nursing 3P03.
Three hours (lecture/problem-based tutorials); one term
Prerequisite: NURSPRAC 3V05; and either registration in the Paediatric Oncology programme; or registration in Level III of the B.Sc.N. (B) Stream and permission of the instructor
Antirequisite: NURSPRAC 3V05

ADULT ONCOLOGY COURSES...

NURSPRAC 3C03  NURSE PRACTITIONER ROLES
AND RESPONSIBILITIES
Biological, psychological, physical, social sciences, and nursing theory are integrated and applied to health care situations through problem-based learning. Concepts and theories will focus on assisting the child, family and community in responding to the oncological process.
Three hours (lecture/problem-based tutorials); one term
Prerequisite: Either registration in the Adult Oncology programme; or registration in Level III of the B.Sc.N. (B) Stream and permission of the instructor
Antirequisite: NURSPRAC 3C03

NURSPRAC 3D03  NURSE PRACTITIONER ROLES
AND RESPONSIBILITIES
A problem-based course in which students integrate theories from biological, physical, psychological, social and nursing sciences and apply them to adult oncology through the problem-based format.
Three hours (problem-based tutorials, lectures, self-directed study); one term
Prerequisite: Either registration in the Adult Oncology programme; or registration in Level III of the B.Sc.N. (B) Stream and permission of the instructor
Antirequisite: NURSPRAC 3D03

NURSPRAC 3Y03  NURSE PRACTITIONER ROLES
AND RESPONSIBILITIES
Biographical, physical, psychological, social sciences, and nursing theory are integrated and applied to health care situations through problem-based learning. Concepts and theories will focus on assisting the child, family and community in responding to the oncological process.
Three hours (lecture/problem-based tutorials); one term
Prerequisite: Either registration in the Adult Oncology programme; or registration in Level III of the B.Sc.N. (B) Stream and permission of the instructor
Antirequisite: NURSPRAC 3Y03

NURSPRAC 3Z03  NURSE PRACTITIONER ROLES
AND RESPONSIBILITIES
Biographical, physical, psychological, social sciences, and nursing theory are integrated and applied to health care situations through problem-based learning. Concepts and theories will focus on assisting the child, family and community in responding to the oncological process.
Three hours (lecture/problem-based tutorials); one term
Prerequisite: Either registration in the Adult Oncology programme; or registration in Level III of the B.Sc.N. (B) Stream and permission of the instructor
Antirequisite: NURSPRAC 3Z03

NURSPRAC 4A10  ADVANCED HEALTH ASSESSMENT
AND DIAGNOSIS
This course assists the students to determine and monitor health status and disease symptomology of diverse communities, families and individuals throughout the age spectrum. Students will conduct a full range of health assessment towards the goal of providing comprehensive primary health care based on advanced clinical decision making and diagnostic reasoning skills.
Three hours (tutorial), three hours (clinical lab); two terms
Prerequisite: Registration in Level IV of the B.Sc.N. NP (C) Stream; registration in or completion of NURSPRAC 4F03
Antirequisite: NURSPRAC 4A05, 4R05

NURSPRAC 4C13  NURSE PRACTITIONER
INTEGRATIVE PRACTICUM
This course builds on students' knowledge and experience gained in previous courses and focuses on methods to integrate theory and clinical practice. The tutorial component allows students to discuss and apply theories regarding the management of clients' clinical manifestations.
29 hours (clinical lab); six hours (tutorial); 13 weeks
Prerequisite: NURSPRAC 4A10, 4F03, 4R03, 4T10, registration in Level IV of the B.Sc.N. NP (C) Stream
Antirequisite: NURSPRAC 4C10, 4R03

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); one term
Prerequisite: HTH SCI 1C07, 2C07; registration in Level IV of the B.Sc.N. NP (C) Stream
NURSING 3HH5  ADULT ONCOLOGY NURSING PRACTICE II
A continuation of 3GG5, the focus of this course is a theory-based nursing practice experience in a primary or tertiary health care setting. The emphasis is cancer and the well being of adult clients, families and the community including: health education, cancer prevention, early detection, client and family assessment, treatment and support. This course is evaluated on a Pass/Fail basis.
Eight hours (clinical practice setting, clinical lab)
Two hours (small group tutorials, self-directed study)
Prerequisite: NURSING 3GG5, and either registration in the Adult Oncology programme or registration in Level III of the B.Sc.N. (B) Stream and permission of the instructor
Antirequisite: NURSING 3M05

NURSING LEADERSHIP / MANAGEMENT COURSES...

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. Enrolment 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 or with a minimum of one year clinical experience or permission of the instructor
Antirequisite: HTH SCI 4E06
Equivalent to NURSING 4S06, 4T06.

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 4D01  TOTAL QUALITY MANAGEMENT IN NURSING
Introduction to total quality management, quality assurance, quality improvement, risk management and utilization management. Given in distance education. The course is evaluated on a Pass/Fail basis.
One hour (lecture or equivalent); one term
Prerequisite: Registered Nurses or permission of the instructor

Note:
OCCUPATIONAL THERAPY AND PHYSIOTHERAPY
OCCUPATIONAL THERAPY

AND PHYSIOTHERAPY

Faculty as of January 15, 1999

Associate Dean, Rehabilitation Science
M. Westmorland

Chair, Bachelor of Health Sciences (OT) Programme
S. Baptiste

Chair, Bachelor of Health Sciences (PT) Programme
P. Solomon

Professors
Barbara A. Cooper/Dip. P&OT (Toronto), B.A. Honours, M.H.Sc. (McMaster), Ph.D. (Wisconsin-Milwaukee)
Mary C. Law/B.Sc. OT (Queen's), M.Sc. (McMaster), Ph.D. (Waterloo)
Jean Wossell/B.Sc. PT (McGill), M.H.Sc. (McMaster), Ph.D. (Alberta)

Associate Professors
Susan E. Baptiste/Dip. OT (England), M.H.Sc. (McMaster)
Jean M. Crowe/Dip. PT (Australia), B.Sc. PT (Toronto), M.H.Sc. (McMaster)
Elspeth Finch/B.Sc. P&OT (McGill), M.H.Sc. (McMaster)
Hollie M. Groves/DT (British Columbia), B.Sc. (British Columbia), M.Sc., Ph.D. (McMaster)
Michael R. Pieniak/Dip. OT (Waterloo), M.Sc. (Waterloo), Ph.D. (Simon Fraser)
Nancy A. Pollock/B.Sc. OT (Queen's), M.Sc. (McGill)
Julie Richardson/Dip. PT (New Zealand), B.Sc. PT (Toronto), M.Sc. (New Zealand)
Penny S. Salvato/Dip. P&OT (Toronto), M.H.Sc. (McMaster)
Patricia E. Solomon/Dip. PT (Manitoba), M.H.Sc. (McMaster), Ph.D. (Waterloo)
Paul Stratford/Dip. PT, M.Sc. (McMaster)
Mary K. Tremblay/Dip. P&OT (Toronto), M.H.Sc. (McMaster), Ph.D. (SUNY, Buffalo)
Joyce Tryssenaar/B.Sc. OT (Western Ontario), M.Ed. (Brock)
Muriel G. Westmorland/Dip. OT (England), M.H.Sc. (McMaster)

Assistant Professors
Beverley M. Clarke/Dip. PT (Manitoba), B.A., M.Sc. (McMaster)
Carol Demette/Dip. P&OT (Toronto), M.Sc. (McMaster)
Vicki Galea/B.Sc., M.Sc. (Waterloo), Ph.D. (McMaster)
Helene Larin/B.Sc. PT (Montreal), M.Sc. (North Carolina), M.Ed., Ph.D. (Toronto)
Lori Lette/B.Sc. OT (Western Ontario), M.A. (Waterloo)
Julia A. Lockhart/B.Sc. OT (Queen's), M.Ed. (Brock)
Cheryl Missiuna/B.Sc. OT (Western Ontario), M.Sc. (Calgary), Ph.D. (Toronto)
Ellenco M.J. Palmer/B.Sc. OT (Western Ontario), B.Sc. PT (Toronto), M.Sc. (Toronto)
Seanne Wilkins/Dip.P&OT, B.Sc. OT, M.Sc., Ph.D. (Toronto)
Ronee M. Williams/Dip. P&OT (Toronto), M.Sc. (McMaster)
Laure R. Wishart/Dip. P&OT (Toronto), B.Sc. (Toronto), M.Sc., Ph.D. (McMaster)
Linda Woodhouse/B.A. (Western Ontario), B.Sc. PT (Toronto), M.A. (Western Ontario)

Lecturers
Laura Babiski/B.Sc. OT (Toronto), M.H.Sc. (McMaster)
Linda Brett/B.A. (Toronto), B.Ed. (Queen's), B.HSc. PT (McMaster)
Eline Foster-Sargeant/Dip. PT (Mohawk), B.HSc. PT (McMaster)
Maryan Gemus/B.Sc. PT (McGill), M.Sc. PT (Western Ontario)
Lynne Geddes/B.Sc. PT (Western Ontario), M.R.E. (Toronto)
Bonn F.M. Jung/B.Sc. OT (Toronto), M.Ed. (Brock)

In addition, a number of part-time faculty teaching in the B.HSc. (O.T. and P.T.) programmes have appointments in the School of Rehabilitation Science.
If further information is requested, please contact the School at (905) 525-9140, ext. 22867.

Note:
OCCUPATIONAL THERAPY and Physiotherapy courses are open only to students who are registered in the Bachelor of Health Sciences Second Degree Programme in Occupational Therapy or Physiotherapy.

OCCUPATIONAL THERAPY...

Courses

UNIT 1 - OCCUPATIONAL THERAPY

OCCUP TH 1T15  PROBLEM-BASED TUTORIAL I
Students are introduced to small groups and problem-based learning using a variety of health problems in order to explore the biological, psychological, and social determinants of health. The role of the Occupational Therapist in a wide range of settings is explored.
Five hours (tutorial); 14 weeks

OCCUP TH 1L17  SKILLS LAB I
Students develop basic communication skills, physical assessment skills, understanding of normal human movement and activity analysis, within the framework of current models of OT practice.
Seven hours (lab); 14 weeks

OCCUP TH 1S13  INQUIRY SEMINAR I
Students investigate issues of importance to the profession, from theory to the health care system overall. Themes for exploration include determinants of health, health policy, the history, development, and future directions of occupational therapy.
Three hours (large group discussion/seminar); 14 weeks

OCCUP TH 1T23  PROBLEM-BASED TUTORIAL II
Student explore various clinical problems encountered in the practice of mental health and mental illness.
Five hours (tutorial); eight weeks

UNIT II - OCCUPATIONAL THERAPY

Note:
Prior to January 2000, Unit II consisted of Occupational and Health in Childhood and Adolescence

OCCUP TH 1T23  PROBLEM-BASED TUTORIAL II
Student explore various clinical problems encountered in the practice of mental health and mental illness.
Five hours (tutorial); eight weeks

UNIT III - OCCUPATIONAL THERAPY

Note:
OCCUPATIONAL THERAPY and Physiotherapy courses are open only to students who are registered in the Bachelor of Health Sciences Second Degree Programme in Occupational Therapy or Physiotherapy.

OCCUPATIONAL THERAPY ...

Courses
OCCUP TH 1L24 SKILLS LAB II
Students develop engagement, assessment and treatment skills for persons with mental illness and mental health issues.
Seven hours (lab); eight weeks

OCCUP TH 1S23 INQUIRY SEMINAR II
Students investigate various conceptual issues related to mental health and mental illness.
Five hours (lecture/seminar); eight weeks

OCCUP TH 1C26 FIELDWORK EDUCATION
Students integrate knowledge, skills and professional behaviours into clinical practice in a mental health setting under the supervision of a qualified occupational therapist.
35-40 hours (fieldwork); six weeks, full-time

Unit III - Occupation and Physical Health in Adulthood

OCCUP TH 1T33 PROBLEM-BASED TUTORIAL III
Students explore clinical problems encountered in the field of adult rehabilitation. Functional, vocational and ethical management issues are discussed.
Five hours (tutorial); eight weeks

OCCUP TH 1L34 SKILLS LAB III
Students develop skills in assessment, program planning and intervention related to adult physical health.
Seven hours (lab); eight weeks

OCCUP TH 1S33 INQUIRY SEMINAR III
Students investigate various conceptual issues related to adult physical health.
Five hours (lecture/seminar); eight weeks

OCCUP TH 1C36 FIELDWORK EDUCATION
Students integrate knowledge, skills and professional behaviours into clinical practice in a physical health setting under the supervision of a qualified occupational therapist.
35-40 hours (fieldwork); six weeks, full-time

Unit IV - Occupation and Mental Health in Adulthood

OCCUP TH 2T43 PROBLEM-BASED TUTORIAL IV
Students explore various clinical problems encountered in the practice of mental health and mental illness.
Five hours (tutorial); eight weeks

OCCUP TH 2L44 SKILLS LAB IV
Students develop engagement, assessment and treatment skills for persons with mental illness and mental health issues.
Seven hours (lab); eight weeks

OCCUP TH 2S43 INQUIRY SEMINAR IV
Students investigate various conceptual issues related to mental health and mental illness.
Five hours (lecture/seminar); eight weeks

OCCUP TH 2C46 FIELDWORK EDUCATION
Students integrate knowledge, skills and professional behaviours into clinical practice in a mental health setting under the supervision of a qualified occupational therapist.
35-40 hours (fieldwork); six weeks, full-time

Unit IV - Occupation and Health in Childhood and Adolescence
Effective September 2000

OCCUP TH 2T43 PROBLEM-BASED TUTORIAL IV
Students explore various clinical problems encountered in the practice of paediatric occupational therapy.
Five hours (tutorial); eight weeks

OCCUP TH 2L44 SKILLS LAB IV
Students develop skills in assessment, program planning, and intervention with children and adolescents.
Seven hours (lab); eight weeks

OCCUP TH 2S43 INQUIRY SEMINAR IV
Students investigate various conceptual issues related to child health during infancy, childhood and adolescence, from a developmental perspective.
Five hours (lecture/seminar); eight weeks

OCCUP TH 2C46 FIELDWORK EDUCATION
Students integrate knowledge, skills and professional behaviours into clinical practice in a paediatric setting under supervision of a qualified occupational therapist.
35-40 hours (fieldwork); six weeks, full-time

Unit V - Occupation and Health in Older Adulthood

OCCUP TH 2T53 PROBLEM-BASED TUTORIAL V
Students explore and develop understanding of various health and social problems encountered in the practice area of aging and health.
Five hours (tutorial); eight weeks

OCCUP TH 2L54 SKILLS LAB V
Students implement the CACT client centred guidelines for occupational therapy practice with older persons, and develop clinical competence in specific assessment, treatment, and care management processes and techniques.
Seven hours (lab); eight weeks

OCCUP TH 2S53 INQUIRY SEMINAR V
Students explore and develop understanding of various theoretical, methodological, and substantive issues in the area of aging and health.
Five hours (lecture/seminar); eight weeks

OCCUP TH 2C56 FIELDWORK EDUCATION
Students integrate knowledge, skills and professional behaviours into clinical practice with older persons under supervision of a qualified occupational therapist.
35-40 hours (fieldwork); six weeks, full-time

Unit VI - Occupation and Health Across the Lifespan:
Advanced Study and Integration

OCCUP TH 2T64 PROBLEM-BASED TUTORIAL VI
Priority health problems are explored in-depth through contact with resource people and clients in the community, using a population health/community health perspective. Issues involving quality assurance and economics are also included.
Six hours (tutorial); ten weeks

OCCUP TH 2M63 EXPLORING HEALTH CARE SYSTEMS, ORGANIZATIONS AND PROFESSIONAL ROLES
In this interprofessional course, occupational therapy (OT) and physiotherapy (PT) students will apply systems theory and principles of organizational analysis to explore issues facing the OT and PT professions in today's rapidly changing health care environment.
Fourteen hours; three weeks
Antirequisite: OCCUP TH 2L63

OCCUP TH 2I65 RESEARCH INTERNSHIP
Students study focuses on scientific inquiry through research related to occupational therapy/physiotherapy. Such research may involve literature searches, simple research design or proposal preparation, or participation in ongoing research with a faculty member.
Ten-twelve hours; 14 weeks

OCCUP TH 2S63 HUMAN OCCUPATION
Students will have the opportunity to choose an area of human occupation for in-depth study. The students will design individual projects in consultation with faculty and clinical experts. The course format consists of weekly work-in-progress seminars and a final symposium on human occupation, organized by students and faculty.
Four hours; ten weeks

OCCUP TH 2C65 FIELDWORK EDUCATION
The placement provides students with the opportunity to integrate knowledge, skills and professional behaviours in a setting that addresses areas of professional practice that can include clinical practice, administration, research, or consultation. Opportunities for international placements can be available.
35-40 hours (fieldwork); six weeks, full-time
Antirequisite: OCCUP TH 2C76

PHYSIOTHERAPY ...
The clinical skills labs focus on the clinical assessment, diagnosis and introduction to treatment of peripheral joints. The labs integrate relevant human biology, biomechanics, clinical skills and measurement concepts. Seven hours (lab); 14 weeks

PHYSIOTH 1S13 INQUIRY SEMINAR I
Students investigate issues related to the provision of health care from the perspective of a treating clinician, a multi-disciplinary team member, and the broader components of the health care system. Topics include: prevention, determinants of health, exercise physiology, gait analysis and clinical decision making.
Three hours (lecture/seminar); 14 weeks

Unit II Musculoskeletal II

PHYSIOTH 1T23 PROBLEM-BASED TUTORIAL
Students continue studying the musculoskeletal system in the problem-based tutorials by focusing on the anatomy, pathology, assessment and treatment of spinal conditions. Skills in musculoskeletal differential diagnosis are developed further.
Five hours (tutorial); eight weeks

PHYSIOTH 1L24 CLINICAL SKILLS LAB II
Students acquire basic level competencies in the assessment and treatment of spinal conditions. Students are responsible for completing full electrotherapy modules. Effectiveness of physiotherapy interventions in spinal and musculoskeletal conditions are considered.
Seven hours (lab); eight weeks

PHYSIOTH 1S23 INQUIRY SEMINAR II
Seminars focus on ergonomics, the physiology, evaluation and management of pain, and, considerations re: differential diagnosis of pain in the spine.
Five hours (seminar); eight weeks

PHYSIOTH 1C26 CLINICAL EDUCATION
Students practice in a variety of clinical facilities to integrate knowledge and skills in providing care for episodic musculoskeletal problems.
35-40 hours (fieldwork); six weeks

Unit III Musculoskeletal III

PHYSIOTH 1T33 PROBLEM-BASED TUTORIAL
Students study complex and/or chronic injuries and diseases of the musculoskeletal system and resulting disabilities and handicaps in all age groups, with an emphasis on older adults. This unit explores the natural history of a condition.
Five hours (tutorial); eight weeks

PHYSIOTH 1L34 CLINICAL SKILLS LAB III
Students acquire advanced interviewing, assessment and treatment skills which are required to manage clients of all ages, with an emphasis on older adults, with complex and chronic musculoskeletal problems.
Seven hours (lab); eight weeks

PHYSIOTH 1S33 INQUIRY SEMINAR III
Seminars focus on issues related to determinants of health and chronicity. Themes to be explored include cultural, ethnic and racial factors in health, biopsychosocial aspects of chronic illness and its management.
Five hours (seminar); eight weeks

PHYSIOTH 1C36 CLINICAL EDUCATION
Students practice in selected clinical facilities to integrate knowledge and skills into clinical practice with appropriate clients with chronic or complex musculoskeletal problems.
35-40 hours (fieldwork); six weeks

Unit IV Cardiopulmonary

PHYSIOTH 2T43 PROBLEM-BASED TUTORIAL
Students study the pathology, etiology, assessment and physiotherapeutic management of cardiac and pulmonary conditions, and the impact on the body system. Criteria for establishing causation are also addressed.
Five hours (tutorial); eight weeks

PHYSIOTH 2L44 CLINICAL SKILLS LAB IV
Students acquire the assessment and treatment skills which are required for the physiotherapeutic management of clients with cardiac and/or pulmonary conditions.
Seven hours (lab); eight weeks

PHYSIOTH 2S43 INQUIRY SEMINAR IV
Seminars focus on issues related to fitness in special populations encountered in the practice of physiotherapy. Themes include exercise physiology, exercise testing and prescription, and compliance with exercise.
Five hours (seminar); eight weeks

PHYSIOTH 2C45 CLINICAL EDUCATION
Students integrate learning and skills with clinical practice for a selected group of clients with cardiac and/or pulmonary conditions in a variety of clinical facilities.
35-40 hours (fieldwork); six weeks

Unit V Neurology

PHYSIOTH 2T53 PROBLEM-BASED TUTORIAL
Students study the pathology, etiology, assessment and physiotherapeutic management of clients of all ages with neurological problems.
Five hours (tutorial); eight weeks

PHYSIOTH 2L54 CLINICAL SKILLS LAB V
Students acquire basic level assessment and treatment skills required for the management of clients with neurological conditions.
Seven hours (lab); eight weeks

PHYSIOTH 2S53 INQUIRY SEMINAR V
Seminars focus on issues with clients who present neurological disorders. Themes include: neuro-patho-kinesiology, neuro-plasticity, motor control and learning, WHO classification, related psych-social issues, client-centred practice, health measurement, and evidence-based practice.
Five hours (lecture/seminar); eight weeks

PHYSIOTH 2C56 CLINICAL EDUCATION
Students practice in a variety of clinical facilities to integrate learning and clinical skills for the management of neurological problems in all age groups.
35-40 hours (fieldwork); six weeks

Unit VI Advanced Theory, Inquiry and Skills

PHYSIOTH 2165 RESEARCH INTERNSHIP
Student study focuses on scientific inquiry through research related to occupational therapy/physiotherapy. Such research may involve literature searches, simple research design or proposal preparation, or participation in ongoing research with a faculty member.
Ten-twelve hours; 14 weeks

PHYSIOTH 2M63 EXPLORING HEALTH CARE SYSTEMS, ORGANIZATIONS AND PROFESSIONAL ROLES
Students will apply systems theory and principles of organizational analysis to explore issues facing the OT and PT professions in today's rapidly changing health care environment.
Fourteen hours; three weeks

PHYSIOTH 2P62 GROWING UP WITH ABILITIES
Students explore a variety of multi-system, complex clinical scenarios relevant to the practice of paediatric physiotherapy, within a broad psychosocial framework and continuum of care. Students have the opportunity to practice skills in the management of children with disabilities and their families, in various environments.
Ten hours; three weeks

Antirequisite: PHYSIOTH 2T64, 2L63

PHYSIOTH 2A63 ADULT HEALTH
Students explore a variety of multi-system, complex clinical problems encountered within a broad psychosocial framework and continuum of care. Students have the opportunity to practice advanced skills in the physiotherapy management of adults.
Ten hours; four weeks

Antirequisite: PHYSIOTH 2T64, 2L63

PHYSIOTH 2G62 AGING AND HEALTH
Students explore a variety of multi-system, complex clinical problems encountered in the practice of physiotherapy with older adults. These problems are viewed within a broad psychosocial framework and continuum of care. Students have the opportunity to practice advanced skills in the health management of older adults.
Ten hours; three weeks

Antirequisite: PHYSIOTH 2T64, 2L63

PHYSIOTH 2C66 CLINICAL EDUCATION
Students select an area of professional practice for a 6-week elective. Areas of practice might include clinical practice, administration, research or consultation. An appropriate setting will be selected by the student in consultation with the Clinical Education Co-ordinator.
35-40 hours (fieldwork); six weeks

Antirequisite: PHYSIOTH 2C76
OJIBWE

(SEE INDIGENOUS STUDIES, OJIBWE)

ONCOLOGY

(SEE NURSING)

PEACE STUDIES

(SEE INTERDISCIPLINARY MINORS AND THEMATIC AREAS)

PHARMACOLOGY

With the exception of PHARMAC 4B03, these courses are available only to those students registered in Honours Biology and Pharmacology.

Department Note:

PHARMAC 3A06, 3B06, 4A03, 4A04, 4B03, 4D03 and 4E03 will be based on self-directed problem based learning.

Courses

PHARMAC 3A06 INTRODUCTION TO PHARMACOLOGY
Receptor theory and classification, receptor response coupling, mechanisms of drug absorption, distribution, metabolism and excretion and their roles in drug selectivity.
One tutorial (one hour), one tutorial (two hours); two terms
Prerequisite: Registration in the Honours Biology and Pharmacology programme

PHARMAC 3B06 METHODS IN PHARMACOLOGY
Methods to study the 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 DRUG AND SIGNAL TRANSMISSION I
Introduction to the effects of drugs on communication by chemical signals in biological systems.
One tutorial (one hour), one tutorial (two hours); one term
Prerequisite: PHARMAC 3A06

PHARMAC 4A04 DRUG AND SIGNAL TRANSMISSION II
The continuation of Pharmacology 4A03.
One tutorial (three hours); one term
Prerequisite: PHARMAC 4A03

PHARMAC 4B03 DRUGS AND BEHAVIOUR
Behavioural measures to study drug action and the use of drugs to study the organization and physiological mechanisms in normal and abnormal behaviour.
One tutorial (three hours); one term
Prerequisite: PHARMAC 3A06 or BIOLOGY 3A03 and permission of the instructor. Application for permission must be received by March 31st of the previous year.
Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

PHARMAC 4C03 PRINCIPLES OF TOXICOLOGY
General principles of toxicology, adverse effects of selected agents on man and other organisms.
One tutorial (one hour), one tutorial (two 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 (one hour), one tutorial (two hours); one term
Prerequisite: PHARMAC 3A06

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 (one hour), one tutorial (two hours); one term
Prerequisite: PHARMAC 3A06

PHARMAC 4F08 SENIOR THESIS
A thesis based upon a research project carried out under the direction of a member of the Faculty.
Prerequisite: PHARMAC 3A06
Antirequisite: BIOLOGY 4C09, 4F06, MOL BIOL 4R09

PHILOSOPHY

Faculty as of January 15, 1999

Chair
Spiro Panagiotou

Professors
Nicholas Griffin/B.A. (Leicester), Ph.D. (Australian National)
Wilfrid Waluchow/B.A., M.A. (Western Ontario), D.Phil. (Oxford)

Associate Professors
Samuel Ajzenstat/B.A., M.A. (Toronto), Ph.D. (Pennsylvania)
Catherine Beatlie/B.A. (McMaster), M.A. (Guelph), Ph.D. (London)
David L. Hitchcock/B.A., M.A., Ph.D. (Claremont)
Jill LeBlanc/B.A. (McMaster), M.A., Ph.D. (Toronto)
Sami M. Najm/AA. (Beirut), M.A., Ph.D. (Yale)
Spiro Panagiotou/B.Sc., M.A. (Guelph), Ph.D. (St. Andrews)
Mark Vorobej/B.A. (Carleton), M.A., Ph.D. (Toronto)

Assistant Professor
Brigitte Sassen/B.A. (Toronto), M.A., Ph.D. (Pennsylvania State)

Associate Members
Caroline Bayard/French) L. à L., M. à L. (Toulouse), M.A., Ph.D. (Toronto)
Kenneth M. Blackwell (Russell Archivist, Mills Library), B.A. (Victoria), M.L.S. (Western Ontario), M.A. (McMaster), Ph.D. (Guelph)
Howard Jones (Classical), B.A. (London), M.A., Ph.D. (Indiana)

Professors Emeriti
Gary B. Madison/B.A. (St. Joseph's College), M.A. (Marquette), Ph.D. (Paris)
James H. Noxon/B.A., M.A. (Queen's), Ph.D. (Edinburgh)
Evan Simpson/A.B. (Amherst), Ph.D. (Duke)

Department Notes:

1. The Department of Philosophy offers two Level I courses, PHILOS 1B06 and PHILOS 1D06, which are designed to introduce the student to the study of the subject. No student may take more than one of these courses.
2. 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 programmes.
3. Students who do not meet the specified prerequisites for a course may, in exceptional circumstances, obtain permission of the instructor to take the course.
4. An Undergraduate Philosophy Handbook is available in the Departmental Office.
5. Students interested in registering in PHILOS 3W03, 4W03 or 4Z06 are strongly encouraged to obtain permission from the Departmental Undergraduate Counselor by the end of May of the preceeding year. Access to these courses cannot be guaranteed beyond that date.

Courses

If no prerequisite is listed, the course is open.

PHILOS 1B06 PHILOSOPHY AND SOCIETY
An introduction to philosophy, through the social-political thought of up to four of Plato, Hobbes, Rousseau, Mill, Marx, and Nietzsche, focusing on the views of human nature and the state, social conflict, inequality and justice.
Two lectures, one tutorial; two terms
Antirequisite: PHILOS 1D06
PHILOS 1006 PROBLEMS IN PHILOSOPHY
A critical investigation of philosophical arguments concerning God, politics, morality, human nature, knowledge and art.
Two lectures, one tutorial; two terms
Prerequisite: PHILOS 1B06
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: Registration in Level II and above
Cross-list: CLASSICS 2P06
PHILOS 2B03 INTRODUCTORY LOGIC
Sentential and quantification logics are introduced and applied to arguments in English.
Three lectures; one term
Prerequisite: Registration in Level II and 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 and above
PHILOS 2D03 MORAL ISSUES
An introduction to moral philosophy, accenting biomedical ethics. Issues such as abortion, human experimentation, euthanasia, and genetic screening will be investigated.
Two lectures, one tutorial; one term
Prerequisite: Registration in Level II and above
Cross-list: RELIG ST 2C03
Enrolment is limited to 475 students.
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 and 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 and above
PHILOS 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 and above
Cross-list: ART HIST 2H03
Offered in alternate years.
PHILOS 2N03 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.
Two lectures, one tutorial; one term
Prerequisite: Registration in Level II and above
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 IV of any programme
Offered in alternate years.
PHILOS 3C03 ADVANCED BIOETHICS
An advanced study of the application of ethical theory to selected problems in health care, such as our reproductive practices, care of the dying, the therapeutic relationship.
Three lectures; one term
Prerequisite: PHILOS 2D03 or RELIG ST 2C03 with a grade of at least B, and at least three additional units of Philosophy; or registration in Level III or IV of any Honours programme in Philosophy
Offered in alternate years.
PHILOS 3F03 INTERMEDIATE LOGIC
Selected topics in the study of formal languages and their interpretations, 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 IV of any programme
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: At least six units of Philosophy, and registration in Level III or IV of any programme
Offered in alternate years.
PHILOS 3I03 PHILOSOPHY AND FEMINISM
A study of philosophical issues in feminist thought.
Three lectures; one term
Prerequisite: At least six units of Philosophy, and registration in Level III or IV of any programme
Offered in alternate years.
PHILOS 3K03 PHILOSOPHY OF EDUCATION
A systematic account of education through a critical analysis of the concepts of teaching, learning, and subject matter.
Two lectures, one tutorial; one term
Prerequisite: At least six units of Philosophy
Offered in alternate years.
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 IV of any programme
Offered in alternate years.
PHILOS 3Q03 PHILOSOPHY AND VALUE
An introduction to some main theories of the nature of value, of the good, and of issues arising within 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 IV of any programme
Offered in alternate years.
PHILOS 3R03 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 IV of any programme
Offered in alternate years.
PHILOS 3T03 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 IV of any programme
Offered in alternate years.
with a Cumulative Average of at least 8.5 and permission of the Department

PHILOS 4G03

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 IV of any programme
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 IV of any programme
Offered in alternate years.

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 IV of any programme
Offered in alternate years.

PHILOS 4G03

BERTRAND RUSSELL
An Introduction to various aspects of Russell's philosophical thought. Each
year two or three topics in his theory of knowledge, metaphysics, philosophy
of language and social philosophy will be selected for special attention.
One lecture (two hours), one seminar (one hour); one term
Prerequisite: PHILOS 2903, and registration in Level III or IV of any programme
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 contem­
porary criticisms of metaphysics will be discussed.
Seminar (two hours); one term
Prerequisite: PHILOS 2A06 and 2C06, and registration in Level III or IV of a programme
in Philosophy.

PHILOS 4I03

MIDDLE AGE PHILOSOPHY
A study of one or more central medieval philosophers, such as Augustine,
Aquinas, or William of Ockham.
Seminar (two hours); one term
Prerequisite: One of PHILOS 2A06, 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 IV of any programme
Antirequisite: PHILOS 4G03, 4I03
Cross-list: CLASSICS 4K03
Offered in alternate years.

PHILOS 4L03

PRAGMATISM
A study of the most distinctive American contribution to philosophy with
emphasis on such figures as C.S. Peirce, William James, John Dewey, C.I.
Lewis and Richard Rorty.
Seminar (two hours); one term
Prerequisite: Six units of Philosophy and registration in Level III or IV of any programme
Antirequisite: PHILOS 3D03
Offered in alternate years.

PHILOS 4M03

INDEPENDENCE STUDY
In consultation with a member of the Department of Philosophy, students
will prepare an essay on an approved topic, or 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
(in available in the Philosophy Department office), before attempting to register
in the course.
Prerequisite: Registration in Level IV of any Honours programme in Philosophy,
with a Cumulative Average of at least 8.5 and permission of the Department
Antirequisite: PHILOS 4Z06

PHILOS 4Z06

THESIS
Reading and research under the supervision of two members of the Depart­
ment. A major paper is required as well as a formal examination. It is the
student's responsibility to secure the agreement of an instructor and to com­
plete a proposal form (available in the Philosophy Department office),
before attempting to register in the course.
Prerequisite: Registration in Level IV of any Honours programme in Philosophy,
with a Cumulative Average of at least 8.5 and permission of the Department
Antirequisite: PHILOS 4W03

PHYSICS AND ASTRONOMY

Faculty as of January 15, 1999

Chair
D.L. Welch

University Professor
Jules P. Carbotte/B.Sc. (Manitoba), M.Sc., Ph.D. (McGill), D.Sc. (Water­
do), F.R.S.C.

Associate Chair
D.E. Venus

Professors
A. John Berlinsky/B.Sc. (Fordham), M.Sc., Ph.D. (Pennsylvania)
Paraj K. Bhaduri/M.Sc. (Calcutta), Ph.D. (McMaster)
John A. Cameron/B.A. (Toronto), Ph.D. (McMaster)
David R. Chettle/B.Sc., M.Sc., Ph.D. (Birmingham)
Malcolm F. Collins/M.A., Ph.D. (Cambridge)
Bruce D. Gauvin/B.Sc. (McGill), Ph.D. (McMaster)
William F. Harris/B.Sc. (Alberta), M.Sc., Ph.D. (Toronto)
Harold K. Haugen/B.Sc. (Acadia), M.Eng., McPh.D. (Aarhus)
Catherine Kallin/B.Sc. (British Columbia), A.M., Ph.D. (Harvard)
William V. Prestwich/B.Sc., Ph.D. (McMaster)
Ralph E. Pudritz/B.Sc. (British Columbia), M.Sc. (Toronto), Ph.D. (British
Columbia)
Peter G. Sutherland/B.Sc. (McGill), M.Sc., Ph.D. (Illinois)
David W. Taylor/B.A., D.Phil. (Oxford)
David E. Venus/B.Sc. (Queen's), Ph.D. (Toronto)
James C. Waddington/B.Sc. (Queen's), Ph.D. (McMaster)
Douglas L. Welch/B.Sc., Ph.D. (Toronto)

Associate Professors
Stephane Fillotte/B.Sc., M.Sc., Ph.D. (Montreal)
Graeme M. Luke/B.Sc., Queen's, Ph.D. (British Columbia)
Christine D. Wilson/B.Sc. (Toronto), Ph.D. (California Institute of Technology)

Assistant Professor
Fiona E. McNeill/B.Sc. (Edinburgh), Ph.D. (Birmingham)

Associate Members
Thomas J. Ferrell/Radiology) B.Sc., B.Ed. (Toronto), M.Sc. (Western On­
tario), Ph.D. (McMaster)
Michael S. Patterson/Radiology) B.Sc. (Queen's), M.Sc. (McMaster), Ph.D. (Toronto)
Andrew J. Rainbow/Biology) B.Sc. (Manchester), M.Sc. (Toronto), Ph.D. (McMaster)
David A. Thompson/Engineering Physics) B.Sc., Ph.D. (Reading)
Douglas R. Wyman/Philology) E.Math. (Waterloo), Ph.D. (McMaster)

Lecturer
Anton M. Jopko/B.Sc., M.Sc., Ph.D. (McMaster), Dipl. Educ. (Athlone)

Sessional Lecturer
Neil McKay/B.Sc. (Queen's), M.Sc., Ph.D. (McMaster)/part-time

Instructional Assistant
J. Everett Calma/B.Eng., M.Sc. (McMaster)

Professors Emeriti
Bertram N. Brookhouse/B.A. (British Columbia), M.A., Ph.D. (Toronto), D.Sc.
(Waterloo, McMaster), F.R.S.C., F.R.S., Nobel Laureate
Dennis G. Burke/B.E., M.Sc. (Saskatchewan), Ph.D. (McMaster)
W. Brian Clarke/B.A. (Dublin), Ph.D. (McMaster)
W. Ross Datas/M.Sc. (McMaster), Ph.D. (Wisconsin), F.R.S.C.
David A. Goodings/B.A. (Toronto), Ph.D. (Cambridge)
P. Eng.
Martin W. Johns/M.A. (McMaster), Ph.D. (Toronto), D.Sc. (Brandon),
F.R.S.C.
Terence J. Kennett/M.Sc., Ph.D. (McMaster)
John A. Kuehner/B.Sc. (Bishop's), M.A. (Queen's), Ph.D. (Liverpool),
F.R.S.C.

CARWIN McPHerson/B.Sc., M.Sc. (Toronto), Ph.D. (Saskatchewan),
F.R.S.C. 

Department Notes:
1. The Department reserves the right to withdraw a Level III or IV course which is not specifically required in a Physics program if the registration falls below four.
2. Students in Level III or IV of Physics programmes will find a number of relevant electives among the offerings of the Department of Biology, the Department of Engineering Physics and the School of Geography and Geology.

ASTRONOMY...

Courses  If no prerequisite is listed, the course is open.

**ASTRON 1F03  INTRODUCTION TO ASTRONOMY AND ASTROPHYSICS**

Topics include orbital motion, electromagnetic radiation, telescopes, the solar system, stars and stellar evolution, the Milky Way Galaxy, galaxies and quasars, the evolution of the universe.

Three lectures; one term
Prerequisite: OAC Calculus and OAC Physics or PHYSICS 1P03.
Antirequisite: SCIENCE 2003

Intended for Science students. Non-science students interested in these topics are directed to SCIENCE 2003.

**ASTRON 3X03  GALAXIES AND COSMOLOGY**

Basic stellar evolution, the interstellar medium. The Milky Way Galaxy; normal and active galaxies and large scale structure in the universe; modern ideas in cosmology.

Three lectures and occasional lab periods; one term
Prerequisite: One of PHYSICS 2B03, 2G03, 2K03 and one of PHYSICS 2A03, 2B06, and either one of PHYSICS 2H03, 2H04, CHEM 2P08, 2R03 or both CHEM 2P43 and 2PB3.
Antirequisite: PHYSICS 3K03
Alternates with ASTRON 3Y03.

Offered in 1999-2000.

**ASTRON 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.

Three lectures; one term
Prerequisite: One of PHYSICS 2D03, 2G03, 2K03 and one of PHYSICS 2A03, 2B06, and either one of PHYSICS 2H03, 2H04, CHEM 2P08, 2R03 or both CHEM 2P43 and 2PB3.
Antirequisite: PHYSICS 3K03
Alternates with ASTRON 3X03.

Offered in 1999-2000.

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 (three hours) every other week; one term
Prerequisite: Either PHYSICS 1P03 or at least 60% in OAC Physics, and credit or registration in SCIENCE 1A00 and MATH 1A03 or 1A04
Antirequisite: PHYSICS 1A06, 1B06, 1C06, 1C03

**PHYSICS 1BA3  INTRODUCTION TO MODERN PHYSICS A**

A course for students intending to proceed in the physical sciences. Linear and angular momentum. Atomic and quantum physics. Nuclear and Particle Physics. Cosmology.

Three lectures, one lab (three hours) every other week; one term
Prerequisite: PHYSICS 1B03 or 1C03
Antirequisite: PHYSICS 1A06, 1B06, 1B33, 1C06

**PHYSICS 1BB3 INTRODUCTION TO MODERN PHYSICS B**


Three lectures, one lab (three hours) every other week; one term
Prerequisite: PHYSICS 1B03 or 1C03
Antirequisite: PHYSICS 1A06, 1B06, 1B33, 1C06

**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 I

**PHYSICS 1E03  WAVES, ELECTRICITY AND MAGNETISM**

A course for engineering students. Oscillations and waves, interference; electrostatics, electric potential, circuit elements; magnetic fields, optics.

Three lectures, one lab (three hours) every other week; one term
Prerequisite: Registration in Engineering I

**PHYSICS 2A03  INTRODUCTORY ELECTRICITY AND MAGNETISM**

Electrostatics, D.C. circuits, the magnetic field; Faraday's law of induction; Maxwell's equations.

Three lectures; one term
Prerequisite: One of PHYSICS 1A06, 1B03, 1B06, 1C03, 1C06, and one of MATH 1A33, ARTS&SCI 1D08
Antirequisite: PHYSICS 2B06

**PHYSICS 2B06  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: One of PHYSICS 1A06, 1B03, 1B06, 1C03, 1C06
Corequisite: MATH 2A03 and either 2C03 or 2C03
Antirequisite: PHYSICS 2A03

**PHYSICS 2D03  MECHANICS FOR ENGINEERING**

Dynamics of a particle, central field problem, many-particle systems, the mechanics of rigid bodies, Lagrange's equations.

Three lectures, first term
Prerequisite: Registration in a programme in Engineering Physics
Antirequisite: PHYSICS 2G03, 2K03

**PHYSICS 2H04  THERMODYNAMICS**

An introduction to thermodynamics and its statistical basis at the microscopic level, with applications.

Three lectures, one lab (three hours), tutorial every other week; second term
Prerequisite: MATH 2A03 and credit or registration in MATH 2G03 or 2C03; either one of PHYSICS 1A06, 1B06, 1C06 or both PHYSICS 1B03 (or 1C03) and credit or registration in PHYSICS 1B33 (or 1B83)
Antirequisite: CHEM 2P06, 2P43, 2R03, ENGINEER 2O04, PHYSICS 2H03
Cross-list: ENG PHYS 2H04

**PHYSICS 2K03  MECHANICS AND RELATIVITY**

Dynamics of a particle, central field problem, many-particle systems, Lagrange's equations, Special Relativity.

Three lectures; first term
Prerequisite: Credit or registration in MATH 2A03; one of PHYSICS 1A06, 1B06, 1B33, 1C03
Antirequisite: PHYSICS 2C03, 2D03, 2G03

**PHYSICS 2L03  DYNAMIC SYSTEMS**

The continuation of PHYSICS 2K03, including rigid body motion and chaos.

Three lectures, second term
Prerequisite: PHYSICS 2K03, and credit or registration in either MATH 2C03 or 2C03

PHYSICS AND ASTRONOMY 233
PHYSICS 3A03 \ RELATIVITY
An introduction to general relativity.
Three lectures; one term
Prerequisite: PHYSICS 2C03 or 2K03 and registration in any Honours programme in Science or any programme in the Faculty of Engineering
Offered in alternate years.

PHYSICS 3B06 \ ELECTRONICS
Circuit theorems, principles of semiconductors and devices, bipolar junction transistor (DC biasing and AC model), amplifier circuits (single and multi-stage), field effect transistors and circuits, difference amplifier, feedback, oscillators, operational amplifier and applications.
Two lectures, two terms; one lab (two hours); two terms
Prerequisite: PHYSICS 2B06 or both ENG PHYS 2A03 and 2E04
Antirequisite: PHYSICS 3B03

PHYSICS 3B03 \ ELECTRONICS I
Circuit theorems, principles of semiconductors and devices, bipolar junction transistor (DC biasing and AC model), amplifier circuits (single and multi-stage).
Two lectures, one lab (two hours); first term
Prerequisite: PHYSICS 2B06 or both ENG PHYS 2A03 and 2E04
Antirequisite: PHYSICS 3B06

PHYSICS 3C03 \ ANALYTICAL MECHANICS
Stability theory; Lagrange's equations, conservative Hamiltonian systems; transformation theory and action angle variables; perturbation theory, resonances, non-integrable systems and chaos.
Three lectures; one term
Prerequisite: Credit or registration in, MATH 3C03 and registration in any Honours programme in Science or any programme in the Faculty of Engineering; or registration in Honours Mathematics and Physics; or permission of the instructor
Offered in alternate years.
Offered in 1999-2000.

PHYSICS 3H04 \ INTERMEDIATE LABORATORY
Experiments in atomic physics, neutron physics, optics, spectroscopy, mechanics.
One lecture, one term; one lab (three hours) two terms
Prerequisite: PHYSICS 2B06 and credit or registration in PHYSICS 3M03 or 3H03

PHYSICS 3H03 \ INTERMEDIATE LABORATORY (CO-OP) I
Experiments in atomic physics, neutron physics, optics, spectroscopy, mechanics.
One lecture, one lab (three hours); first term
Prerequisite: PHYSICS 2B06, credit or registration in PHYSICS 3M03 or 3H03, and registration in Level III of Honours Medical and Health Physics Co-op

PHYSICS 3H12 \ INTERMEDIATE LABORATORY (CO-OP) II
The continuation of PHYSICS 3H04.
One lab (three hours); second term
Prerequisite: PHYSICS 3H04

PHYSICS 3I01 \ SEMINAR I
Preparation and presentation of report on first term work.
One seminar (one hour); first term
Prerequisite: Registration in Level IV of Honours Medical and Health Physics Co-op

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: PHYSICS 2M04 (or 2H03), MATH 2A03, and one of MATH 2C03, 2D03; or registration in Honours Chemistry and Physics
Antirequisite: CHEM 4Y09*, PHYSICS 3K04

PHYSICS 3M03 \ QUANTUM MECHANICS AND ITS APPLICATIONS I
Phenomenological basis for quantum physics, topics from atomic and photon physics; wave phenomena; Schrödinger equation for one dimensional systems, barriers, harmonic oscillator.
Three lectures; one term
Prerequisite: One of MATH 3C03, 3I03 and either one of PHYSICS 2B06, ENGINEER 2M33 or both ENG PHYS 2A03 and 2E04; or registration in Honours Mathematics and Physics. MATH 3C03 or 3I03 may be taken concurrently.

PHYSICS 3M33 \ QUANTUM MECHANICS AND ITS APPLICATIONS II
Schrödinger equation for 3D systems with applications to atomic and modern physics.
Three lectures; one term
Prerequisite: PHYSICS 3M03

PHYSICS 3N03 \ 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, 2D04 and one of MATH 2C03, 2003, 2P04; and either PHYSICS 2B06 or both ENG PHYS 2A03 and 2E04

PHYSICS 3Q03 \ MODERN PHYSICS AND WAVE MECHANICS
Phenomenological basis for quantum physics, topics from atomic and photon physics; wave phenomena; Schrödinger equation for one dimensional systems, barriers, harmonic oscillator.
Three lectures; one term
Prerequisite: PHYSICS 2A03 or 2B06
Not open to students with credit or registration in PHYSICS 3M03.

PHYSICS 3Q03 \ INTRODUCTORY QUANTUM MECHANICS
Schrödinger equation for 3D systems with applications to atomic and modern physics.
Three lectures; one term
Prerequisite: PHYSICS 3Q03 and MATH 3C03
Not open to students with credit or registration in PHYSICS 3M03.

PHYSICS 3R03 \ COMPUTATIONAL MEDICAL PHYSICS
A problem-based introduction to the use of numerical methods in medical physics.
Three lectures, one lab (three hours); second term
Prerequisite: Registration in Level III of Honours Medical and Health Physics or Level III or IV of Honours Medical and Health Co-op

PHYSICS 3T03 \ RADIOACTIVITY AND RADIATION INTERACTIONS
Radioactivity and radiation phenomena: interaction of radiations with matter, dosimetry, tracer methods, radiation in medicine, biological effects, radiation levels and regulations, radiation protection.
Three lectures; one term
Prerequisite: One of PHYSICS 1A06, 1B06, 1B03, 1B03, 1C06 or permission of the instructor.
Cross-list: BIOLOGY 3L03

PHYSICS 3X03 \ HUMAN BIOLOGY FOR PHYSICAL SCIENCE
An overview of the structure and the function of the major organ systems of the body with some reference to radiation interactions.
Three lectures; first term
Prerequisite: Registration in Level IV of a Medical and Health Physics programme or permission of the instructor.
Antirequisite: BIOLOGY 3X03

GEO 3Z3 \ GEODESY
Formerly: GEOLOGY 2J03
Application of physical methods to understanding large-scale processes in the Earth. Plate tectonics, structure of Earth's interior, rock magnetism, seismology, gravitation, natural radioactivity, heat flow.
Two lectures, one tutorial; one term
Prerequisite: One of PHYSICS 1A06, 1B03, 1B06, 1G06, 1C06, 1C07
Antirequisite: GEOLOGY 2J03, PHYSICS 2J03, 3Z3

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: One of MATH 2A03, 2C04, and one of MATH 2C03, 2003, 2P04.
Three of PHYSICS 2B06, 2C03, 2D03, 2G03, or 2K03 is recommended.
Not open to students with credit or registration in MATH 3F33, 3J04.

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
Antirequisite: MATH 3K03
Not open to students with credit or registration in MATH 3J04, 3K03.
Not open to students registered in Honours Mathematics and Physics.
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 programme in which PHYSICS 4A03 is required or is a specified option

PHYSICS 4B04  ELECTROMAGNETIC THEORY
Potential theory, electrostatics and magnetostatics in matter, electromagnetic waves and wave guides, radiation from dipoles; Special Relativity and electrodynamics.
Two lectures; two terms
Prerequisite: PHYSICS 2B06 or ENG PHYS 2A03 and 2E04; and MATH 3D03; or registration in Honours Mathematics and Physics

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); first term
Prerequisite: PHYSICS 2B06, or ENG PHYS 2A03 and 2E04
Antirequisite: COMP ENG 3H3B, PHYSICS 4DA3, 4DB3

PHYSICS 4DA3  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 2A03 and 2E04
Antirequisite: COMP ENG 3H3B, PHYSICS 4D06

PHYSICS 4DB3  DIGITAL LOGIC AND COMPUTER SYSTEMS II
The continuation of PHYSICS 4DA3
Two lectures, one lab (three hours); second term
Prerequisite: PHYSICS 4DA3
Antirequisite: PHYSICS 4D06

PHYSICS 4E03  NUCLEAR PHYSICS
Nuclear masses and stability; radioactivity and nuclear reactions; elementary nuclear models.
Three lectures; one term
Prerequisite: PHYSICS 3MM3, or a grade of at least B in PHYSICS 3Q03 or registration in Level IV of an Honours Medical and Health Physics programme.

PHYSICS 4F03  QUANTUM MECHANICS
A sequel to Physics 3MM3, including general structure of quantum mechanics, matrix mechanics, scattering, perturbation theory and the variational method.
Three lectures; one term
Prerequisite: PHYSICS 3MM3, and MATH 3D03; or registration in Honours Mathematics and Physics

PHYSICS 4G03  COMPUTATIONAL PHYSICS
A course using microcomputers to solve selected problems in physics. The emphasis is in applying computational methods to physics, rather than numerical methods or computer programming.
One lab (three hours); one term
Prerequisite: PHYSICS 3MM3

PHYSICS 4I01  SEMINAR II
Preparation and presentation of report on second work term.
One seminar (one hour); second term
Prerequisite: Registration in Level IV of Honours Medical and Health Physics Co-op

PHYSICS 4J04  ADVANCED LABORATORY
Projects in atomic, nuclear and solid state physics. Three or four projects are required, one of which may be associated with a faculty research programme.
One lab (three hours); two terms
Prerequisite: Registration in a programme in which PHYSICS 4J04 is required or is a specified option; or permission of the Chair of the Department

PHYSICS 4K03  SOLID STATE PHYSICS
Crystal structure and binding; lattice vibrations; electron energy bands; metals and semiconductors; magnetism.
Three lectures; one term
Prerequisite: PHYSICS 3MM3 or a grade of at least B- in 3D03 and 3Q03 or registration in Level IV of an Honours Medical and Health Physics programme

PHYSICS 4Q04  RESEARCH PROJECT
An experimental or theoretical project to be carried out under the supervision of a faculty member. A report will be required.
Lab (six hours); two terms
Prerequisite: Registration in Level IV of any Physics programme, a CA of at least 9.0 and permission of the Chair of the Department. Application for permission must be received by March 31st of the previous year.
Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

PHYSICS 4R06  RADIATION AND RADIO ISOTOPE METHODOLOGY
Techniques and theory of the measurement of radiation. Includes radioactivity and radioactive decay, solid state dosimetry, principles of radiotracers, counting statistics and data reduction, advanced multidetector systems. One lecture, one lab (three hours) every other week; two terms
Prerequisite: Registration in Level IV of an Honours Medical and Health Physics programme or permission of the instructor

PHYSICS 4T03  INTRODUCTION TO MEDICAL PHYSICS
Basic concepts in radiology, nuclear medicine, radiotherapy, physiological measurements and laser applications.
Three lectures; one term
Prerequisite: One of MATH 2A03, 2Q04 and one of MATH 2C03, 2P03, 2P04; and either PHYSICS 3T03 or ENG PHYS 3D03

PHYSICS 4Z13  INQUIRY: ENERGY, PHYSICS AND THE ENVIRONMENT
Inquiry seminars are designed to develop skills basic to the systematic investigation of public issues related to Science.
In three lectures or seminars; one term
Prerequisite: Enrolment in Level IV of an Honours (Complementary Studies Option) programme in the Faculty of Science. One of PHYSICS 1A06, 1B06, 1C06, or 1P03 (or 1C03) and 1B03 (or 1BB3) is recommended.
Antirequisite: PHYSICS 2H03, 2H04, SCIENCE 4J03
Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

PHYSICS 4ZJ3  INQUIRY: RELATIVITY AND GRAVITATION
To acquire a qualitative understanding of Einstein's Special and General Theories of Relativity.
In three lectures and tutorials (three hours); one term
Prerequisite: Enrolment in Level IV of an Honours (Complementary Studies Option) programme in the Faculty of Science.
Antirequisite: SCIENCE 4J03
Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

PHYSIOTHERAPY
(SEE OCCUPATIONAL THERAPY AND PHYSIOTHERAPY)

POLISH
(SEE MODERN LANGUAGES, POLISH)

POLITICAL SCIENCE
Faculty as of January 15, 1999

Chair
Richard W. Stubbs

Professors
Michael M. Atkinson/B.A. (Alberta), M.A., Ph.D. (Carleton)
Barbara A. Carroll/B.A. (Manitoba), M.A. (Carleton), Ph.D. (American)
William D. ColemaN/B.A. (Carleton), A.M., Ph.D. (Chicago)
Henry J. Jacek/B.S., B.S. (Fairfield), M.A., Ph.D. (Georgetown)
Thomas J. Lewis/B.A. (Carleton), M.A., Ph.D. (SUNY, Buffalo)
Kim Richard Nossal/B.A., M.A., Ph.D. (Toronto)
Mark Sproule-Jones/B.Sc. (London), M.A., Ph.D. (Indiana) V.K. Copps Chair
in Urban Studies,
Michael B. Stein/B.A. (McGill), M.A., Ph.D. (Princeton)
Richard W. Stubbs/B.Sc. (Wales), M.A. (Lancaster), Ph.D. (Alberta)

PHYSICS AND ASTRONOMY
POLITICAL SCIENCE

Associate Professors
Janet Ajzenstat/B.A. (Toronto), M.A. (McMaster), Ph.D. (Toronto)
George B. Breckenridge/M.A. (Glasgow and Duke), Ph.D. (Duke)
Stefania Szlek Miller/M.A. (McMaster), Ph.D. (Toronto)
Tony Porter/B.A. (McGill), M.A. (Carleton)
John W. Seaman/B.A. (Mount Allison), M.A. (Dalhousie), Ph.D. (Toronto)
Donald M. Wells/B.A. (Western Ontario), M.A. (British Columbia), Ph.D. (Toronto)
Charlotte A. B. Yates/B.A. (Winnipeg), M.A. (Queen's), Ph.D. (Carleton)

Assistant Professors
Karen Bird/B.A. (Wilfrid Laurier), Ph.D. (Minnesota)
Nibaldo H. Galleguillos/B.A. (Chile), M.A., Ph.D. (Toronto)
Leah F. Vosko/B.A. (Trent), M.A. (Simon Fraser), Ph.D. (York)

Associate Members
Rhoda E. Howard (Sociology)/B.A., Ph.D. (McGill)
Julia O'Connor (Sociology)/B.A., M.Soc.Sci. (Ireland), Ph.D. (Toronto)
James J. Rice (Social Work)/B.A. (Sir George Williams), B.S.W., M.S.W. (Calgary), Ph.D. (Exeter)

Professors Emeriti
Adam Brömke/M.A. (St. Andrews), Ph.D. (Montreal and McGill)
William M. Chandler/B.A. (Cornell), Ph.D. (North Carolina)
Marshall N. Goldstein/B.A. (Florida), Ph.D. (North Carolina)
Gordon P. Means/B.A. (Reed College), M.A., Ph.D. (Washington)
Derry Novak/B.A. (Toronto)
Peter J. Potchynj/B.A. (Temple), M.A., Ph.D. (Columbia)
Klaus H. Pringheim/B.A. (California, Los Angeles), M.A. (Columbia)

Department Notes:
1. The Department of Political Science offers courses in Canadian Politics, Comparative Politics, Political Theory, International Politics and Research Methods.
2. Not every Political Science course listed in this Calendar is offered every year. Students should consult the Department after April 1st for the list of courses that will be offered in the following academic year.
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 3N06 (previously 2F06) and 2C06 are required for students in Honours Political Science programmes. These two courses are recommended for students in B.A. programmes.
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. Level III courses identified as "enrolment is limited" have a limit of 50 students. Although priority is given to Political Science students, many Level III courses have spaces for other students.
7. There are no course prerequisites for Level III courses. 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.
8. With the exception of 4206, enrolment in all Level IV courses is limited. In courses cross-listed in the Graduate Calendar (4B86, 4E06, 4G06), the limit is 14 undergraduate students; in all others, the limit is 18. Admission to Level IV limited enrolment courses is by preregistration preferential ballot. Preference will be given as follows:
   a. Level IV Honours and Combined Honours Political Science
   b. Continuing Students
   c. Level III Honours and Combined Honours Political Science
   d. B.A. in Political Science
   e. Others

All students seeking registration in Level IV courses for the Fall/Winter Session including part-time degree students, are urged to consult the Departmental Office (Kenneth Taylor Hall, Room 527) no later than May 1, regarding ballot for the following academic year. Permission from the Department will be required to complete registration in Level IV limited-enrolment courses.

Courses

POL SCI 1G06  POLITICS AND GOVERNMENT
An introduction to the study of politics with the spotlight on Canada, emphasizing critical discussion of issues before us today: social conflict, prospects for democracy, citizens' rights and responsibilities and Canada's future as a nation.
Antirequisite: POL SCI 1A06, 1B03, 1C03, 2G06

POL SCI 2A05  COMPARATIVE POLITICS
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

POL SCI 2B06  U.S. POLITICS
A study of the development, nature, and functioning of the political system of the U.S.A.
Three hours (lectures and tutorials); two terms

POL SCI 2E06  GLOBAL POLITICS
A study of the institutions and processes of the international political system.
Three hours (lectures and tutorials); two terms

POL SCI 2H03  GLOBALIZATION AND THE STATE
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 tutorial); one term

POL SCI 2L06  POLITICAL THEORY
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

POL SCI 2XX3  POLITICS OF THE THIRD WORLD
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

POL SCI 3A06  HISTORY OF POLITICAL IDEAS
A study of the political ideas of some eminent thinkers from classical times to the 19th century.
Three hours; two terms

Enrolment is limited.

POL SCI 3AA3  INTERNATIONAL POLITICS
IN THE POSTWAR PERIOD
A survey of international relations from 1945 focusing on the various approaches to international politics.
Three hours; one term

Enrolment is limited.

POL SCI 3C03  GOVERNMENT AND POLITICS
OF INDIGENOUS PEOPLES
An historical examination of the leadership and politics in Canada's indigenous communities, with a particular focus on pre-contact political structures, the Indian Act and its consequences, and contemporary social questions.
Three hours; one term

Enrolment is limited.

POL SCI 3D03  POLITICS OF RESTRUCTURING:
THE STATE AND THE ECONOMY
An examination of the politics of economic restructuring in selected industrialized countries during the past decade; major issues include privatization, labour policies, and trade agreements.
Three hours; one term

Enrolment is limited.

POL SCI 3D03  PARTICIPATION AND ELITIST
POLITICS IN CANADA
An analysis 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; one term

Antirequisite: POL SCI 3D06

Enrolment is limited.

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

Enrolment is limited.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Description</th>
<th>Hours</th>
<th>Terms</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>POL SCI 3EE3</td>
<td>INTERNATIONAL RELATIONS: NORTH-SOUTH</td>
<td>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. Enrolment is limited.</td>
<td>Three</td>
<td>One</td>
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<td>POL SCI 3F03</td>
<td>CONTEMPORARY SOCIAL MOVEMENTS AND POPULAR COALITIONS</td>
<td>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. Enrolment is limited.</td>
<td>Three</td>
<td>One</td>
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<tr>
<td>POL SCI 3FF3</td>
<td>CANADIAN FOREIGN POLICY</td>
<td>An analysis of recent issues in Canada’s external relations designed to indicate themes, problems and constraints in the making and execution of foreign policy in Canada. Enrolment is limited.</td>
<td>Three</td>
<td>One</td>
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<tr>
<td>POL SCI 3GG3</td>
<td>FEDERALISM: THEORETICAL, CONSTITUTIONAL AND INSTITUTIONAL ISSUES</td>
<td>An analysis of the constitutional framework, evolution, and structure of the federal system in Canada and/or other Western countries. Enrolment is limited.</td>
<td>Three</td>
<td>One</td>
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<tr>
<td>POL SCI 3H13</td>
<td>INTERGOVERNMENTAL POLICY ISSUES IN CANADA</td>
<td>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. Enrolment is limited.</td>
<td>Three</td>
<td>One</td>
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<td>POL SCI 3I03</td>
<td>TOPICS IN AMERICAN POLITICS</td>
<td>The study of a central component of the U.S. political system. Enrolment is limited.</td>
<td>Three</td>
<td>One</td>
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<td>POL SCI 3I13</td>
<td>ELECTIONS AND ELECTORAL BEHAVIOUR IN CANADA</td>
<td>A study of the development, nature and functioning of the electoral process in Canada and the basis of voters' decisions. Enrolment is limited.</td>
<td>Three</td>
<td>One</td>
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<tr>
<td>POL SCI 3JJ3</td>
<td>PROVINCIAL POLITICS IN CANADA</td>
<td>A study of the development, nature and functioning of the political systems of the Canadian provinces. Enrolment is limited.</td>
<td>Three</td>
<td>One</td>
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<tr>
<td>POL SCI 3L03</td>
<td>THE AMERICAN PRESIDENCY</td>
<td>An examination of the office of the American presidency and the ideological and institutional environment within which it functions. Enrolment is limited.</td>
<td>Three</td>
<td>One</td>
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<td>POL SCI 3N06</td>
<td>RESEARCH METHODS, STATISTICS AND POLITICAL ANALYSIS</td>
<td>An introduction to the study of concept and theory formation, and an overview of the scope, research methods and statistical techniques of political science. Enrolment is limited.</td>
<td>Three</td>
<td>Two</td>
<td>Enrolment is limited. (See Note 4 above.)</td>
</tr>
<tr>
<td>POL SCI 3N66</td>
<td>PUBLIC LAW</td>
<td>A study of the nature and function of public law, with special reference to constitutional law and judicial behaviour. Enrolment is limited.</td>
<td>Three</td>
<td>Two</td>
<td>Enrolment is limited.</td>
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<td>POL SCI 3O06</td>
<td>MODERN POLITICAL THOUGHT</td>
<td>A critical analysis of modern political ideas, from the early nineteenth century to the present time, with special emphasis on the theories of modern conservatism, liberalism, socialism, fascism and democracy. Enrolment is limited.</td>
<td>Three</td>
<td>Two</td>
<td>Enrolment is limited.</td>
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</tbody>
</table>
POL SCI 3Z03  PUBLIC ADMINISTRATION:
STRUCTURES AND PROGRAMME DELIVERY
The organizational arrangements for implementing public policies in Canada, including an assessment of their efficiency, effectiveness and accountability. 
Three hours; one term
Prerequisite: POL SCI 3Z06
Enrolment is limited.

POL SCI 3Z23  PUBLIC ADMINISTRATION:
THEORY AND DECISION-MAKING
Explanations of organizational design, bureau resources and other public management issues in Canada. 
Three hours; one term
Prerequisite: POL SCI 3Z06
Enrolment is limited.

POL SCI 4A06  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 of POL SCI 2B06, 3I03, 3L03 and permission of the Department
Enrolment is limited.

POL SCI 4B86  THE TRIAL OF SOCRATES
Plato's understanding of the status of philosophy with respect to politics and rhetoric on the basis of the dialogues thematically connected to the trial and death of Socrates. 
Three hours (seminar); two terms
Prerequisite: Registration in Level IV of any programme, a course in Political Theory and permission of the Department
Enrolment is limited.

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: POL SCI 2E06 and permission of the Department
Antirequisite: POL SCI 4D03, 4F06
Enrolment is limited.

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 programme, a course in Political Theory and permission of the Department
Not open to students with credit in POL SCI 4U06 if taken in 1995/96.
Enrolment is limited.

POL SCI 4G06  COMPARATIVE PUBLIC POLICY
A critical analysis of the formation, content and impact of public policy within advanced industrial societies. 
Three hours (seminar); two terms
Prerequisite: Six units of Comparative Politics and permission of the Department
Enrolment is limited.

POL SCI 4H03  ADVANCED STATISTICAL ANALYSIS
An outline of advanced levels of measurement and descriptive statistics, and a study of the logic of statistical inference and its applications. 
Three hours (lectures and labs); one term
Prerequisite: POL SCI 3N06 and permission of the Department
Antirequisite: SOCIOL 4203

POL SCI 4M06  ISSUES IN INTERNATIONAL POLITICS
An examination of selected topics in international politics and foreign policy. 
Three hours (seminar); two terms
Prerequisite: A course in International Relations and permission of the Department
Enrolment is limited.

POL SCI 4MM5  INTERNATIONAL RELATIONS
OF THE PACIFIC RIM
An examination of the major international and regional economic and strategic issues that currently preoccupy the governments and peoples of the Pacific Rim. 
Three hours (seminar); two terms
Prerequisite: A course in International Relations and permission of the Department
Enrolment is limited.

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: One of POL SCI 1G06 or 2G06; registration in Level IV of any programme and permission of the Department
Enrolment is limited.

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 3N03 and permission of the Department
Enrolment is limited.

POL SCI 4S06  CANADIAN POLITICAL THEORY
An investigation into the character of Canadian liberalism and the various critiques of liberalism found in the works of G.P. Grant, C.B. Macpherson, George Woodcock and other Canadian political theorists. 
Three hours (seminar); two terms
Prerequisite: Two courses from Political Theory, Canadian Politics, or Philosophy and permission of the Department
Enrolment is limited.

POL SCI 4W06  QUEBEC POLITICS
The political ideology of Quebec-based parties and movements, the impact of industrialization upon Quebec culture, and the economic implications of separation. 
Three hours (seminar); two terms
Prerequisite: One of POL SCI 1G06 or 2G06 and permission of the Department
Enrolment is limited.

POL SCI 4Z06  HONOURS ESSAY
A major piece of scholarly writing designed to cap the undergraduate Honours programme in Political Science. 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 any Honours programme in Political Science. For registration in the summer, written permission of the Course Coordinator is also required.

PSYCHOLOGY
Faculty as of January 15, 1999
Chair
Betty A. Levy

Professors
Lorraine G. Allan/B.A., M.A. (Toronto), Ph.D. (McMaster)
Lee F. Brooks/A.B. (Columbia), M.S., Ph.D. (Brown)
Martin Daly/B.A. (Toronto), M.A. (McGill), Ph.D. (Toronto)
Denys deCanganiano/B.A., M.A. (Carleton), Ph.D. (British Columbia)
Bennett G. Galef/A.B. (Princeton), M.A., Ph.D. (Pennsylvania)
Larry L. Jacoby/B.A. (Washburn), M.A., Ph.D. (Southern Illinois)
Betty A. Levy/B.A. (Dalhouse), M.A., Ph.D. (Toronto)
Stephen W. Linkl/A.B. (Colorado), Ph.D. (Stanford)
Daphne M. Launder/B.A. (Swarthmore), M.A. (Pennsylvania), Ph.D. (Mississippi)
John R. Platt/B.A. (Kansa), Ph.D. (Texas)
Ronald J. Racina/B.Sc. (Oregon), M.Sc., Ph.D. (McGill)
Larry E. Roberts/A.B., Ph.D. (Minnesota)
Shepard Slager/A.B. (New York), M.S., Ph.D. (Yale)
Harvey Shelzberger/B.Sc. (McGill), M.S., Ph.D. (Yale)

Adjunct Professors
Mertic M. Clark/B.A., Ph.D. (McMaster)
Terri L. Lewis/B.A. (Toronto), Ph.D. (McMaster)

Associate Professors
Sue Becker/B.A., M.Sc. (Queen's), Ph.D. (Toronto)
Richard B. Day/B.A. (Massachusetts), M.A. (Iowa), Ph.D. (McMaster)
Kathryn M. Murphy/B.A. (Western Ontario), M.A., Ph.D. (Dalhousie)
Laurel J. Trainor/ARCT (Royal Conservatory of Toronto), B.Mus., M.A., Ph.D. (Toronto)
Assistant Professors
Bruce Milliken/B.A., Ph.D. (Waterloo)
Louis A. Schmidt/B.A. (Maryland), M.S. (Baltimore), Ph.D. (Maryland)
Judith M. Shedden/B.Sc. (Alberta), M.S., Ph.D. (Pittsburgh)
Hongjin Sun/B.Sc., M.Sc. (Peking), M.A. (Western Ontario), Ph.D. (Queen's)

Associate Members
Suzanne M. Archie/(Psychiatry) B.Sc., M.D. (McMaster), F.R.C.P.S.
Ramona M. Carbottel/(Psychiatry) B.Sc. (Manitoba), M.Sc. (McGill), Ph.D. (McMaster)
Charles E. Cunningham/(Psychiatry) B.A. (California State), M.A. (San Diego State), Ph.D. (The American University).
John R. Davies/(Psychiatry) B.A. (George Washington), M.A., Ph.D. (Wayne State)
Joseph M. Ducharme/(Psychiatry) B.A., M.A., (Windsor), Ph.D. (Toronto)
Jan E. Fleming/(Psychiatry) B.Sc., M.D. (Toronto)
Eleni Haploud/(Psychiatry) B.A. (The American College of Greece), M.A. (New Brunswick), Ph.D. (McMaster)
Joel P. Hunder/(Psychiatry) B.A., M.A. (McMaster), Ph.D. (Western Ontario)
Ellen Lipman/(Psychiatry) B.Sc. (Western Ontario), M.D., M.Sc. (McMaster)
Harriet L. MacMillan/(Psychiatry) M.D. (Queen's), M.Sc. (McMaster), F.R.C.P.S.
William Mahoney/(Pediatrics) M.D. (McMaster)
Catherine L. Mancini/(Psychiatry) B.Sc., M.Sc., M.D. (Western Ontario)
Harold R. Miller/(Psychiatry) A.B., M.Sc. (Ohio), Ph.D. (Missouri)
Alison G. Nicoll/(Psychiatry) B.A., M.A., Ph.D. (York)
Christopher David Rolfo/(Biology) B.Sc., M.Sc. (Guelph), Ph.D. (British Columbia)
Patricia I. Roseshush/(Psychiatry) B.Sc.N., M.Sc.N. (Toronto), M.D. (McMaster), F.R.C.P.S.
Mark N. Sanford/(Psychiatry) M.B., Ch.B. (Otago)
Karen L. Shue/(Psychiatry) B.A. (Hood College), Ph.D. (McGill)
William Sulis/(Psychiatry) B.Sc. (Carleton), M.D., M.A., Ph.D. (Western Ontario), F.R.C.P.C.
Henry Szechmunic/(Biomedical Sciences) B.Sc., Ph.D. (Pittsburgh)
Michael A. Van Ameringen/(Psychiatry) B.Sc., M.D. (McMaster)
Priyanthy Weerasekera/(Psychiatry) B.A., M.D. (McMaster), M.Ed. (Harvard)
Trevor Young/(Psychiatry) M.D. (Manitoba), M.Sc., Ph.D. (Toronto)

Profei'sors Emeriti
Ian M. Beg/B.A., M.A., Ph.D. (Western Ontario)
D. William Carment/B.A. (Saskatchewan), M.A., Ph.D. (Toronto)
Herbert M. Jenkins/A.B. (Oberlin), Ph.D. (Harvard)
Alfred B. Kristofferson/B.S., M.A., Ph.D. (Michigan)
G. Rolfe Morrison/B.Sc., M.Sc. (McGill), Ph.D. (Brown)
Roy M. Pritchard/B.Sc., Ph.D. (Reading)
Grant K. Smith/B.Sc., Ph.D. (McGill)

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. Registration in all courses with a course code ending "**" (ie. selected topics, independent research, individual readings and honours essays) requires written permission of the Department. Registration with appropriate permission must be completed no later than the last day for registration as stated in the Calendar under Sessional Dates.
3. In certain cases students lacking the specific prerequisites listed for a course may be deemed, by the course instructor, to have equivalent qualifications. In such cases permission to register in the course may be requested from the instructor.
4. Students who entered Level II Honours B.A. Psychology before September 1994, may, in Level IV register for PSYCH 4D06 (Psychology Thesis) with permission of the course coordinator: These students will be transferred to Honours Psychology (Specialist Option).

Courses

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 1A06

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
Antirequisite: PSYCH 1A06

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 course is designed for students not registered in a psychology programme or not wishing to do further work in developmental psychology. Others are referred to PSYCH 3G03.
Three lectures; one term
Prerequisite: PSYCH 1A03 or 1A06
Antirequisite: Psych 2A09, 3G03, 3G03

PSYCH 2B03 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 or 1A06 or registration in Honours Biology and Psychology

PSYCH 2C03 INTRODUCTION TO SOCIAL PSYCHOLOGY
An overview of research and 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 or 1A06 or registration in Honours Biology and Psychology

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 1A06 or 1A03 or registration in Honours Biology and Psychology

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 or 1A06 or registration in Honours Biology and Psychology, and BIOLOGY 1A03 or 1A06
Antirequisite: PSYCH 3F03

PSYCH 2G03 PSYCHOLOGICAL STATISTICS
An introduction to descriptive statistics and to the logic of statistical inference. This course is intended to provide an understanding of statistical procedures commonly found in the psychological literature.
Three lectures; one term
Prerequisite: One of MATH 1A03, 1A06, 1A6, 1C03, 1C06, 1K03 or 1M03 and registration in B.A. Psychology or B.A. Psychology Major
Antirequisite: PSYCH 2P03, STATS 1C03
Not open to students with credit or registration in PSYCH 2R03, STATS 2P06 or equivalent

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 term
Prerequisite: PSYCH 1A03 or 1A06 or registration in Honours Biology and Psychology
PSYCH 2003 NEUROPSYCHOLOGY
Neural organization and the relationship between human brain function and behaviour.
Three lectures; one term
Prerequisite: PSYCH 1A03 or 1A06
Antirequisite: PSYCH 2W06, 3F03
Not open to students with credit or registration in PSYCH 2F03.

PSYCH 2R03 RESEARCH DESIGN AND STATISTICS FOR PSYCHOLOGISTS
Advanced statistical principles in the design and analysis of experiments in psychology. Parametric and non-parametric techniques for two sample and multiple sample designs.
Three lectures; one term
Prerequisite: STATS 1C03 and registration in an Honours Psychology programme, or STATS 1C03 with a grade of at least C+ and registration in a Psychology programme, B.Sc. Life Science, or the Honours Science (Complementary Studies Option) Stream B programme, or PSYCH 2F03 and registration in a Psychology programme, B.Sc. Life Science, or the Honours Science (Complementary Studies Option) Stream B programme.
Antirequisite: STATS 2M03, 2R06.
Not open to students with credit or registration in STATS 2D03.

PSYCH 2T03 PRINCIPLES OF CONDITIONING
An experimental survey of conditioning processes based on the study of animal behaviour.
Three lectures; one term
Prerequisite: PSYCH 1A03 or 1A06 or registration in Honours Biology and Psychology

PSYCH 3A03 AUDITION
An introduction to auditory perception. The emphasis is on the application of classical and modern psychoacoustical methods to the development of theories of hearing.
Three lectures; one term
Prerequisite: PSYCH 2E03 or 2V03

PSYCH 3B03 SPECIAL POPULATIONS
Discusses selected topics related to normal and atypical development in children, including behavioral and affective disorders, developmental disability, and perceptual or cognitive disorder.
Three lectures; one term
Prerequisite: One of Psych 2A03, 2A06, 3GG3, 3J03

PSYCH 3F03 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 2F03 or 2V03
Antirequisite: PSYCH 3F03

PSYCH 3G03 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: 6 units from PSYCH 2E03, 2F03, 2H03, 2T03, 3G03, and one of PSYCH 2G03, 2R03, STATS 1C03
Antirequisite: PSYCH 2A03, 3G03

PSYCH 3H03 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, 3GG3
Antirequisite: PSYCH 3G03
Offered in alternate years.

PSYCH 3I03 COGNITIVE DEVELOPMENT
The development of attention, concepts, memory, reasoning and language.
Three lectures; one term
Prerequisite: PSYCH 2H03, 3GG3
Antirequisite: PSYCH 3H03
Offered in alternate years.
Offered in 1999-2000.

PSYCH 3J03 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, 3GG3
Offered in alternate years.

PSYCH 3L03 NEUROPSYCHOLOGY
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 behavioral 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 year, with selection for placements announced by March 15.
Prerequisite: PSYCH 2R03; registration in Level III or IV of an Honours Psychology or Combined Honours Psychology programme and permission of the coordinator. This course cannot be combined with any independent study course with the same supervisor.
Antirequisite: PSYCH 3I03
Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

PSYCH 3M03 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 or 1A06, and one of PSYCH 2G03, 2R03, STATS 1C03, 2R06. Students with grades less than B+ in PSYCH 2G03 are advised not to enrol in this course.

PSYCH 3N03 NEUROSCIENCE LABORATORY
Seminars and laboratory experience in current problems in neuroscience. Two hours, seminar; three hours lab; one term
Prerequisite: One of PSYCH 2E03, 2F03, BIOLOGY 3P03 and registration in Level III or IV of an Honours programme.
Antirequisite: PSYCH 4G03
Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

PSYCH 3P03 GENERAL EXPERIMENTAL PSYCHOLOGY LABORATORY
Students undertake to learn critical appraisal skills and to answer general and specific questions by manipulating and analyzing real or simulated data sets drawn from a variety of areas in psychology.
Tutorials, lab by appointment; one term
Prerequisite: PSYCH 2R03 and registration in an Honours Psychology programme

PSYCH 3Q03 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, 2V03

PSYCH 3R03 ABNORMAL PSYCHOLOGY I (FUNDAMENTALS)
Fundamentals of clinical psychology, including viewpoints on the nature of behavioural disorder, diagnostic systems, clinical judgement, and treatment approaches.
Three lectures; one term
Prerequisite: Six units from PSYCH 2E03, 2F03, 2H03, 2003, 2T03 or 2V03 or registration in Level III or IV of a Nursing or Social Work programme
Antirequisite: PSYCH 3N03

PSYCH 3S03 ABNORMAL PSYCHOLOGY II (MAJOR DISORDERS)
A review of the major forms of mental disorder including dementia, neuropsychological disorder, schizophrenia, mood and anxiety disorders, psychophysiological disorders, addiction, and problems of sexual adaptation.
Three lectures; one term
Prerequisite: Credit or registration in PSYCH 3N03
Antirequisite: PSYCH 3N06
PSYCH 3P03
PSYCHOLOGICAL TOPICS IN THINKING
Areas to be examined include decision making, inference and problem solving. Particular attention will be paid to the informal reasoning and heuristics that are crucial to everyday decisions.
Three lectures; one term
Prerequisite: One of PSYCH 2H03, 2V03 and one of PSYCH 2G03, 2R03, STAT 1C03 (or an equivalent course in statistics)

PSYCH 3Q03**
INDIVIDUAL STUDY I
A library project that may extend over both terms. Students intending to register must first consult a faculty member and the course coordinator.
Prerequisite: Registration in Level III or IV and permission of the course coordinator. Application for permission must be received by March 31st of the previous year.
Antirequisite: PSYCH 3Q03**

PSYCH 3Q03**
INDIVIDUAL LAB STUDY I
A laboratory project that may extend over both terms. Students intending to register must first consult a faculty member and the course coordinator.
Prerequisite: Registration in Level III or IV and permission of the course coordinator. Application for permission must be received by March 31st of the previous year.
Antirequisite: PSYCH 3Q03**

PSYCH 3R03
INTRODUCTION TO ANIMAL BEHAVIOUR
The development, stimulus control, and function of behaviour as seen in evolutionary perspective. Instinctive behaviour, learned behaviour, and their interactions.
Three lectures; one term
Prerequisite: Registration in a Psychology programme, B.Sc. Life Science, the Honours Science (Complementary Studies Option) Stream B programme, or in a four-level programme in Biochemistry or Biology

PSYCH 3S03
ANIMAL BEHAVIOUR LABORATORY
Experiments involving a wide variety of animal species, both vertebrate and invertebrate.
One lab (three hours); one term
Prerequisite: PSYCH 3R03 and registration in an Honours programme in Psychology or Biology
Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

PSYCH 3T03
SOCIOBIOLOGY
Social behaviour of people and other animals from the perspective of evolutionary theory. Topics include aggression, altruism, kinship, parent-offspring interaction, sex and reproduction.
Three lectures; one term
Prerequisite: One of ANTHROP 2D03, 2E03, BIOLOGY 2C03, 3U03, PSYCH 3R03

PSYCH 3U03
HUMAN LANGUAGE PROCESSING
Cognitive processes involved in encoding, storing and retrieving spoken and written language will be discussed in terms of information processing models.
Three lectures; one term
Prerequisite: PSYCH 2H03 or 2V03 and registration in Level III or IV of a Psychology, Computer Science, or Linguistics programme, B.Sc. Life Science, or the Honours Science (Complementary Studies Option) Stream B programme

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 3V03, and STAT 2R06, or credit or registration in PSYCH 2R03 and registration in Level III or IV of an Honours Psychology programme
Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

PSYCH 3V03
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 or 2V03 and registration in Level III or IV of a Psychology programme, B.Sc. Life Science, or the Honours Science (Complementary Studies Option) Stream B programme

PSYCH 3W03
NEURAL COMPUTATION
An introduction to the use of neural network computational models for understanding the neural bases of psychological processes, and for solving real-world problems.
Three lectures; one term
Prerequisite: COMP SCI 1M03 or COMP SCI 1S03 with a grade of at least B- and one of MATH 1A03, 1N03, ARTS & SCI 1D06. MATH 1B03 is strongly recommended.
Cross-list: NEURCOMP 3W03

PSYCH 3W03
MEASURING THE MIND
The course reviews, discusses, and illustrates how psychophysical theories and experiments about discrimination, preference and choice, are crucial to the development of modern experimental psychology.
Three lectures; one term
Prerequisite: PSYCH 2E03 or 2V03 and PSYCH 2R03

PSYCH 3X03
COGNITIVE NEUROPSYCHOLOGY OF AGING
An introduction from the neuropsychological perspective of the impact of aging on cognitive functions such as attention, memory, and language.
Three lectures; one term
Prerequisite: PSYCH 1A03 or 1A06, 2G03 or 2F03 and 2H03
Antirequisite: PSYCH 3003

PSYCH 3X03
TEACHING PRACTICUM
This course is designed to give a maximum of 70 Honours Psychology students practical experience with general teaching methods as they relate to the classroom teaching of Psychology. Applications must be submitted to the coordinator by February 1 of the preceding year, with selection for placements announced by March 15.
One lecture and one practicum; two terms
Prerequisite: Registration in Level III or IV of an Honours Psychology programme and permission of the course coordinator.
Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

PSYCH 3Z03
CONCEPTUAL AND ASSESSMENT ISSUES FOR PEOPLE WITH DEVELOPMENTAL DISABILITIES
Conceptual and assessment issues related to interventions for problems associated with children and adults with developmental disabilities.
Three lectures; one term
Prerequisite: Credit or concurrent registration in PSYCH 3N03 and registration in a Psychology programme.

PSYCH 3ZZ3
TREATMENT APPROACHES FOR PEOPLE WITH DEVELOPMENTAL DISABILITIES
Treatment issues related to problems associated with children and adults with developmental disabilities.
Three lectures; one term
Prerequisite: PSYCH 3Z03 and registration in a Psychology programme.

PSYCH 4B03
HISTORY OF PSYCHOLOGY
An historical account of the main lines of development of psychology.
Three lectures; one term
Prerequisite: Registration in Level IV Honours Psychology or Level IV Major Psychology with a CA of at least 6.0

PSYCH 4C03
LANGUAGE DISORDERS IN CHILDHOOD
Seminar with student presentations on selected language disorders. Papers will be required.
Three hours (seminar); one term
Prerequisite: Registration in Level IV of an Honours Psychology programme and PSYCH 3U03
Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

PSYCH 4D06
PSYCHOLOGY THESIS
Students conduct an individual research project under the supervision of a faculty member. Three copies of a completed thesis must be submitted to the Psychology Department Office by the end of classes.
Prerequisite: Registration in Level IV of an Honours (Specialist Option) or Combined Honours (B.Sc.) programme in Psychology for which this course is required. If space permits, students in the non-specialist Honours Psychology programmes may be permitted to register. Permission must be requested from the course coordinator by March 1. If PSYCH 3G03**, 3Q03**, 4Q03**, or 4Q03** is taken concurrently with PSYCH 4D06, a different faculty member must supervise each course. (See Department Note 4.)
Antirequisite: BIOLOGY 4C09
Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.
**RELIGIOUS STUDIES**

**Faculty of as of January 15, 1999**

**Chair**

Stephen R. Westerholm

**Professors**

Phyllis Granot/B.A. (Radcliffe College), Ph.D. (Harvard)
David R. Kinsey/B.A. (Drew), B.D. (Union Theological Seminary), M.A., Ph.D. (Chicago)
Alan Mendelson/A.B. (Kenyon College), M.A. (Brandeis), Ph.D. (Chicago)
Adele Reinhartz/B.A. (Toronto), M.A., Ph.D. (McMaster)
John C. Robertson/B.A. (Texas Wesleyan College), B.D. (Southern Methodist University), S.T.M., M.A., Ph.D. (Yale)
Koichi Shinohara/B.L., M.L. (Tokyo), Ph.D. (Columbia)

**Associate Professors**

Ellen Badona/B.A., M.A. (Toronto), Ph.D. (California, Berkeley)
P. Travis Kroeker/B.A. (Winnipeg), M.A. (Manitoba), Ph.D. (Chicago)
Stephen R. Westerholm/B.A., M.A. (Toronto), D.Th. (Lund)
Wayne K. Whiller/B.A. (Sir George Williams), Ph.D. (McMaster)/part-time

**Associate Member**

Virginia Aksan/(History) B.A.(Allegheny College), M.L.S. (California-Berkeley), M.A., Ph.D. (Toronto)

**Professors Emeriti**

John G. Arapura/B.A. (Sarum College, and Bishop's College, Calcutta), S.T.M., Ph.D. (Columbia)
A. Eugene Combs/B.A. (Trinity, San Antonio), M.Div. (Union Theological Seminary), Ph.D. (Columbia)
Louis I. Greenspan/M.A. (Dalhouse), Ph.D. (Brandeis)
Yun-hua Jan/M.A., Ph.D. (Visva-Bharati)
Johannis J. Mol/B.D. (Union Theological Seminary), M.A., Ph.D. (Columbia)
Gérard Vallée/B.A. (Laval), M.A., Ph.D. (Montréal), Ph.D. (Münster)
Paul Younger/A.B. (LaFayette), M.A. (Banaras), B.D. (Sarum College), Th.M., M.A., Ph.D. (Princeton)

**Department Notes:**

Students are advised to consult both the Department's Handbook (available in University Hall 105) and the Undergraduate Timetable for a list of courses offered in the current year. It is especially important that students interested in the Level IV Advanced Reading courses (4AA3, 4BB3, 4CC3, and 4DD3) consult a departmental undergraduate advisor.

**Courses**

If no prerequisite is listed, the course is open.

**RELIG ST 1B06** 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 1D06** 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 1E06  IDEAS OF LOVE
This course will discuss 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 1H03  RELIGIOUS DISSERTATION AND REVITALIZATION
A study of recent dissent from establishment religion as exemplified in feminist thought, liberation theology, and ecological spirituality. Two lectures, one tutorial; one term

RELIG ST 1I03  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 2A03  MYSTICISM IN HINDU AND CHRISTIAN TRADITIONS
An exploration of the unique and common characteristics of mysticism in the Hindu and Christian traditions, both in its philosophical and popular expression through the study of selected texts. Two lectures, one tutorial; one term

RELIG ST 2B03  WOMEN IN THE BIBLICAL TRADITION
This course will focus on the portrayal of women 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 2C03  MORAL ISSUES
An introduction to moral philosophy accenting 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 and above
Cross-list: PHILOS 2D03
Enrollment is limited to 475 students

RELIG ST 2CC3  SPIRITUAL AUTOBIOGRAPHIES
A study of the interplay of self and circumstance in the quest for personal identity in selected modern autobiographies: Rousseau, Goethe, Tolstoy, Merton and Weil. Two lectures, one tutorial; one term

RELIG ST 2DD3  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 2E03  ENGAGED BUDDHISM
A study of contemporary Buddhist thinkers from Asia and the West who have advocated a renewed, socially engaged Buddhism that addresses issues of war, oppression and the destruction of the environment. Two lectures, one tutorial; one term

RELIG ST 2EA3  ISLAM AND MEDITERRANEAN SOCIETY, 600-1300
An introduction to Islamic civilization from its beginnings in Arabia to the period of the Crusaders, with an emphasis on Mediterranean culture of the period. Three lectures; one term

Prerequisite: Registration in Level II and above
Antirequisite: RELIG ST 2C06
Cross-list: HISTORY 2EA3

RELIG ST 2EB3  ISLAM IN THE WORLD, 1300-1800
A survey course which emphasizes the role of Islam in the global setting in the period of the great Islamic empires. Three lectures; one term

Prerequisite: Registration in Level II and above
Antirequisite: RELIG ST 2C06
Cross-list: HISTORY 2EB3

RELIG ST 2EE3  THE PROPHETS
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 2G03  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  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 2H03  PAUL AND CHRISTIAN ORIGINS
A study of the controversial role played by Paul in the definition and expansion of early Christianity, based on the Acts of the Apostles and Paul's own extant correspondence. Two lectures, one tutorial; one term

RELIG ST 2I03  CHRISTIANITY IN THE PATRIOTIC 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 2J06  INDIA: ITS CULTURE, SOCIAL HISTORY, RELIGION AND PHILOSOPHY
A systematic study of the intellectual and spiritual traditions of India. The course will include political, economic and social thought, as well as religion and philosophy. Two lectures, one tutorial; two terms

RELIG ST 2J03  CHRISTIANITY IN THE MEDIEVAL PERIOD (800-1500)
The development of Christianity in the Middle Ages and its relation to political and intellectual context. Primary texts will illustrate typical aspects of medieval religion, learned and popular. Two lectures, one tutorial; one term

RELIG ST 2K03  CHRISTIANITY IN THE REFORMATION PERIOD
The place of the Reformation in the development of Christian thought and practice - its background, context and sequels. 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 and above

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, focussing on biomedical, social and cultural themes. Two lectures, one tutorial; one term

Prerequisite: Registration in Level II and 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
RELG ST 2Q33 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

RELG ST 2R33 INTRODUCTION TO HINDU PHILOSOPHY
An introduction to the vast field of Hindu philosophy from the poetic writings of the Vedas to the development of speculative inquiry in the Upanisads. Primary emphasis is on Indian modes of inquiry and the typical answers bearing upon reality, life and the world.
Two lectures; one tutorial; one term

RELG 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

RELG ST 2T03 TOPICS IN INDIAN PHILOSOPHY
This course explores select themes in Indian philosophy through a reading of primary texts in English translation. Possible topics include: an examination of Indian concepts of the soul, free will and determinism, origins of the universe and Indian debates concerning the existence and function of an omnipotent god.
Two lectures; one tutorial; one term

RELG ST 2U03 RELIGION AND MORALITY I: ANCIENT AND MEDIEVAL
An examination of the development of moral thought in the West through a study of pre-modern texts and authors, such as the Bible, the Greeks, Augustine, and Thomas Aquinas.
Two lectures; one tutorial; one term

RELG ST 2V03 ISLAM AND THE MODERN WORLD
The spread of Islam as a minority community, the role of women in Islam and fundamentalism.
Two lectures; one tutorial; one term

RELG ST 2V33 BIBLE AS STORY
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 2V03

RELG 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

RELG ST 2W33 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

RELG ST 2Y03 RELIGION AND THE CULTURE OF THE TWENTIETH CENTURY I
A study of religion in the thought of the founding figures of the twentieth century. Topics include: religion and the promise of science; religious modernism; Freud; Marxism; religion in the age of ideology.
Two lectures; one tutorial; one term

RELG ST 2Y33 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

RELG ST 2Z33 GREEK AND ROMAN RELIGION
A study of the role of religion in Greek and Roman public and private life.
Three lectures; one term

Prerequisite: Registration in Level II and above
Cross-list: CLASSICS 2Z03

RELG ST 2ZZ3 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

RELG ST 3A33 POPULAR RELIGION IN INDIA
The Music, Dance and Festivals of Indian Temples will be analyzed in terms of their social, psychological and political implications.
Two lectures; one tutorial; one term

Antirequisite: RELIG ST 2N3
Cross-list: HISTORY 3D03

RELG ST 3E03 JAPANESE RELIGION
Two lectures; one tutorial; one term

Prerequisite: Six units of Religious Studies courses above Level I

Cross-list: JAPAN ST 3E03

RELG 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

RELG 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.
Two lectures; one tutorial; one term

Cross-list: JAPANESE 3H03

RELG ST 3I03 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

RELG ST 3I33 RELIGION AND SOCIAL JUSTICE
An examination of concepts of justice, ancient and modern, and their relationship to religious understandings of human nature and society.
Two lectures; one tutorial; one term

Antirequisite: RELIG ST 2I03

RELG ST 3K33 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

RELG ST 3L03 ISSUES IN ASIAN RELIGIOUS THOUGHT: INDIA
Readings of Indian religious texts in translation will centre around 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

RELG ST 3L33 RELIGION AND HUMAN NATURE
An examination of 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

RELG 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
Two lectures, one tutorial; one term

RELIG ST 3N03 JOHNS PORTRAIT OF JESUS
An examination of the Gospel of John, with emphasis on his personal background, his literary character and his distinctive theology. The history of the Johannine community will also be considered.
Two lectures, one tutorial; one term
Prerequisite: RELIG ST 2003

RELIG ST 3N03 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 3R03 DEATH AND THE AFTERLIFE IN EARLY JUDAISM AND CHRISTIANITY
An examination of the variety of ways in which physical death and the after-life were understood in biblical and post-biblical Judaism as well as in the New Testament and early Christianity. Among the topics to be considered are the netherworld, immortality and resurrection, as well as the relationship of these concepts to issues of life and morality.
Two lectures, one tutorial; one term

RELIG ST 3S03 ISSUES IN ASIAN RELIGIOUS THOUGHT: EAST ASIA
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 III and above
Cross-list: ARTS&SCI 3S03, JAPAN ST 3S03

RELIG ST 3T03 THE QUEST FOR THE HISTORICAL JESUS
A look at the continuing scholarly effort to reconstruct the career and teaching of the historical Jesus.
Two lectures, one tutorial; one term

RELIG ST 3U03 THE BUDDHIST TRADITION IN INDIA
A study of the origins and early development of Indian Buddhism, largely through readings in Buddhist scripture (pre-Mahayana and Mahayana) in translation.
Two lectures, one tutorial; one term

RELIG ST 3U03 CH’AN AND ZEN BUDDHISM
An examination of Ch’an and Zen Buddhist myth, history, doctrine, monastic culture, and ritual practice.
Two lectures, one tutorial; one term
Cross-list: JAPAN ST 3U03

RELIG ST 3W03 PLATO: RELIGIOUS AND POLITICAL THEMES
An examination of ethical, political, philosophic and religious themes in selected Platonic dialogues, including the Apology of Socrates, Phaedo, Symposium, Gorgias and Republic.
Two lectures, one tutorial; one term

RELIG ST 3Z03 JUDAISM, THE JEWISH PEOPLE AND THE BIRTH OF THE MODERN WORLD
On the issues 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
Prerequisite: RELIG ST 2X03
Cross-list: HISTORY 3Z03

RELIG ST 3Z03 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
Prerequisite: RELIG ST 2X03
Cross-list: HISTORY 3Z03

RELIG ST 4A06 HONOURS SEMINAR
A seminar in selected topics in the study of religion, including a presentation and discussion of research conducted by students in the Honours Research Course (4J06).
Seminar (three hours); two terms
Prerequisite: Registration in Level IV Honours Religious Studies.

RELIG ST 4A43 ADVANCED READING: ASIAN RELIGIONS
Independent study of special topics in Asian Religions.
Prerequisite: Registration in Level IV of an honours programme and written permission of the supervising instructor

RELIG ST 4B43 ADVANCED READING: BIBLICAL STUDIES
Independent study of special topics in Biblical Studies.
Prerequisite: Registration in Level IV of an honours programme and written permission of the supervising instructor

RELIG ST 4C43 ADVANCED READING: WESTERN RELIGIOUS THOUGHT
Independent study of special topics in Western Religious Thought.
Prerequisite: Registration in Level IV of an honours programme and written permission of the supervising instructor

RELIG ST 4D43 ADVANCED READING: CONTEMPORARY AND COMPARATIVE RELIGION
Independent study of special topics in Contemporary and Comparative Religion.
Prerequisite: Registration in Level IV of an honours programme and written permission of the supervising instructor

RELIG ST 4J06 HONOURS RESEARCH COURSE
Students in this course will work closely with faculty members who specialize in the fields in which they plan to write their honours essay.
Two terms
Prerequisite: Registration in Level IV Honours Religious Studies

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
Prerequisite: 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

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

HEBREW 3B03 INTERMEDIATE HEBREW II
Further sample texts will be read from some or all of the following: the Hebrew Bible, Mishnah, ancient inscriptions and the Dead Sea Scrolls.
Four hours (two lectures); one term
Prerequisite: HEBREW 2B03, or permission of the instructor

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 MODERN LANGUAGES, RUSSIAN)
SANSKRIT

(SEE RELIGIOUS STUDIES, SANSKRIT)

SCHOOL OF ART, DRAMA AND MUSIC

Faculty as of January 15, 1999

Director
Hugh Hartwell

Professors

Associate Professors
Donald F. Carr/B.A. (Guelph) (Art)
Susan Fast/B.M. (Western Washington), M.A., Ph.D. (Iowa) (Music)
Hugh G. Galloway/Dipl. Art (Edinburgh) (Art)
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)
Keith W. Kinder/Dipl.F.A. (Calgary), B.Mus. (Western Ontario), M.Mus. (Northwestern), Ph.D. (Colorado) (Music)
Brian S. Pocknell/M.A. (Manchester), D. de l’U. (Paris-Sorbonne) (Drama)
William Renwick/B.Mus. (British Columbia), Ph.D. (CUNY), A.A.G.O., F.R.C.C.O., (Music)
Graham Todd/L.D.A.D. Dip. (Chosella School of Art) M.F.A. (Guiai1jato) (Art)
Valerie Tryon/L.R.A.M., F.R.A.M., A.R.C.M., Artist in Residence/part-time (Music)

Assistant Professors
Niamh O’Laoghaire/B.A., M.A. (Toronto) (Art History)

Adjunct Assistant Professor
Kim Ness/Museology) B.A. (McMaster), M.Litt. (Edinburgh), M.M.S. (Toronto)

Sessional Lecturers
Greg Bush/B.F.A. (Concordia), M.Mus. (McGill) (Music)
Caroline Colenbrander/B.Mus. (McMaster) (Music)
Taras Cymbalisty/B.A. (McMaster) Part-time (Drama)
Michael J. Daley/B.Mus. (McMaster), M.A. (York) (Music)
Maureen Epp (Music)
Vera Faig (Music)
Roger Flock (Music)
Paul Grimwood/B.Mus. (Western Ontario) (Music)
William Holinaty/Dipl. (Humber), B.Mus. (McMaster), B.Ed. (Toronto) (Music)
Pauline Minichew (Music)
David Montgomery (Music)
John Packer/B.A. (McMaster) (Music)
Paul Rivers (Drama)
Darrell Varga (Drama)
David Wiltie (Music)

Music Studio Instructors
Elise Bédard/B.F.A., L.Mus., M.Mus. (McGill) voice
Greg Bush/B.F.A. (Concordia), M.Mus. (McGill) trumpet
Lita Classen/B.Mus. (Ottawa), M.Mus. (Vincent d’Indy Montréal) Dipl. Perf. (Vienna) voice
Mark Donettel/B.A. (Northwestern), M.A. (Southern California) trombone
Paula Elliott/B.Mus. (Oberlin), M.M. (New England Conservatory) flute
Don Engle/jazz saxophone
Roger Flock/percussion
David Gerry/A.R.C.T., B.Mus. (Toronto), Dipl. Ped. (Japan) violin
Paul Grimwood/B.Mus. (Western Ontario) harpsichord & organ

Willy Jarvis/electric bass
Zoltan Kalman/Dipl. (Franz Liszt Academy of Music, Budapest) clarinet
Leokadia Kanovich/B.Mus. (Vilnius), M.A. (Moscow) piano
Marie Lotori/Primer Prix du Conservatoire de Musique de Montreal/harp
Kenneth McDonald/B.A. (British Columbia) french horn
Jeffrey McFadden/B.Mus. (Western Ontario), Mus. (Toronto) guitar
Villem Moolenbeek/A.R.C.T., B.Sc., M.Sc. (Guelph) saxophone
Stephen Pierre/Mus. Bac. (Toronto) clarinet
Philip Sarabura/A.R.C.T., B.Mus. (Western Ontario) piano
Suzanne Shulman/A.R.C.T., Dipl. Perf. (Toronto) flute
Sonia Vizante/Dipl. Licenta in Music, Spec. in Instrumental Music/Performance (Bucharest) violin
Geoff Young/jazz guitar
Alia Zacarrelli/piano/Dipl. Perf. (Odesssa, St. Petersburg) piano

Professors Emeriti
Maria Hidy/Dipl. Perf. (Budapest), F.R.H.C.M. (Hon.) (Music)
Graham Petrie/M.A. (St. Andrews), B.Litt. (Oxford) (Drama)
Ronald W. Vinca/B.A. (McMaster), M.A. (Rice), Ph. D., (Northwestern) (Drama)
George B. Wallace/M.A. (Trinity College, Dublin) (Art)
William Wallace/B.Mus., Ph.D. (Utah) (Music)

Note:
Arts, Drama and Music courses can be found listed alphabetically within the Course Listings section of this Calendar.

Courses
SADM 3A03 MUSIC AND THE OTHER ARTS
An exploration of the connections between music and the other arts. Topics include: Music for Television and Film, Musical Theatre, Music and Painting. Three lectures; one term
Prerequisite: Registration in Level II and above
SADM 3A03 may be repeated, if on a different topic, to a total of six units.

SADM 4A03 INTERDISCIPLINARY STUDY IN THE ARTS (INDEPENDENT STUDY)
This course is designed to accommodate proposals for independent study combining at least two of the disciplines within the School of Art, Drama and Music. Enrolment will be based on the submission of a proposal acceptable to faculty supervisors. Students will be supervised and assessed by one or more faculty members.
Prerequisite: Registration in Level IV of a programme in Art, Drama or Music and permission of the School. Students must submit a written proposal to the School by April 15.
Enrolment is limited.

SCIENCE

With the exception of SCIENCE 1A00, 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 1J03 Human Physiology
COMP SCI 1S3A3 Computing Fundamentals
COMP SCI 1T3A3 Elementary Computing and Computer Use
STATS 1A03 Statistical Reasoning
STATS 1L03 Probability and Linear Algebra
SOCIAL SCIENCES

COURSES

If no prerequisite is listed, the course is open.

INQUIRY 1SC3 INQUIRY IN SCIENCE
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 Science.
Three hours; one term
Prerequisite: Registration in Science
Enrolment is limited.

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 three hour session

SCIENCE 2A03 THE NATURE OF MATTER
Contemporary ideas about the structure of atoms and molecules; the collective behaviour of large numbers of atoms in solids, liquids, and gases and the technological implications of such behaviour.
Three lectures; one term
Prerequisite: Registration in Level II, III, or IV of a non-science programme
No mathematics is required.
Offered in alternate years.

SCIENCE 2D03 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: Registration in Level II, III, or IV of a non-science programme
Grade 12 Mathematics required.
Antirequisite: ASTRON 1F03

SCIENCE 2G03 THE RIGHT TO FOOD
Human food requirements; how food is produced; alternative approaches to alleviating world hunger.
Three lectures or two lectures, one tutorial; one term
Prerequisite: Registration in Level II, III, or IV of any programme
Enrolment is limited to 100. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

SCIENCE 2H03 THE MOLECULAR BASIS OF LIFE
A survey of the molecular basis of life; the current revolution in biology caused by recombinant DNA technology and its implications for the future.
Three lectures; or two lectures, one tutorial; one term
Prerequisite: Registration in Level II, III, or IV of any programme
Antirequisite: BIOLOGY 1A03, 1A06, 1AA3
Offered in alternate years.
Offered in 1999-2000.

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, III or IV of a non-science programme.
Antirequisite: PHYSICS 2J03
Knowledge of 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, III, or IV of any programme
Antirequisite: BIOLOGY 1A06, 1A03, 1AA3
Offered in alternate years.

SCIENCE, TECHNOLOGY, AND PUBLIC POLICY
(SEE THEME SCHOOL ON SCIENCE, TECHNOLOGY, AND PUBLIC POLICY)

SOCIAL WORK

Faculty as of January 15, 1999

Director
J. McEwan MacIntyre

Professors
Sally Palmer B.A. (Western Ontario), B.S.W., M.S.W., Ph.D. (Toronto)

Adjunct Professor
Ramesh Misra (York), B.Sc., Ph.D. (London)

Associate Professors
Jane Aronson B.Sc. (New University of Ulster), B.S.W., M.S.W. (McGill), Ph.D. (Toronto)
Alana B. Brown B.A., M.S.W. (Waterloo Lutheran), D.S.W. (UCLA)
Ray Cairns B.S.W., M.S.W., Ph.D. (McGill)
Pamela A. Copeman B.A., B.S.W., M.S.W. (Waterloo Lutheran), D.S.W. (UCLA)
James W. Gladstone B.A. (McGill), M.S.W. (British Columbia), Ph.D. (Toronto)
Anna Gold B.S.W. (McGill), M.S.W., Ph.D. (Toronto)
SOCIAL WORK

J. McEwan Macintyre/B.A., M.S.W. (British Columbia), D.S.W. (Southern California)
James J. Rice/B.A. (Sir George Williams), B.S.W., M.S.W. (Calgary), Ph.D. (Exeter)

Assistant Professor
Sheila Sammon/B.A. (Nazareth College, New York), M.S.W. (Toronto)

Associate Members
N.C. Aganwall (Business) B.A., M.A. (Delhi), Ph.D. (Minnesota)
M. Dooley/Economics B.A. (Indiana), M.S., Ph.D. (Wisconsin-Madison)

Practice Instructors
Michael Balkwill/B.A., B.S.W., M.A. (McMaster)
Donna Burris/B.A. (Guelph), M.S.W. (Toronto)
Janice Chaplin/B.A. (Mount Allison), B.S.W., M.S.W. (McMaster)
Mary Cott/B.S.W. (Western Ontario), M.S.W. (Toronto), C.C.C.W. (Fanshaw)
Mary Ann Covi/B.A. (SUNY, Buffalo), M.S.W. (Toronto)

Liz Lamb/B.A., Barbara Rocco/B.S.W.

Margaret Doma/B.A., Mary Jean/Cott/B.A., M.Rempel/B.A.

Laurie/Agarwal/B.A., M.S.W., J. McEwan/B.A.

Michael Balkwill/B.A., B.S.W., M.A. (McMaster)
Donna Burris/B.A. (Guelph), M.S.W. (Toronto)
Janice Chaplin/B.A. (Mount Allison), B.S.W., M.S.W. (McMaster)
Mary Cott/B.S.W. (Western Ontario), M.S.W. (Toronto), C.C.C.W. (Fanshaw)
Mary Ann Covi/B.A. (SUNY, Buffalo), M.S.W. (Toronto)

Liz Lamb/B.A., Barbara Rocco/B.S.W.

Margaret Doma/B.A., Mary Jean/Cott/B.A., M.Rempel/B.A.

Laurie/Agarwal/B.A., M.S.W., J. McEwan/B.A.

Notes:

1. SOC WORK 1A06 is available to all students.

2. The following courses are available for elective credit for students enrolled in Level III or above of a non-Social Work programme. SOC WORK 1A06 is strongly recommended as preparation. Enrolment for such students is limited and places are assigned on a first come basis.

Courses

**SOC WORK 1A06**

**SOC WORK 2A06**

**SOC WORK 2B03**

**SOC WORK 2B03**

**SOC WORK 2E03**

**SOC WORK 3A03**

**SOC WORK 3C03**

**SOC WORK 3D06**

**SOC WORK 3D06**

**SOC WORK 3D06**

**SOC WORK 3D06**

Notes:

1. SOC WORK 1A06 is available to all students.

2. The following courses are available for elective credit for students enrolled in Level III or above of a non-Social Work programme. SOC WORK 1A06 is strongly recommended as preparation. Enrolment for such students is limited and places are assigned on a first come basis.

Courses

**SOC WORK 1A06**

**SOC WORK 2A06**

**SOC WORK 2B03**

**SOC WORK 2B03**

**SOC WORK 2E03**

**SOC WORK 3A03**

**SOC WORK 3C03**

**SOC WORK 3D06**

Notes:

1. SOC WORK 1A06 is available to all students.

2. The following courses are available for elective credit for students enrolled in Level III or above of a non-Social Work programme. SOC WORK 1A06 is strongly recommended as preparation. Enrolment for such students is limited and places are assigned on a first come basis.

Courses

**SOC WORK 1A06**

**SOC WORK 2A06**

**SOC WORK 2B03**

**SOC WORK 2B03**

**SOC WORK 2E03**

**SOC WORK 3A03**

**SOC WORK 3C03**

**SOC WORK 3D06**

Notes:

1. SOC WORK 1A06 is available to all students.

2. The following courses are available for elective credit for students enrolled in Level III or above of a non-Social Work programme. SOC WORK 1A06 is strongly recommended as preparation. Enrolment for such students is limited and places are assigned on a first come basis.

Courses

**SOC WORK 1A06**

**SOC WORK 2A06**

**SOC WORK 2B03**

**SOC WORK 2B03**

**SOC WORK 2E03**

**SOC WORK 3A03**

**SOC WORK 3C03**

**SOC WORK 3D06**

Notes:

1. SOC WORK 1A06 is available to all students.

2. The following courses are available for elective credit for students enrolled in Level III or above of a non-Social Work programme. SOC WORK 1A06 is strongly recommended as preparation. Enrolment for such students is limited and places are assigned on a first come basis.
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: It is anticipated that beginning in 2000-2001, the prerequisite of this course will be registration in a Social Work programme or SOC WORK 1A06. This course may be taken as elective credit by undergraduates in Level III or above of a non-Social Work programme. Enrolment is limited.

SOC WORK 3P03 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: It is anticipated that beginning in 2000-2001, the prerequisite of this course will be registration in a Social Work programme or SOC WORK 1A06. This course may be taken as elective credit by undergraduates in Level III or above of a non-Social Work programme. Enrolment is limited.

SOC WORK 4H03 CHILD ABUSE
Societal and familial context; types of child abuse; child welfare policies; prevention, protection and treatment.
Seminars; one term
Prerequisite: It is anticipated that beginning in 2000-2001, the prerequisite of this course will be registration in a Social Work programme or SOC WORK 1A06. Not open to students with credit in SOC WORK 4G03, SELECTED SOCIAL ISSUES AND SOCIAL WORK PRACTICE, if the topic was Child Abuse. This course may be taken as elective credit by undergraduates in Level III or above of a non-Social Work programme. Enrolment is limited.

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: It is anticipated that beginning in 2000-2001, the prerequisite of this course will be registration in a Social Work programme or SOC WORK 1A06. SOC WORK 4G03 may be repeated, if on a different topic. This course may be taken as elective credit by undergraduates in Level III or above of a non-Social Work programme. Enrolment is limited.

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: It is anticipated that beginning in 2000-2001, the prerequisite of this course will be registration in a Social Work programme or SOC WORK 1A06. This course may be taken as elective credit by undergraduates in Level III or above of a non-Social Work programme. Enrolment is limited.

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: It is anticipated that beginning in 2000-2001, the prerequisite of this course will be registration in a Social Work programme or SOC WORK 1A06. Antirequisite: SOC WORK 4A03, 4V03. This course may be taken as elective credit by undergraduates in Level III or above of a non-Social Work programme. Enrolment is limited.

SOC WORK 4M03 INTERNATIONAL AND COMPARATIVE SOCIAL WELFARE
Comparative perspective on problems of social structures in shaping social welfare institutions. Scope and limits of international collaboration.
Seminars; one term
Prerequisite: It is anticipated that beginning in 2000-2001, the prerequisite of this course will be registration in a Social Work programme or SOC WORK 1A06. Antirequisite: SOC WORK 4A03, 4V03. This course may be taken as elective credit by undergraduates in Level III or above of a non-Social Work programme. Enrolment is limited.

SOC WORK 4R03 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: Registration or credit in SOC WORK 3D06 and 3D6D, or 3D09; or permission of the instructor

SOC WORK 4T03 SOCIAL WORK WITH WOMEN
Critical examination of the potential of social policies and programmes, community organizations and service practices to challenge women’s systemic disadvantage and enhance women’s welfare.
Seminars; one term
Prerequisite: It is anticipated that beginning in 2000-2001, the prerequisite of this course will be registration in a Social Work programme or SOC WORK 1A06. 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 programme. Enrolment is limited.
SOCIETY

SOCIETY 2F06  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

SOCIOL 3M03  AN INTRODUCTION TO SOCIOLOGY
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

SOCIOL 2P06  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

Enrolment is limited.

COURSES

If no prerequisite is listed, the course is open.

SOCIOL 1A06  AN INTRODUCTION TO SOCIOLOGY
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

SOCIOL 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

Enrolment is limited.

SOCIOL 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

Enrolment is limited.

SOCIOL 2E06  RACIAL AND ETHNIC GROUP RELATIONS
A comprehensive analysis of educational institutions in modern society.
Three hours (lectures and discussion); two terms
Prerequisite: SOCIOL 1A06

Enrolment is limited.

Department Notes:
1. Students should consult the Department's Handbook for Undergraduates, 1999-2000, which will be available prior to registration, for fuller course descriptions and any changes in the list of courses offered in 1999-2000. Students should check the Handbook in order to find the term in which 'one term' courses are offered. Please note that some courses in Sociology may require familiarity with the computer, including the Internet.
2. SOCIOL 1A06 and several other courses are divided into independent sections. For more information, see the Sociology Department's Handbook for Undergraduates, 1999-2000. This booklet gives course descriptions for the various SOCIOL 1A06 sections.
3. Prerequisite: Academically exceptional students wishing to take a course for which they do not have the prerequisite may seek permission of the instructor to register. However, priority is given in all Level III limited-enrolment courses to Sociology students, and in all Level IV courses to Honours Sociology students.
4. Limited enrolment courses: Level III courses identified as 'Enrolment is limited' have a limit of 65 students with the exception of the Methods courses, SOCIOL 3M03, 3P03, and 3W03, which have smaller enrolments. Priority will be given to Sociology students.

Limit enrolment courses: With the exception of SOCIOL 4M03, 4N03 and 4N06 enrolment in all Level IV courses is limited. Admission to Level IV limited enrolment courses is by pre-registration ballot. Preference will be given in order to students in the following categories:
a. Level IV Honours and Combined Honours Sociology
b. Continuing students
c. Level III Honours and Combined Honours Sociology
d. B.A. in Sociology
e. Others

All students requiring registration in Level IV courses for the 1999-2000 Fall/Winter Session including part-time degree students, must obtain a ballot sheet from the Departmental Office (Kenneth Taylor Hall, Room 627) no later than May 3, 1999. Students must return their ballot no later than May 17, 1999. Permission from the Department will be required to complete registration in Level IV limited enrolment courses.

Courses

The course will be registration in a Social Work programme or

SOCIOL 4W03  CHILD WELFARE
This course analyzes the Canadian child welfare system, its policies and programmes and teaches skills for working with children, families and substitute caregivers.
Lectures, discussions, skills development; one term
Prerequisite: It is anticipated that beginning in 2000-2001, the prerequisite of this course will be registration in a Social Work programme or SOCIOL 1A06. This course may be taken as elective credit by undergraduates in Level III or above of a non-Social Work programme.
Enrolment is limited.

SOCIOL 4X03  SOCIAL WORK WITH FAMILIES
Examination of relevant aspects of family theory for social work practice; models of family intervention.
Seminar; one term
Prerequisite: Credit or registration in SOCIOl 3D06 and 3DD6, or 3DD9; or permission of the instructor.
Antirequisite: SOCIOl 3M03

SOCIOLOGY

Faculty as of January 15, 1999

Chair
Cyril Levitt

Professors
W. Peter Archibald/B.A., M.A. (British Columbia), Ph.D. (Michigan)
Carl J. Cuneo/B.A., M.A., Ph.D. (Waterloo)
John Fox/B.A., M.A., Ph.D. (Michigan)
Rhoda E. Howard/B.A., M.A., Ph.D. (McGill) F.R.S.C.
Cyriel H. Levitt/B.A., M.A. (Waterloo), Ph.D. (Freie Universitat, Berlin)
Carolyn Rosenthal/B.A., M.A. (McMaster)
William B. Shaffir/B.A., M.A., Ph.D. (McGill)
Vivienne Walters/B.A., M.A. (Sheffield), Ph.D. (McGill)

Associate Professors
Scott Davies/B.A. (Toronto), M.A. (McMaster), Ph.D. (Toronto)
Margaret Denton/B.A., M.A., Ph.D. (McMaster)
Graham K. Knight/B.A. (Kent), M.A., Ph.D. (Carleton)
Rhonda Lantos/B.A. (Winnipeg), M.A. (Manitoba), Ph.D. (Toronto)
Charlene Matt/B.A. (Ottawa), M.A. (Toronto), Ph.D. (York)
Julia O’Connor/B.A., M.Sc. (Ireland), Ph.D. (Toronto)
Jack Richardson/B.A., M.A., Ph.D. (Toronto)/part-time
Gerald Rosenblum/A.B. (California, Berkeley), M.S. (Oregon), A.M., Ph.D. (Princeton)
Victor Satzewich/B.A., M.A. (Saskatchewan), Ph.D. (Glasgow)
Robert H. Storey/B.A. (Toronto), M.A. (Da’Housie), Ph.D. (Toronto)
Pamela Sugiman/B.A., M.A., Ph.D., (Toronto)
Jane Syngie/M.A. (Aberdeen), Ph.D. (London)

Assistant Professors
Art Budros/B.A. (San Jose State), J.M.A. (UCLA), Ph.D. (UCLA)
Neil McLaughlin/B.A., M.A. (Cleveland State), Ph.D. (City University of New York)
Dorothy Pawluch/B.A. (Laurentian), M.A., Ph.D. (McGill)

Associate Members
Jane Aronson/Social Work) B.Sc. (New Univ. of Ulster), B.S.W., M.S.W. (McGill), Ph.D. (Toronto)
Roy Calvi/Social Work) B.S.W., M.S.W., Ph.D. (McGill)
C. Charles/Clinical Epidemiology and Biostatistics) B.A., M.A. (Toronto), M.Phil, Ph.D. (Columbia)
Susan French/Nursing) B.N. (McGill), M.S. (Boston), Ph.D. (Toronto), R.N.
C. Jones/Sociology, Toronto) B.A. (Cambridge), Ph.D. (Edinburgh)
Philip G. White/Kinesiology) B.Sc. (London), M.Sc., Ph.D. (Waterloo)

Professors Emeriti
Jack W. Haas/B.S. (SUNY, Brockport), Ph.D. (Syracuse)
D. Ralph L. Mathews/B.A. (Memorial), M.A., Ph.D. (Minneapolis)
Peter C. Pineo/B.A. (British Columbia), M.A. (McGill), Ph.D. (Chicago)
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: SOCIO 1A06
Enrolment is limited.

SOCIOLOGY OF CLASS AND STRATIFICATION
This course will introduce the student to major theories of social inequality, such as the Marxian, Weberian and structural-functional perspectives.
Three hours (lecture and discussion); one term
Prerequisite: SOCIO 1A06

EMPIRICAL STUDIES OF CLASS AND STRATIFICATION
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 (lecture and discussion); one term
Prerequisite: SOCIO 1A06. SOCIO 2R03 is strongly recommended.

INTRODUCTION TO SOCIOLOGICAL THEORY
An introduction to the foundations, rise and development of sociological theory.
Three hours (lectures and discussion); two terms
Prerequisite: SOCIO 1A06

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: SOCIO 1A06

PSYCHOANALYTIC APPROACHES TO LITERARY TEXTS
The basic assumptions and methods of psychoanalytic criticism will be studied with reference to selected texts in drama, fiction and poetry from Shakespeare to the present.
Three lectures; one term
Prerequisite: Registration in Level II and above
Cross-list: ENGLISH 3B03

INTRODUCTION TO SOCIOLOGICAL RESEARCH
This course is designed to develop those 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 any programme in Sociology or Social Work
Antirequisite: GERONTOL 2C03 or 3A03
Cross-list: ANTHROP 2203

EUROPEAN SOCIOLOGICAL THEORY
An advanced examination of classical and contemporary European sociological theory.
Three hours (lectures and discussion); one term
Prerequisite: SOCIO 2S06 and registration in Level III or IV of an Honours Sociology programme
Antirequisite: SOCIO 3A06
Enrolment is limited.

THE SOCIOLOGY OF MASS MEDIA
The development of the mass media (the press, magazines, radio, television), with particular attention to their social organization, how information and news are produced, and effects upon social attitudes and behaviour.
Three hours (lectures and discussion); one term
Prerequisite: SOCIO 1A06 and registration in any Social Sciences programme
Enrolment is limited.

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
Enrolment is limited.

SOCIAL ISSUES CONCERNING FORMS OF PROVIDING HEALTH CARE
Selected issues concerning forms of providing health care.
Three hours (lectures and discussion); one term
Prerequisite: SOCIO 1A06
Enrolment is limited.

SPECIAL TOPICS IN THE SOCIOLOGY OF THE FAMILY
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 (lecture and discussion); one term
Prerequisite: SOCIO 2U06 or registration in a Combined Honours in Sociology and Gerontology programme
Alternates with SOCIO 3D03.
Enrolment is limited.

SPECIAL TOPICS IN THE SOCIOLOGY OF WOMEN
An advanced course allowing detailed study of selected topics in the sociology of women.
Three hours (lectures and discussion); one term
Prerequisite: SOCIO 1A06
Enrolment is limited.

SPECIAL TOPICS IN THE SOCIOLOGY OF HEALTH CARE
Selected issues concerning forms of providing health care.
Three hours (lectures and discussion); one term
Prerequisite: SOCIO 1A06
Enrolment is limited.

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 (lecture and discussion); one term
Prerequisite: SOCIO 2C06
SOCIO 3GG3 may be repeated, if on a different topic, to a total of six units.
Enrolment is limited.

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 programme 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 Science programmes; SOCIO 2Y03: all STATS courses except 1A03, 1L03, 2D03, 3S03*, 3U03, 4H03*
Enrolment is limited.
SOCIOLOGY

SOCIO 3HH3
SOCIOLOGY OF HEALTH
Sociological approaches to the study of health and illness.
Three hours (lectures and discussion); one term
Prerequisite: SOCIO 1A06
Enrolment is limited.

SOCIO 3I03
SURVEY METHODS
An introduction to survey research methods in the social sciences, including issues of research design, data collection, and data analysis.
Three hours (seminar and discussion); one term
Prerequisite: SOCIO 2203, registration in or completion of SOCIO 3H06 (or the equivalent for students enrolled in a Combined Honours Programme) and registration in Honours Sociology.
Enrolment is limited. However, the Department of Sociology guarantees that all Third and Fourth Year Honours Sociology students will have access to either this course, SOCIO 3O03 or 3W03.

SOCIO 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: SOCIO 1A06
SOCIO 3J03 may be repeated, if on a different topic.
Enrolment is limited.

SOCIO 3K03
SPECIAL TOPICS IN SOCIOLOGICAL ANALYSIS II
Same as SOCIO 3J03.
Three hours (lectures and discussion); one term
Prerequisite: SOCIO 1A06
SOCIO 3K03 may be repeated, if on a different topic.
Enrolment is limited.

SOCIO 3L03
SELECTED TOPICS IN OCCUPATIONAL SOCIOLOGY
An advanced course allowing detailed study of one or more topics of special interest in the sociology of occupations.
Three hours (lectures and discussion); one term
Prerequisite: SOCIO 1A06
Enrolment is limited.

SOCIO 3LL3
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: SOCIO 1A06
Enrolment is limited.

SOCIO 3N03
THE SOCIOLOGY OF KNOWLEDGE AND CULTURE
An analysis of the origins, development and functions of ideas, images, and other cultural representations, through which knowledge about society, its institutions and practices is formed, distributed and used.
Three hours (lectures and discussion); one term
Prerequisite: SOCIO 1A06
Enrolment is limited.

SOCIO 3O03
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
Enrolment is limited. However, the Department of Sociology guarantees that all Level III and Level IV Honours Sociology students will have access to either this course, SOCIO 3O03 or 3W03.

SOCIO 3P03
AMERICAN SOCIOLOGICAL THEORY
An advanced examination of classical and contemporary American sociological theory.
Three hours (lectures and discussion); one term
Prerequisite: SOCIO 2S06 and registration in Level III or IV of an Honours Sociology programme.
Antirequisite: SOCIO 3A06
Alternates with SOCIO 3PP3.
Enrolment is limited.

SOCIO 3PP3
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: SOCIO 2S06 and registration in Level III or IV of an Honours Sociology programme.
Alternates with SOCIO 3P03.
Enrolment is limited.

SOCIO 3Q03
PSYCHOANALYSIS AND CREATIVITY
A study of the motivations of some representative writers, and of the psychological processes in literary creativity. Psychoanalytic and psychiatric contributions to understanding the subject will be considered.
Three lectures; one term
Prerequisite: Registration in Level II and above
Cross-list: ENGLISH 3F03

SOCIO 3R03
HISTORICAL METHODS IN SOCIOLOGY
An examination of methods for incorporating historical data and archival sources into sociological argument.
Three hours (seminar and discussion); one term
Prerequisite: Registration in Honours Sociology
Enrolment is limited. However, the Department of Sociology guarantees that all Level III and IV Honours Sociology students will have access to either this course, SOCIO 3O03 or 3Q03.

SOCIO 3S03
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: SOCIO 1A06
Not open to students entering a Gerontology programme as of September 1998.
Enrolment is limited.

SOCIO 3T03
THE SOCIOLOGY OF ORGANIZATIONS II
An advanced course which allows detailed examination of relevant theories and research, including those to which the student was introduced in SOCIO 3T03.
Three hours (lecture and discussion); one term
Prerequisite: SOCIO 1A06, SOCIO 2103 is strongly recommended.
Enrolment is limited.

SOCIO 3U03
ETHNIC RELATIONS
An analysis of political, social and economic change in selected localities.
Three hours (lectures and discussion); one term
Prerequisite: SOCIO 1A06
Enrolment is limited.

SOCIO 3V03
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. Students wishing to register in this course must seek the permission of the Department.
Enrolment is limited.

SOCIO 4A03
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. Students wishing to register in this course must seek the permission of the Department.
Not open to students with credit in SOCIO 4G03, SPECIAL TOPICS IN SOCIOLOGY OF DEVIANCE, if on a similar topic.
Enrolment is limited.

SOCIO 4B03
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. Students wishing to register in this course must seek the permission of the Department.
Not open to students with credit in SOCIO 4J03, SELECTED TOPICS IN SOCIOLOGY I, or SOCIO 4K03, SELECTED TOPICS IN SOCIOLOGY II, if on a similar topic.
Enrolment is limited.
Students will undertake a class project that involves the application of statistical methods to a research problem.

Three hours (seminar); one term
Prerequisite: SOCIOL 3H06 and registration in Level IV Honours Sociology. Students wishing to register in this course must seek the permission of the Department.
Antirequisite: SOCIOL 4C06

Enrolment is limited.

A discussion of various sociological and non-sociological critiques of sociological theory.

Three hours (seminar); one term
Prerequisite: SOCIOL 2506 and registration in Level IV Honours Sociology. Students wishing to register in this course must seek the permission of the Department.

Enrolment is limited.

SOCIOL 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. Students wishing to register in this course must seek the permission of the Department.

Enrolment is limited.

SOCIOL 4G03

THE SOCIAL PRODUCTION OF 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. Students wishing to register in this course must seek the permission of the Department.

Enrolment is limited.

SOCIOL 4GG3

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 (seminar); one term
Prerequisite: SOCIOL 2006 and registration in Level IV Honours Sociology. Students wishing to register in this course must seek the permission of the Department.

SOCIOL 4GG3 may be repeated, if on a different topic, to a total of six units.

Enrolment is limited.

SOCIOL 4H03

SELECTED TOPICS IN THE SOCIOLOGY OF ORGANIZATIONS

An advanced course allowing detailed study of aspects of organizational analysis of special interest.

Three hours (seminar); one term
Prerequisite: SOCIOL 2103 and registration in Level IV Honours Sociology. Students wishing to register in this course must seek the permission of the Department.

Enrolment is limited.

SOCIOL 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. Students wishing to register in this course must seek the permission of the Department.

May be repeated if on a different topic
Enrolment is limited.

SOCIOL 4J33

THE 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. Students wishing to register in this course must seek the permission of the Department. NOTE: Students entering this course should be well-versed in basic Internet naviga-

SOCIOL 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. Students wishing to register in this course must seek the permission of the Department.

SOCIOL 4K03 may be repeated, if on a different topic.

Enrolment is limited.

SOCIOL 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. Students wishing to register in this course must seek the permission of the Department.

SOCIOL 4M06

DIRECTED RESEARCH 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.

SOCIOL 4N03

DIRECTED RESEARCH II

FOR HONOURS STUDENTS

Same as SOCIOL 4M03.

One term
Prerequisite: Registration in Level IV Honours Sociology. Students wishing to register in this course must seek the permission of the Department.

SOCIOL 4P03

SPECIAL TOPICS 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: One of SOCIOL 3X03 or GERONTOL 1A06; and registration in Level IV Honours Sociology. Students wishing to register in this course must seek the permission of the Department.

Antirequisite: SOCIOL 4P03

Enrolment is limited.

SOCIOL 4Q03

INDIVIDUAL AND SOCIETY I

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. Students wishing to register in this course must seek the permission of the Department.

Enrolment is limited.

SOCIOL 4R03

INDIVIDUAL AND SOCIETY II

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. Students wishing to register in this course must seek the permission of the Department.

Enrolment is limited.

SOCIOL 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. Students wishing to register in this course must seek the permission of the Department.

Enrolment is limited.
Note:
Admission to the theme school is through registration in GSCHE 2A06. Students should only consider registering in this course if they wish to pursue the theme school minor.
For information on the Theme School on Globalization, Social Change and the Human Experience, see Theme Schools in the programme section of this Calendar.

Courses

GSCHE 2A06 INTRODUCTION TO GLOBALIZATION
This course provides students with an introduction to the theme school minor by developing skills necessary for self-directed learning and by providing a critical introduction to globalization and its effects from various disciplinary perspectives.
Three hours (seminar)
Prerequisite: Admission to any four- or five-level programme or permission of the Director.
Enrolment will be limited to 80 students.

GSCHE 3A03 THE CHALLENGE OF GLOBAL GOVERNANCE
An examination of those issues that no longer can be addressed with a single nation-state. It approaches these problems by drawing on contemporary developments in international relations theory and by critically examining new sources of global governance.
Three hours (seminar)
Prerequisite: GSCHE 2A06
Preference will be given to Level III or IV Theme School students.
Enrolment is limited.

GSCHE 3B03 GLOBALIZATION: GENDER, DOMINATION AND RESISTANCE AT THE LOCAL LEVEL
An examination of issues of gender by investigating broader frameworks of globalization and marginalization and an investigation of how processes of domination and resistance are negotiated on a local level and how they influence gender.
Three hours (seminar)
Prerequisite: GSCHE 2A06
Preference will be given to Level III or IV Theme School students.
Enrolment is limited.

GSCHE 3C03 GLOBALIZATION AND SOCIAL CHANGE IN THE WORLD’S MUSIC CULTURES
An examination of several issues with respect to the globalization of music, including World Beat and the appropriation of non-Western music by Western musicians, and the way in which this globalization has served as a catalyst for social change.
Three hours (seminar)
Prerequisite: GSCHE 2A06
Preference will be given to Level III or IV Theme School students.
Enrolment is limited.

GSCHE 3D03 THE (ENGLISH) LITERATURE OF GLOBALIZATION: THE GLOBALIZATION OF (ENGLISH) LITERATURE
A study of literary responses to globalization through an exploration of contemporary works of fiction in English, focusing on literary texts which represent changing notions of global relationships.
Three hours (seminar)
Prerequisite: GSCHE 2A06
Preference will be given to Level III or IV Theme School students.
Enrolment is limited.

GSCHE 3E03 COMPARATIVE LITERARY PERSPECTIVES ON GLOBALIZATION
A study of selected literary texts from a range of periods and cultures, leading to a critical discussion of key issues of globalization, including questions of language, translation, and canonicity in world literature.
Three hours (seminar)
Prerequisite: GSCHE 2A06
Preference will be given to Level III or IV Theme School students.
Enrolment is limited.
GSCHE 3F03 DISLOCATION AND BE LONGING: THE LITERATURES OF IMMIGRATION AND DIASPORA

An examination of contemporary literature written in English by authors who have migrated from ex-colonial countries to metropolitan centres in order to assess the cultural refractions and displacements occasioned by globalization.

Three hours (seminar)
Prerequisite: GSCHE 2A06
Preference will be given to Level III or IV Theme School students.
Enrolment is limited.

GSCHE 3G03 GLOBALIZATION AND REGIONALISM IN THE ASIA-PACIFIC

An examination of the impact of more frequent and intensive cross-border flows of capital, goods, services, technology, information, and values on the political economy of the Asia-Pacific region. The consequences of globalization will be explored at the local, nation-state, and regional levels.

Three hours (seminar)
Prerequisite: GSCHE 2A06
Preference will be given to Level III or IV Theme School students.
First offered in 2001-2002.
Enrolment is limited.

GSCHE 3H03 ECONOMIC ISSUES IN THE ASIA-PACIFIC REGION

An examination of the economic conditions and factors influencing economic growth in selected countries in the Asia-Pacific region. Topics include government policies pertinent to trade, exchange rates and development, and the institutional and cultural aspects of business practices in Southeast Asia.

Three hours (seminar)
Prerequisite: GSCHE 2A06
Preference will be given to Level III or IV Theme School students.
First offered in 2001-2002.
Enrolment is limited.

GSCHE 3I03 GLOBALIZATION AND DEMOCRATIC POLITICS I

Drawing on policy case studies and on an overview of democratic theory, this course will review how nation-states either lose or share sovereignty in a globalizing era and will assess the implications of these changes for democratic institutions and reform.

Three hours (seminar)
Prerequisite: GSCHE 2A06
Preference will be given to Level III or IV Theme School students.
First offered in 2001-2002.
Enrolment is limited.

GSCHE 3J03 GLOBALIZATION AND DEMOCRATIC POLITICS II

Taking a universalist perspective, this course will examine the potential of economic globalization to contribute to the world-wide democratic movement.

Three hours (seminar)
Prerequisite: GSCHE 2A06
Preference will be given to Level III or IV Theme School students.
Enrolment is limited.

GSCHE 3K03 GLOBALIZATION AND THE SCOPE FOR INDEPENDENT ECONOMIC POLICY

An examination of issues such as the conditions for an effective stabilization policy, the feasibility of income redistribution, and the possible role of international financial investors as a new world super-power.

Three hours (seminar)
Prerequisite: GSCHE 2A06
Preference will be given to Level III or IV Theme School students.
Enrolment is limited.

GSCHE 3L03 POSTMODERNITY, GLOBALIZATION AND IDENTITY

An examination of themes that include the relevance of sovereignty versus globalization process and the pertinence of difference, otherness and identity as interpretation mechanisms, with local case studies of Quebec, France, and Central Europe.

Three hours (seminar)
Prerequisite: GSCHE 2A06
Preference will be given to Level III or IV Theme School students.
Enrolment is limited.

GSCHE 3M03 GLOBALIZATION AND COMMUNICATION

Covering both telecommunications and mass communications, the course examines historical development of media, the tension between the internationalizing tendencies of private media and the political and cultural project of nation-building, and the globalization of media content.

Three hours (seminar)
Prerequisite: GSCHE 2A06
Preference will be given to Level III or IV Theme School students.
Enrolment is limited.

GSCHE 4A03 DIALOGUE IN THE ELECTRONIC AGE

An introduction to communications technology, including consideration of the possibilities and limitations of the technology in terms of the types of conversations they encourage and whether it enhances or diminishes opportunities for human dialogue.

Three hours (seminar)
Prerequisite: GSCHE 2A06
Preference will be given to Level III or IV Theme School students.
Enrolment is limited.

GSCHE 4B03 GLOBALIZATION AND MUSIC: MEDIA AND MARKETS

An examination of the connections between the various media of today (print, broadcasting, film, internet) and globalization in the production and dissemination of music and of how technologies have made possible such global phenomena as The Three Tenors.

Three hours (seminar)
Prerequisite: GSCHE 2A06
Preference will be given to Level III or IV Theme School students.
Enrolment is limited.

GSCHE 4C03 GLOBALIZATION, TRADE AND ECONOMIC DEVELOPMENT

This course examines the economic impacts in developing countries of exports, effective protection, commercial policies, financial development, regionalism and direct investments.

Three hours (seminar)
Prerequisite: GSCHE 2A06
Preference will be given to Level III or IV Theme School students.
Enrolment is limited.

GSCHE 4D03 SPECIAL TOPICS IN GLOBALIZATION, SOCIAL CHANGE, AND THE HUMAN EXPERIENCE I

Topics will vary from year to year.
Three hours (seminar)
Prerequisite: GSCHE 2A06
Preference will be given to Level III or IV Theme School students.
GSCHE 4D03 may be repeated, if on a different topic
Enrolment is limited.

GSCHE 4E03 SPECIAL TOPICS IN GLOBALIZATION, SOCIAL CHANGE, AND THE HUMAN EXPERIENCE II

Topics will vary from year to year.
Three hours (seminar)
Prerequisite: GSCHE 2A06
Preference will be given to Level III or IV Theme School students.
GSCHE 4E03 may be repeated, if on a different topic
Enrolment is limited.

THEME SCHOOL ON SCIENCE, TECHNOLOGY, AND PUBLIC POLICY

Faculty as of January 15, 1999

Director
Robert Hudspith(Mechanical Engineering)
Harris Ali (Sociology, part-time)
Alex Berezin(Engineering Physics)
Barbara Carroll(Political Science)
Carl Cuneo(Sociology)
The influence of social and political factors on the relationship between preference will be given to Level IV Theme engineering technologies, focusing particularly on transportation infrastructure, technical experts and public officials involved in environmental policy. Prerequisite: Registration in the Theme School or permission of the Director Preference will be given to Level IV Theme School students. Enrolment is limited.

STPP 4B03
PUBLIC POLICY AND DRUG USE
The interactive roles of science, history, law, and politics in the formulation of policy with respect to the use of illicit drugs. Three hours (lectures, discussion, group projects, seminars); one term Prerequisite: Registration in the Theme School or permission of the Director Preference will be given to Level IV Theme School students. Enrolment is limited.

STPP 4C03
SPECIAL TOPICS IN SCIENCE, TECHNOLOGY, AND PUBLIC POLICY
1999-2000: The Internet, Society and Change The Internet in terms of government, corporate and community policies, the social participation of individuals and groups, and societal consequences, such as in education and work. Research conducted using the Internet as a resource. Some Internet skills assumed. Three hours (lectures, discussion, group projects, seminars); one term Prerequisite: Registration in the Theme School or permission of the Director Preference will be given to Level IV Theme School students.

STPP 4D03
SPECIAL TOPICS IN SCIENCE, TECHNOLOGY, AND PUBLIC POLICY
1999-2000: Science and Technology in the Media Role of the media in developing perceptions, public opinion, and public policy. Critical assessment of media messages. Strategies for effective public communication in science. Three hours (lectures, discussion, group projects, seminars); one term Prerequisite: Registration in the Theme School or permission of the Director Preference will be given to Level IV Theme School students. STPP 4D03 may be repeated, if on a different topic. Enrolment is limited.

WOMEN'S STUDIES
The Honours B.A. Women's Studies and Another Subject Programme is taught by an interdisciplinary Committee of Instruction.

Director
Patricia M. Daenzer/(Social Work)/B.A., B.S.W., Ph.D. (Toronto)

Academic Advisory Committee
Maroussia Ahmed/French) L. as L., M. as L., de l'IU (Paris-Sorbonne)
Virginia Aksan/(History) B.A. (Allegheany College), M.L.S. (Bekeley), M.A., Ph.D. (Toronto)
Jane Aronson/(Social Work) B.Sc. (New University of Ulster), B.S.W., M.S.W. (McGill), Ph.D. (Toronto)
Elisabeth Boetkies/(Philosophy) B.A., M.A. (Alberta), Ph.D. (Calgary), MTh. (Newman Theological College)
Sylvia Bowlerbank/(Arts & Science and English) B.A. (McMaster), B.Ed. (Toronto), M.A., (Simon Fraser), Ph.D. (McMaster)
Vera Chouinard/(Geography) B.A. (Western Ontario), M.A. (Toronto), Ph.D. (McMaster)
Joanne Fox-Threlkeld/(Nursing) B.N. (New Brunswick), M.Sc., Ph.D. (Queen's), R.N.
Ruth Frager/(History) B.A. (Rochester), M.A., Ph.D. (Toronto)
Donald Goelincnich/(English) B.A. (Queen's), M.A., Ph.D. (McMaster)
Rhonda Lencin/(Sociology) B.A. (Winnipeg), M.A. (Manitoba), Ph.D. (Toronto)
Mary O'Connor/(English) B.A. (McGill), M.A., Ph.D. (Toronto)
Cottie Ofosu/(Nursing) B.A., M.Ed. (Brack), Ed.D. (Toronto)
Victor Satawich/(Sociology) B.A., M.A. (Saskatchewan), Ph.D. (Glasgow)
Lorraine York/(English) B.A., M.A., Ph.D. (McMaster)
Isik Zeynogul/(Business) B.A., M.A., (Bogazici), M.S., Ph.D. (Pensylvania)

Committee of Instruction as of January 15, 1999
Maroussia Ahmed/French) L. as L., M. as L., de l'IU (Paris-Sorbonne)
Rhiannon Bury/B.A. (York), M.A. (Sherbrooke)
Lori Chambers/B.A., M.A. (McMaster), Ph.D. (Toronto)
Nicolette DiFrancesco/B.A. (Carleton), M.A. (McMaster)
Ruth Frager/(History) B.A. (Rochester), M.A., Ph.D. (Toronto)
Nairn Galvin/B.A., M.A. (McMaster)
Kathy Garay/B.A. (East Anglia), M.A. (McMaster), Ph.D. (Toronto)
Jennifer Henderson/B.A.
Three hours (Seminar and discussion); two terms

WOMEN ST 2A06 WOMEN'S ACTION FOR SOCIAL CHANGE
The course explores the collective efforts of women to improve social conditions, examining key historical and contemporary social movements and studying utopias as envisioned by women writers.
Three hours (Seminar and discussion); two terms
Prerequisite: Registration in the Women's Studies Programme, or permission of the Director of Women's Studies

WOMEN ST 2B06 WOMEN'S ROLE IN WESTERN EUROPEAN SOCIETY
An examination of the contribution of women to Western European society from classical times to the early twentieth century. Whether examined from a historical, sociological or cultural perspective, the female role is seen in relation to major political changes taking place during this period.
Cross-list: HISTORY 2B06

WOMEN ST 2C06 PERSPECTIVES ON GENDER
An overview of debates and research on the shaping of gender identity. Approaches may be from the viewpoint of social psychology, literature or cultural studies, and may include sex typing and socialization experiences, daughter/parent relationships and moral development.
Three hours; two terms
Prerequisite: WOMEN ST 1A06, or permission of the Director of Women's Studies

WOMEN ST 2D03 WOMEN AND TECHNOLOGY
This course attempts to situate women within technological change. It will focus on theoretical aspects of technology, technology in relation to culture, new gender theorists and feminist assessment strategies, and will provide a practical introduction to Internet resources for women. Topics may include aspects of computer, communications and design.
Three hours; one term

WOMEN ST 2H03 REPRODUCTIVE BIOLOGY
A medical study of human reproductive anatomy and physiology, with particular emphasis on control and regulation of reproduction. Topics may include effects of stress, exercise and aging on the reproduction of both sexes.
Three hours; lectures, tutorials and guided reading; one term
Note: Since this course will be taken in conjunction with Nursing students, some background in Biology is recommended.
Prerequisite: WOMEN ST 1A06, or permission of the Director of Women's Studies

Enrolment is limited

WOMEN ST 2H3 WOMEN'S HEALTH: A SOCIO-CULTURAL PERSPECTIVE
This course studies women's actions to improve health and health care. Topics may include the relationship between biomedicine and the social construction of gender, women as paid and unpaid health workers, the consequences of discrimination for women's health and the provision of health care and historical analysis of female healers.
Three hours; one term
Prerequisite: WOMEN ST 1A06, or permission of the Director of Women's Studies

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 1A06, or permission of the Director of Women's Studies
Cross-list: ENGLISH 2K06

WOMEN ST 3A06 FEMINIST THEORY AND METHODOLOGY
This interdisciplinary seminar explores various theoretical perspectives and methodological approaches in feminist research and their epistemological foundations. It includes a critical dialogue between feminism and contemporary theories such as post-structuralism, post-modernism, standpoint theory and action research.
Three hours (Seminar and discussion); two terms
Prerequisite: WOMEN ST 2A06, or permission of the Director of Women's Studies

WOMEN ST 3B03 TOPICS IN WOMEN AND THE ARTS
1999-2000: Women and Film
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: WOMEN ST 1A06, or permission of the Director of Women's Studies

WOMEN ST 3C03 WOMEN AND ECOLOGY
This course explores women's roles in the ecology movement. It examines the various meanings of ecofeminism and its focus on the interconnections between human life and our physical environment. Possible areas of enquiry include environmental ethics, anti-militarism, earth-goddess religions and the nature/culture debate.
Three hours; one term
Prerequisite: WOMEN ST 1A06, or permission of the Director of Women's Studies

WOMEN ST 3C3 WOMEN AND THE URBAN ENVIRONMENT
An interdisciplinary enquiry into how women's lives are shaped by an urban environment. It examines women's experience of urban living with a focus on such issues as women's responses to urban change, women and urban planning, women and housing problems, and women's struggles for socially safer environments.
Three hours; one term
Prerequisite: WOMEN ST 1A06, or permission of the Director of Women's Studies

WOMEN ST 3D05 WOMEN IN CROSS-CULTURAL PERSPECTIVE
The course explores the experience of women in different cultures through examination of social and historical conditions, symbolic systems and personal narratives. Topics such as: the family and household, the sexual division of labour, the social construction of gender, and social change will be explored through cross-cultural comparison.
Three hours; two terms
Prerequisite: WOMEN ST 1A06, or permission of the Director of Women's Studies

WOMEN ST 3E03 SPECIAL TOPICS IN WOMEN'S ISSUES
Three hours; one term
Prerequisite: WOMEN ST 1A06, or permission of the Director of Women's Studies

WOMEN ST 3F06 INDIGENOUS WOMEN'S ISSUES
This course will focus on Indigenous (First Nations, Metis, Inuit) women's issues using traditional Indigenous and western text-based approaches to explore historical, theoretical, social and ecological elements.
Three hours; two terms
Prerequisite: WOMEN ST 1A06, or permission of the instructor
Cross-list: INDIG 3F06

WOMEN ST 3X03 CANADIAN AND AMERICAN WOMEN'S HISTORY
An examination of the history of Canadian and American women primarily in the nineteenth and twentieth centuries. This includes investigation of paid and unpaid labour, sexuality, child-rearing, formal education and religion.
Three lecture; one term
Prerequisite: WOMEN ST 2A06, or permission of the Director of Women's Studies
Cross-list: HISTORY 3X03
Offered in alternate years.
WOMEN'S STUDIES  

WOMEN ST 4A06  INDEPENDENT RESEARCH
Students develop and execute their own research projects, in regular consultation with a faculty supervisor. In March, students present the results of their work at a one-day forum in which all students and faculty of Women's Studies are encouraged to participate. A formal written report is submitted to the supervisor shortly afterwards.
Prerequisite: Registration in Level IV of the Women's Studies Programme

WOMEN ST 4B06  TOPICS IN WOMEN, THE ECONOMY AND THE STATE
The purpose of this course is to encourage critical gender-based analysis of Canadian "social" welfare policies and programmes. The focus will be on understanding the role of the Canadian state in influencing social and economic outcomes for women.
Three hours; two terms
Prerequisite: Registration in Level III or IV of the Women's Studies Programme, or permission of the Director of Women's Studies
WOMEN ST 4B06 may be repeated, if on a different topic, to a total of 12 units.
Enrolment is limited.

WOMEN ST 4B13  WOMEN 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: WOMEN ST 2A06
Cross-list: COMMERCE 4BJ3
Enrolment is limited.
Not open to students with credit in COMMERCE 4SX3, SPECIAL TOPICS IN BUSINESS, if taken in January 1998.

WOMEN ST 4C06  TOPICS IN FEMINIST SCHOLARSHIP
This course offers intensive study in a specific field as defined by the instructor's own special research interests. It allows the students to benefit from up-to-date scholarship and provides insight into research methods that might be different from or complementary to those being used in WOMEN'S ST 4A06.
Three hours; two terms
Prerequisite: Registration in Level III or IV of the Women's Studies Programme, or permission of the Director of Women's Studies
Enrolment is limited.

The following courses, offered by other departments, may be used as Women's Studies electives, provided that the prerequisite requirements of the home department are fulfilled.

ANTHROP 2R03  Religion, Magic and Witchcraft
ANTHROP 3RR3  Topics in the Anthropology of Gender
HISTORY 4H06  Canadian Women's History
HUMAN 2F03  Selected Interdisciplinary Topics in Medieval Life and Culture (Aspects of Gender)
KINESIOL 4T03  Gender, Sport and Leisure
LABR ST 3E03  Women, Work and Trade Unionism
RELIG ST 2B03  Women in the Biblical Tradition
RELIG ST 2BB3  Images of the Divine Feminine
RELIG ST 2BS3  Women and Religion
SOC WORK 4C03  Racism and Social Marginalization in Canadian Society
SOC WORK 4R03  Social Work with Women
SOCIOL 2006  Sociology of Gender
SOCIOL 2U06  Sociology of the Family
SOCIOL 3D03  Special Topics in the Sociology of the Family
SOCIOL 3E03  Selected Topics in the Sociology of Women
SOCIOL 3X03  Sociology of Aging
SOCIOL 4U03  Special Topics in the Sociology of Women
ACADEMIC FACILITIES, STUDENT SERVICES AND ORGANIZATIONS

ACADEMIC FACILITIES

THE UNIVERSITY LIBRARY

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

E-mail Address:
libinfo@mcmaster.ca (Humanities, Social Sciences, Science and Engineering)
library@fhs.mcmaster.ca (Health Sciences)

University Librarian:
Graham R. Hill, B.A., M.A., M.L.S.

Systems Development:
Marju Drynan, B.A., M.S./Associate University Librarian

Health Sciences Library:
Dorothy Fitzgerald, B.A., M.L.S./Director

Reader Services:
Sheila Pepper, B.A., M.A., B.L.S./Assistant University Librarian

Thode Library of Science and Engineering:
Cathryn Ball, B.A., M.L.S./Librarian

Innis Library:
Vivien Lewis, B.A., M.L.S./Librarian

Collections Management and Development:
Charlotte Stewart, B.A., M.A., M.L.S./Assistant University Librarian

Processing Services:
Carol Ratchet, B.A., M.L.S./Director

Administrative Services:
Mary Ruth Linkert/Manager

The University Library System consists of Mills Memorial Library (Humanities and Social Sciences), the Innis Library in Kenneth Taylor Hall, containing a collection of business materials, the H.G. Thode Library of Science and Engineering, and the Health Sciences Library in the Health Sciences Centre. An on-line catalogue covering the holdings of all libraries is available and stacks are open to all library users.

The collection in 1998 contained more than 1,787,208 volumes, 1,423,102 microform items, 174,956 non-print items and 11,041 linear feet of archival material. Current periodical titles number about 11,860.

To help readers, service is maintained at key Reference points in the various libraries. Introductory library tours, subject-related seminars and instructional sessions in electronic tools are conducted. Pamphlets describing the hours and services of the different areas are available in each library and on the library’s website.

Mills Library has several collections - Reference, Periodicals, Government Publications, Music and Maps, which contain materials of significance for both Undergraduates and Researchers; and Reserve, which is used mainly by Undergraduates.

The William Ready Division of Archives and Research Collections in Mills Library contains rare books, manuscripts and special book and archival collections, which afford many opportunities for original research. Of outstanding interest are the Bertrand Russell Archives, a massive collection of correspondence and manuscripts supported by books, journal articles, secondary literature, tapes, films and personal memorabilia.

The Eighteenth-Century Collection of British material numbers over 34,000 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, Marian Engel, Robert Fulford, Pierre Berton, Farley Mowat, Peter Newman, Matt Cohen and many others.

Business interests are reflected in such files as the General Steel Wares 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 SUPA/CUCND papers and other related collections. There are holdings of the records of a number of labour unions, including USWA Local 1035, USWA. District 6, United Glass and Ceramic Workers (Canada), and the Hamilton and District Labour Council.

Publications:
- McMaster University Library Research News
- Monographs with the imprint of the McMaster University Library Press

COMPUTING AND INFORMATION SERVICES (CIS)

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

E-mail Address:
helpline@mcmaster.ca

Assistant Vice-President, IST:
Marvin Ryder, B.A., B.Sc., M.B.A.

Director, CIS:
Pat O'Day, B.A.

Client Services - Research:
Robin Griffin, B.Sc., Ph.D./Senior Manager

Data Services:
Eric Matthews, B.A., B.Ed./Senior Manager

System Support:
Doug Fraser, B.Sc./Senior Manager

Client Services:
Heather Grigg/Senior Manager

Administration:
Barb Campbell, B.A./Senior Manager, Departmental

CIS provides computing services in support of both academic (instruction and research) and administrative activities. The facilities available for academic use include several microcomputer and workstation laboratories. CIS manages a campus-wide Ethernet which is linked to the Internet, allowing access to resources throughout the world. Administrative computing is run on an IBM S/390 system and several SUN UNIX systems. MUGSI provides students access to their academic and personal data via the WWW.

Student computer laboratories for academic use, equipped with Pentiums, are located in the Burke Sciences Building, Rooms 240-245, the John Hodgins Engineering Building, Room 234, the Arthur Bourne Library, Room 166, Kennith Taylor Hall, Rooms B110, B111, B120 and B123 and the Health Sciences Library. All labs provide access to the world wide web, popular word-processing and spreadsheet packages as well as various computing languages, statistical applications and specialized course software provided by instructors. Several email rooms have been set up to enable students to view their email. Student consultants are available to assist customers in most of these computer labs. Assistance is also available in the Main CIS Office located in the Bourne Library, Room 132. Each Faculty has a Service Coordinator, who is familiar with that faculty’s particular requirements, to assist faculty and student members and to undertake projects of interest to the Faculty. CIS provides seminars and short non-credit courses.

Every undergraduate and graduate student can register for an email account, free of charge, with full access to the Internet. Students may dial in from home using the enhanced modem pool. Rates are currently $0.50 per hour for 56k access and $0.40 for 33k access with full access to the WWW and email provided. A limited modem pool is also available free of charge. Cable modem access is available from the residences and off campus in the Westlink Service area for a monthly fee.

In addition to the facilities operated by CIS, there is computer equipment located in Departments to support academic programs.
THE INSTRUCTIONAL DEVELOPMENT CENTRE

- General Sciences Building, Room 217, ext. 24540

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

E-mail Address
riselays@mcmaster.ca

Director (Acting)
Dale Roy, B.A., M.A.

Educational Consultant
To be announced

Administrative Assistant
Sylvia Riselays

The Instructional Development Centre (IDC) is a resource centre for people who teach at McMaster University. The Centre serves individual instructors, teaching assistants, departments and other groups directly affecting teaching and learning. The Centre works closely with the University Committee on Teaching and Learning. Its main goals are:

1. to support the encouragement and reward of good teaching;
2. to orient new teachers to their role at McMaster;
3. to enable the circulation of teaching and learning insights;
4. to support the development of the next generation of university teachers;
5. to encourage and support innovation in teaching and learning.

The Centre's activities include:

Teaching and Learning Grants: The IDC consults with applicants on their proposals and assists them with projects. It also provides administrative services for the Grants programme. Groups or individual McMaster instructors, teaching assistants, students or departments may apply. Detailed criteria are available on request.

Programmes for Teaching Assistants: The Centre plans and organizes T.A. Day, a campus-wide welcome and orientation programme for teaching assistants. It also offers a series of mini-courses designed for graduate students who are about to apply for or take up their first position as a faculty member or non-academic professional. In the spring, the Centre also offers a credit course in teaching to help graduate students become familiar with the literature on university teaching and to develop some basic skills in the practical aspects of teaching.

Workshops, Seminars and Conferences: A wide variety of events are offered, conducted by McMaster faculty, visiting resource people and IDC staff. Generally, the topics are not restricted to any particular area. A current list is available on request.

Consultation: A major part of the Centre's work is discussing current courses with instructors. The instructor or department provides the expertise in the course content. The Centre provides information on ways for instructors to evaluate and refine courses. It also arranges contacts with other experienced people and assistance in trying new approaches.

Teaching Dossiers: The IDC has considerable experience in helping individual faculty members develop their teaching dossiers. The method of collecting together activities and accomplishments in teaching is often a demanding task. The IDC has the resources and assistance to help simplify this process. For example, the library contains several recent publications which are helpful in getting started with a teaching portfolio. As well, there are also a number of dossiers representing a wide variety of academic disciplines available for viewing by interested faculty members.

Resources: The IDC Library has a collection of over 3,500 books, articles and journals on university teaching and learning. Students, especially those working as teaching assistants, are invited to visit the Centre. The IDC Library is located in the General Sciences Building, Room 217 and is open between the hours of 9:00 a.m. to 12:00 noon and 2:00 p.m. to 5:00 p.m. Alternatively, the library database can be accessed from the website listed below.

IDC Home Page: A selection of teaching tips and other information on the IDC are available at the following website: http://www.science.mcmaster.ca/idc

MCMASTER MEDIA PRODUCTION SERVICES

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

E-mail Address
knowles@mcmaster.ca

AUDIO VISUAL DIVISION

- Health Sciences Centre, Room 1G1, ext. 22301 or Burke Sciences Building, Room B231, ext. 22761

McMaster Audio Visual Services provides a complete media service to faculty, staff and students at McMaster. These services include: television production, analog and digital editing and tape duplication; audio recording, tape and cassette editing, and high-speed tape duplication; AV equipment distribution (all kinds of projectors, audio and video tape recorders, videotape projectors, etc.); film reservations; A/V equipment repair; creative services for design, charts and graphics for publication, display or poster presentations, and digital imaging and CD production, colour laser prints and high-resolution 35mm colour slides; full line of desktop publishing services offered; photographic services, including location and studio photography, black-and-white and colour photofinishing, 35mm slides, film processing and slide duplication, and a wide range of film and supply sales. Full Videoconferencing services are now available.

PRINTING SERVICES DIVISION

- Michael G. DeGroote School of Business, Room B111, ext. 24447 or Health Sciences Centre, Room 1T5, ext. 22348

Printing is staffed and equipped to provide a comprehensive, efficient service to the university at low cost. The services include: creative design and typesetting; full range of high speed digital photocopying and offset printing; bindery (folding, collating, stitching, drililing). Printing Services will reproduce a wide range of printed matter from business cards to a multi-page brochure and will provide technical assistance for any printing jobs.

GERONTOLOGICAL STUDIES

There are three Gerontology components at McMaster: the Office of Gerontological Studies; the Interdisciplinary Aging and Health Programme (including The R. Samuel McLaughlin Centre for Gerontological Health Research); and Undergraduate Degree Studies in Gerontology. (Further information concerning the two Centres mentioned above can be obtained by contacting Carolyn Rosenthal in Divinity College, Room 229, ext 27227.)

Office of Gerontological Studies

- Divinity College, Room 229, ext. 27227

Director
Carolyn J. Rosenthal, B.A., M.A., Ph.D.

The Office of Gerontological Studies (OGS) is involved in the promotion and development of multidisciplinary research and educational programmes within the University and the local community. OGS also provides a forum for collaboration on education, research, and service projects with other community organizations.

The Office's activities are supported by University funding, while specific projects are funded by public agencies, private foundations, or user fees. The Undergraduate Degree Studies in Gerontology programme is administered by this Office. The various degree options are described in this Calendar in the Faculty of Social Sciences section, Gerontological Studies.

The Office mandate is as follows:

1. to serve as the coordinating centre regarding gerontological education and research activities at McMaster University. Regular information about gerontological activities is provided through the newsletter Aging, Health and Society: News and Views and the Inventory of Gerontological Research;
2. to coordinate and plan multidisciplinary initiatives in gerontology education and research across all Faculties of the University. (Social Sciences, Health Sciences, Humanities, Science, Business, Engineering);
3. to organize multidisciplinary educational events in gerontology for professionals and the general public, e.g. the McMaster Summer Institute on Gerontology;
4. to actively participate 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 promote educational opportunities for older adults at McMaster and the Hamilton-Wentworth region.

OFFICE OF INTERNATIONAL AFFAIRS

- Kenneth Taylor Hall, Room 241, ext. 24700
- http://www.mcmaster.ca/oia
- oia@mcmaster.ca
- inadin@mcmaster.ca
- Luke Chan
- Ni Jodon
- Project Officer
- May Zhai
- Laurine Mollinga

McMaster University has become increasingly involved around the world in exchange agreements, institutional linkages and externally funded international programmes 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 will be participating in four broad areas including international student recruitment, development of international projects, international programmes 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, Dr. Gerhard Gerber.

MCMASTER MUSEUM OF ART

- University Avenue, ext. 23081
- E-mail: nesskg@mcmaster.ca
- G. Loveys, B.A.
- E-mail: loveys@mcmaster.ca
- J. Pettiprince, B.A.
- E-mail: jpettie@mcmaster.ca
- E-mail: museum@mcmaster.ca
- C. Wiginton, B.A., MMST
- E-mail: wiginton@mcmaster.ca

Head of Information
R.A. Prevec, B.A.
E-mail: prevecr@mcmaster.ca
Information Staff
D. Hammond
K. Hogue, B.A.
E-mail: hoguek@mcmaster.ca
C. Hullenaar, B.A.
E-mail: hullenaar@mcmaster.ca

A new facility was officially opened to the public in June 1994. Located at the west end of Mills Library on University Avenue, the new Museum contains five Exhibition Galleries, a Paper Centre and an Educational Access Gallery. The Museum offers a year-round programme of exhibitions ranging from the historical past to present-day artistic investigations either organized by the McMaster Museum or loaned by such institutions as the Art Gallery of Ontario or the National Gallery of Canada, as well as a regular programme of public events including luncheon talks, visiting artist talks, seminars and concerts.

McMaster's permanent art collection contains close to 6,000 Canadian, American and European art works with a specialized collection of over 250 German Expressionist prints and the Levy Collection of Impressionist and Post Impressionist paintings as a teaching collection. The central emphasis is on collections access and use of the collection as a cultural learning resource.

Contact the Museum for exhibition listings. Hours: Tuesday to Friday, 11:00 a.m. - 6:00 p.m.; Thursday evening, 7:00 p.m. - 9:00 p.m.; Sunday, 12:00 p.m. - 5:00 p.m. Voluntary admission fee of $2.00; free for students and seniors. Museum Memberships available. Wheelchair accessible.

STUDENT SERVICES

- Student Affairs Web Address
  http://www.access.mcmaster.ca

ASSOCIATE VICE-PRESIDENT (STUDENT AFFAIRS)

- Gilmour Hall, Room 207, ext. 27455.
  Mary E. Keyes, Ph.D.

The Associate Vice-President (Student Affairs) leads a variety of specialized student service offices and is happy to meet with individuals and representatives of student organizations with problems, concerns, questions or suggestions on any matter relating to student life and services on campus.

CENTRE FOR STUDENT DEVELOPMENT

- Hamilton Hall, Room 409, ext. 24711
- http://csd.mcmaster.ca/
- Staff
- Programme Coordinator, Learning Specialist
  Caroline Cayuga
- Counsellor
  Beverly Dullaert
- Administrative Assistant
  Noreen Myers
- Psychologist
  Debbie Nifakis
- Programme Coordinators, Disability Specialists
  Marge Marriott
- Tim Nolan
- Academic Skills Counsellor/Coordinator
  David Palmer
- Psychologist
  Bill Wilkinson
The Centre provides services to McMaster students to promote their academic effectiveness and personal well-being. It also provides specific kinds of assistance to students with disabilities. (For more details see Students with Disabilities below.)

Students are encouraged to seek assistance from the Centre if they experience any of the following:
- Personal, emotional, social, family or relationship concerns.
- Feelings of stress, anxiety, loneliness, depression, low self-esteem or loss of motivation.
- Concerns about academic performance, study habits, time management, effective learning, reading, remembering, concentration, tests and exams, writing essays, making class presentations.
- The need for disability-related support services.
- The Centre also provides services to international students wishing to improve their English.
- Counselling, individual help, skill-development workshops and short courses are available. Peer helpers (trained and experienced students) provide some services, under staff supervision. Contacts between students and counsellors are voluntary and confidential. Students in urgent situations are given priority and seen as soon as possible. Students are given assistance in locating other specialized help on or off campus when required. All personal, health or disability-related information will be treated as confidential.

Students with Disabilities
All students are expected to satisfy the normal requirements for courses and programs (including final examinations), but the Associate Deans (Studies) may authorize special arrangements to assist students with disabilities in the completion of assignments, tests, examinations and other course requirements.

The Centre for Student Development can provide advice to potential students and applicants with disabilities. Once admitted to the University, students with disabilities are encouraged to contact the Centre at any time (even prior to registration) to ensure sufficient time to make arrangements regarding special 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, screening/assessment for suspected learning disabilities and attention deficit disorders, and referral to professional services or community resources. It provides counselling, advice, support and workshops to help students meet their educational objectives.

SEXUAL HARASSMENT/ANTI-DISCRIMINATION OFFICE (S.H.A.D.O.)

Kenneth Taylor Hall, Room 118, ext. 23641
Web Address
http://www.mcmaster.ca/shado
E-mail Address
shado@mcmaster.ca
Officer
Cindy Player
ext. 23641
E-mail: player@c.mcmaster.ca
Administrative Assistant
Elaine Hay
ext. 27581
E-mail: hayelain@mcmaster.ca

This office administers the Sexual Harassment and Anti-Discrimination policies for McMaster University. The goal of this office is to ensure that all staff and faculty can learn and work in an environment free from all forms of harassment and discrimination.

Cindy Player (Sexual Harassment/Anti-Discrimination Officer) is available to any member of the university community with questions or concerns regarding situations that may involve sexual harassment or human rights. In addition, there are two positions within the Faculty of Health Sciences, Dr. John Moore (905) 522-1155, ext. 3140) and Dr. Anne Niec (905) 521-2100, ext. 3256). Assistance is provided for complaint resolution and the design and facilitation of workshops concerning all forms of harassment and discrimination.

The Safer Space Programme is also run out of the S.H.A.D.O. Office and offers a number of services including a network of First Contacts, an After Hours Help Line and an Off-Campus Shelter. The Safer Space Programme is available to all women of the McMaster community—students, staff, faculty and their partners. The help line is accessible during working hours by calling (905) 525-9140, ext. 23641. After hours and weekends call (905) 719-7786. The fax number for the office is 905-522-7102 and TTY is 905-521-8709. Wheelchair accessible.

ATHLETICS AND RECREATION

Web Address
http://www.athrec.mcmaster.ca
E-mail Address
lwynnemcmaster.ca (Customer Service Line)
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 recreation, fitness and instructional and outdoor recreation programs. A diverse program of recreational activities is available for those who wish to keep fit, compete in active pursuits at their own level, and enjoy sports and active living opportunities of their choice. Access to the various facilities on campus is open to all McMaster students.

The facilities include a 50-metre pool, an outdoor 400-metre chevron track, eight tennis courts, several gyms, dance studio and a fitness centre, covering 7,700 square feet, known as The Pulse. It features computerized cardiovascular equipment, circuit training, aerobic floor and a comprehensive strength training area. 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 still fosters social interaction.

The varsity program at McMaster fields 31 teams competing at the provincial (OUA) and national (GIAU) level. There are also eight inter-university club teams competing at various levels. Highly skilled coaches help McMaster 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 programmes and services provided to the McMaster Community, and invites you to be A Part of the Action.

BOOKSTORE

Web Address
http://www.bookstore.services.mcmaster.ca
E-mail Address
bookstr@mcmaster.ca

The University Bookstore is owned and operated by the University. First and second year textbooks are located in the auxiliary store located in Togo Salmon Hall, Room B203. Third and fourth year, and grad textbooks are located in the lower level of Gilmour Hall. A Microcomputer Centre and a Post Office are located within the Bookstore. A Health Sciences Branch is located in the McMaster University Medical Centre. The bookstores carry a wide range of supplementary reading materials, both academic and general. Stationery and computer supplies and other items are also stocked. Charge accounts may be opened after registration.

POST OFFICE

The McMaster University Sub-Post Office is located in the Bookstore. The Post Office offers full postal service, Monday to Friday, from 9:00 a.m. to 4:00 p.m. Post Office boxes may be rented by faculty, staff, and students for the duration of their stay at McMaster.
ACADEMIC FACILITIES, STUDENT SERVICES AND ORGANIZATIONS

CAREER PLANNING AND EMPLOYMENT CENTRE

- Hamilton Hall, Room 302, ext. 24253

Web Address
http://careers.mcmaster.ca

E-mail Address
cpec@mcmaster.ca

Career Counsellors
- David Lawson
- Laurie Barlow Cash
- Anne Markay

Career Information Coordinator
- Cate Walker Hammond

Employment Services Coordinator
- Arlene Fajutrab

Employment and Student Development Coordinator
- Steven Beierl

Intake/Office Manager
- Susan Collard

The Career Planning and Employment Centre (CPEC) offers a wide range of programmes and services to meet the needs of McMaster students and alumni. For a virtual CPEC tour, please visit our web site (http://careers.mcmaster.ca). There you will find a full introduction to our services, our staff and our many available resources. Our state-of-the-art on-line job posting service offers some 3,500 plus job opportunities a year.

CPEC offers assistance in all aspects of career planning, educational planning and the employment search process. Our staff are experienced, knowledgeable professionals with a strong track record of assisting students in pursuing their career and educational goals. Our services and programmes include:

- help in identifying and choosing career and educational goals;
- interest and personality type testing to help students make educational and career plans;
- workshops on applying to graduate and professional schools such as teaching, law and medicine;
- individual, confidential counselling;
- web-based on-line job postings, available from any internet connection, on-campus or off, 24 hours a day, 365 days a year;
- help in applying to full-time, summer and part-time jobs;
- workshops and assistance with resume writing, job search and interview skills;
- a resource centre with career, educational and job search information;
- information about government employment programmes.

We also offer help and resources for students to get connected with what is out there in the world of work including:

- MAC-MakingAlumni Connections, a network organization that connects students with recent McMaster graduates;
- referrals to volunteer opportunities both on- and off-campus;
- our Peer Programme, which offers opportunities to gain training and hands-on experience working directly with CPEC in service roles like Career Information, Work Search and Student Coordinator.

The office is open 8:30 a.m. to 4:30 p.m. Monday, Tuesday, Thursday and Friday, and 8:30 a.m. to 7:00 p.m. on Wednesday (September - May). The phone number is (905) 525-9140, ext. 24253 and the fax number is (905) 525-8972.

OFFICE OF THE INTERNATIONAL STUDENTS’ ADVISOR/STUDENT EXCHANGES/WORK AND STUDY ABROAD

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

Office of the International Students’ Advisor
- Hamilton Hall, Room 405, ext. 24748

The major purpose of the Office is to assist international students, visiting scholars, post-doctoral fellows and faculty. The Office provides a number of services such as:

- reception and orientation for newly arriving students;
- preliminary information concerning immigration matters;
- liaison with sponsoring agencies, foreign governments, consulates and embassies;
- general advising and counselling regarding personal, financial and academic problems.

The Office produces an International Students’ Handbook which provides basic information for international students in preparation for their life in Canada. The International Students’ Advisor is also the Plan Administrator for the University Health Insurance Plan (UHIP) which is mandatory for all international students.

Student Exchanges/Work and Study Abroad
- Hamilton Hall, Room 405, ext. 24748

The Office provides information on a range of options from independent study and externally sponsored programmes, to summer session and McMaster’s formal student exchanges. As well, information concerning opportunities for working and volunteering abroad is provided.

McMaster University has formal student exchanges with universities in 26 countries abroad and participates in the Group of Ten Student Exchange Programme (GOTSEP). This programme includes the following 10 Canadian universities:

- McMaster University
- McGill University
- Queen’s University
- Université Laval
- Université de Montréal
- University of Alberta
- University of British Columbia
- University of Toronto
- University of Waterloo
- University of Western Ontario

In addition, the University participates in two government-sponsored multi-institution exchange programmes:

- Ontario/Alpine Exchange (France)
- Ontario/Baden-Wurttemberg Exchange (Germany)

STUDENT FINANCIAL AID AND SCHOLARSHIPS
- Hamilton Hall, Room 404, ext. 24319

Manager
E. Seymour

The office administers a variety of programmes which are accessed by over half of all full-time students as well as a large number of part-time students attending University. These programmes include the Ontario Student Loan Programme, Canada Student Loan Programme, Undergraduate Scholarships Programme, McMaster University Scholarship Programme, Ontario Work Study Programme, Ontario Special Bursary Programme, University Bursary and Emergency Loan Programme. In addition, the office provides administrative support to outside agencies providing scholarships and bursaries to students attending McMaster.

The office offers financial and budget counselling, assessment and information service to current and potential students designed to help identify and address post-secondary education expenses. All discussions with students are voluntary, private and confidential. Drop-in style counselling is available.

For more detailed profiles of programme offerings, please refer to Undergraduate Academic Awards and Student Financial Aid sections in this Calendar.

STUDENT HEALTH SERVICE
- McKay Hall, ext. 27700

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

Medical Director
- Jan Young

Nurse Director
- Julie Fairservice

Health care is available to all university students year-round at the Student Health Service (SHS), located on the ground floor of McKay Hall Residence. The health service is open Monday, Tues-
HOSPITALITY SERVICES
Commons Building, Room B101B, ext. 24836

Director, Hospitality Services
Albert Y. Ng

McMaster University provides many dining areas on campus offering a wide variety of nutritious food at reasonable prices. Students living in residence (except the Bates apartment-style buildings) are required to purchase a meal plan. Off-campus students and other members of the University community may purchase an off-campus meal plan for any amount over $100 at the MAC Express Centre, located in the Commons Building, Room B101B.

McMaster has a self-operated food service that includes five full-service cafeterias with dining rooms located strategically around campus in Togo Salmon Hall, Kenneth Taylor Hall, A.N. Bourns Building, Commons Building, and the Refectory. All dining facilities accept meal cards and cash. Students can obtain meals anytime from 7 a.m. to midnight.

Mackintosh Commons are located in the Chester New Hall basement, the John Hodgins Engineering Building foyer, and the Burke Science Building—2nd floor. Vending machines at many locations around campus supplement these facilities. Inquiries are welcomed by Hospitality Services at ext. 24836.

Campus Dining Locations as follows:
- Commons Marketplace (Located in the Commons Building);
- Arts Cafe Quad (Located in the basement of Togo Salmon Hall, formerly TSH Cafeteria);
- The Wokery (Located in the basement of Kenneth Taylor Hall, formerly KTH Cafeteria);
- Refectory Dining Hall;
- Rathskeller (Located in the lower level of Refectory)

Hours of operation vary among locations.

Hospitality Services is also pleased to provide its meal plan patrons (except for those residence students selecting the Light Meal Plan) with the convenience of dining off-campus (delivery is available for Pizza Pizza only).

Our 1998/99 off-campus vendors included the local East Side Mario's, Kelsey's, Pizza Pizza and Swiss Chalet.

HOUSING AND CONFERENCE SERVICES
Web Address
http://www.housing.mcmaster.ca/housing/housing.htm

E-mail Address
housing@mcmaster.ca

Director, Housing and Conference Services
Catherine Miller

RESIDENCES

The University owns and operates ten on-campus residence buildings accommodating a total of 2,781 students. The nine traditional-style residences consist of two women's residences (248), one men's residence (101), five co-educational residences (1,692), and Matthews Hall, a co-educational hall comprised of three theme residences, Halcyon House (131), International House and La Maison Française (109).

Seventy percent of the spaces in traditional residences are reserved for incoming first-year students. In past years, admission offers to residence have been based on a student's admission average to his/her academic program. The average has typically ranged from the high 70s to low 80s.

First-year students will receive a residence application and a letter of instruction regarding application procedures with their letter of acceptance from the University. To accept the offer of residence, students must return their completed Residence Application form and a deposit before the specified deadline which will then be applied to the student's residence fees if they remain in residence for the full year. Students who do not receive an offer of residence with their offer of admission to the University, but wish to be placed on a waiting list, must return the completed Residence Application form before the specified deadline. No deposit is required from students who apply to be on the waiting list. If a student is assigned a residence space but no longer requires it, the student is responsible for advising Housing Services in writing by the specified deadline. Failure to do so will result in forfeiture of the full amount of the deposit.

All students in the traditional-style residences are required to purchase one of the following meal plans: light, small, regular and large. Students receive a mail card which is debited only for food purchased and which may be used at all Hospitality Services locations on campus. (Note: Residence fees and meal plans do not include the Christmas vacation period.)

In addition, an apartment-style residence (Bates Residence) accommodates approximately 500 male and female students. The apartments are unfurnished (except for a stove, refrigerator, car­peting and drapes) and are set aside for students above first year, including a limited number of graduate, transfer, exchange students and special cases. A limited number of furnished rooms are reserved for exchange students. Bates students can purchase an off-campus meal plan directly from the Express Centre, Commons Bldg., room B101B.

The responsibility for policy, budget and the overall administration of the University residence system lies with the Director of Housing and Conference Services. The department has four distinct functional units: Admissions, Residence Life, Facilities and Conferences.

RESIDENCE ADMISSIONS

This area is responsible for admission systems and policies, withdrawals, room assignments, medical and grade appeals, waiting lists and housing publications. Enquiries about residence information should be directed to the Manager, Residence Admissions, Housing Services, Commons Building 101, extension 24070, 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 option to participate in educational and
personal development interest sessions, and positive and inclusive social activities. Residence Life also provides leadership opportunities in the way of student staff positions and elected student council positions.

The Residence Life Staff team is made up of 127 student peer helpers called Community Advisors and Hall Coordinators and five full-time live in staff called Residence Managers. The staff are there to answer questions, ensure community standards are followed, and coordinate programmes and activities.

All students living in residence are responsible for upholding the community standards as outlined in the Residence Discipline Code.

### RESIDENCE FACILITIES

The Residence Facilities Team is responsible for maintenance, renovations, student damages, safety and security needs, work orders, repairs, furnishings, cleaning, residence recreational facilities, and the 24-hour Quad Service Desks located in Moulton Hall (west campus, ext. 24898) and the Commons Building (north campus, ext. 27222). Visit our website via the Housing homepage.

### OFF-CAMPUS HOUSING

The Off-campus Housing office is a listing service provided jointly by Housing Services and the McMaster Students Union. This office maintains updated lists of available accommodation in Hamilton and the surrounding area. It also provides area maps, transit maps, free telephones for local calling and personal assistance with the housing search. The Off-Campus Housing Office is operated by student staff on a year-round basis and is located in Wentworth House, Room 118, (905) 525-9140 ext. 24086. Visit our website at www.housing.mcmaster.ca/housing/.

### CONFERENCE OFFICE

During the summer months, accommodation, food and meeting facilities are available on campus for conferences, conventions, and touring groups, in addition to residence for summer students and casual visitors.

The Conference Office is located in the Commons Building, Room 129B, (905) 525-9140, ext. 24781. Non-academic room reservations and summer guest accommodation reservations can be made by email at confs@mcmaster.ca

### PARKING

- E.T. Clarke Centre, ext. 24232 or 24921

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

Campus 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 are accepted between June 1 and the last business day of July. Completed application forms, accompanied by cheque or money order, payable to McMaster University, in the amount required for the full period must be forwarded to: Parking and Transit Services E.T. Clarke Centre, McMaster University Hamilton, Ontario L8S 4K1

If any applicable zone is oversubscribed, there will be a lottery draw.

Undergraduate students not in residence may apply for available spaces in Zones 1 and 6 only. The procedure for allocation of these spaces will be developed in consultation with the MSU Executive. Students in residence requiring parking can apply for Zone 7 only, and 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 Parking and Transit Services Office.

The Parking and Transit Office has the overall responsibility for dealing with parking matters. If you have a problem, parking personnel will assist you. The office is located in the E.T. Clarke Centre and is open Monday to Friday from 9:00 a.m. to 4:00 p.m.

### UNIVERSITY CHAPLAINS

- Wentworth House, Room 108, ext. 24207

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

E-mail Address: chaplain@mcmaster.ca

The McMaster Chaplaincy Centre, located in Wentworth House, Room 108 is open to all students and the campus community. The Chaplaincy Centre is staffed by Carol Wood, Ecumenical Chaplain; Michael Fallon, Christian Reformed Chaplain; Father Jack Hurley, Roman Catholic Chaplain and Donna White, Assistant to the Chaplains. The Office is usually open between 9:00 a.m. and 5:00 p.m., Monday through Friday and appointments outside of these hours can be arranged.

The Centre offers personal and confidential counselling for a wide range of concerns; groups to deal with topics such as bereavement support and marriage preparation; and an experience of community through cost suppers, 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

#### McMMASTER STUDENTS UNION

- Hamilton Hall, Room 203, ext. 21000

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. Over 12,000 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 as one of the most extensive student unions in Canada, the MSU offers an array of services and volunteer opportunities for students at McMaster. These services include two campus bars (The Downstairs John and The Rathskeller), a convenience store (Mac's Snack Shack), a games room, a Design & Copy Centre and advertising department (CAB), an Information Centre, a Day Care Centre, the Gay, Lesbian Bisexual and Transgendered Centre, a yearbook (The Marmo), the Student Health Insurance Plan, a Programming Department (which organizes Welcome Week, Homecoming and other special events), and a jointly funded Ombuds Office. The MSU offers volunteer opportunities through the Emergency First Response Team (EFR), 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, and over 100 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. It meets bi-weekly to discuss issues varying from the fate of the campus radio station to the amount of study space on campus. The President is elected by the entire student body while the Vice-President and Treasurer are elected by the SRA.

Committees: Hundreds of energetic and ambitious volunteers from committees are the powerhouse of the Students Union. Established committees include Elections, Environment, Events, External Affairs, Finance, Gender Equity, Human Rights, Promotions, Teaching Awards, University Affairs, and Constitution, By-laws and Policies.

Hamilton Hall: Currently this building is the Student Centre and the headquarters of the MSU. Most of the mentioned services are located here, including the President and student representatives. For further information, visit the MSU Info Centre located in Hamilton Hall Room 203, or call (905) 525-9140, ext. 21000.
**OMBUDS OFFICE**

- Hamilton Hall, Room 212, ext. 24151
- E-mail Address: ombuds@mcmaster.ca
- Ombuds: Shelley Lancaster

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 such as parking, accommodation, security and financial aid.

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)**

- Kenneth Taylor Hall, Room 102, ext 22021
- Web Address: http://www.mcmaster.ca/maps/index.html
- E-mail Address: maps@mcmaster.ca

MAPS exists to look after the special interests of part-time degree (taking less than 18 units) and certificate students, who have different educational experience than full-time students. University fees for these students include an assessment to support the Association.

The Association's lounge and office are open all year, Monday to Thursday, from 10:00 a.m. to 5:00 p.m., and Friday from 10:00 a.m. to 2:00 p.m., when classes are in session. During exams, the office hours are Monday to Thursday, from 10:00 a.m. to 7:00 p.m., and Friday from 10:00 a.m. to 2:00 p.m. All other times, the office hours are Monday to Thursday, from 10:00 a.m. to 5:30 p.m., and Friday from 10:00 a.m. to 2:00 p.m.

MAPS Executive Director Sheila Smith is available to help students. If you have a question pertaining to university procedure or a problem of any kind, Sheila or the MAPS staff, can either supply the answer or put you in touch with someone who can. A handbook is published annually to help guide you through the University system and will be mailed to you.

The part-time student newsletter, *The Link*, is published on a regular basis, and will be sent to your professor or class representative for distribution to you. If you do not receive a copy, call or drop off the office. Essay writing, exam preparation and research seminars are offered through MAPS. Watch the newsletter, *The Link*, for classes and times.

MAPS provides the opportunities and methods for part-time students to voice 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 four awards: two Centennial Awards, the Martin W. Johns Award and a Gold Medal. MAPS has also established bursaries to assist students who have demonstrated financial need.

In addition, there is a MAPS Work Study Programme available to part-time students who have demonstrated financial need. This programme allows part-time students to work for eight to ten hours a week for ten weeks. Contact Student Financial Aid and Scholarship Office, ext. 24319, for information.

There are two computers in the office for your use where you can access your student record, use email or WordPerfect. If you are a part-time student, MAPS is for you. It is a way to bridge the gap between you and the University, by helping you feel a part of McMaster's student body. We urge you to participate as often as possible in the academic and social events which will be available to you at McMaster.

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.

**MCMASTER UNIVERSITY ALUMNI ASSOCIATION**

- Gilmour Hall, Room 110, ext 23900
- Web Address: http://www.mcmaster.ca/ua/alumni
- E-mail Address: alumni@mcmaster.ca

Following convocation, all graduates of McMaster University automatically become members of the McMaster Alumni Association (MAA) and join our over 93,000 alumni living in over 120 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 programme creates connections in geographic areas like Brantford, Vancouver, Ottawa, Toronto and Hong Kong. Branches also connect alumni to their faculty or department through groups like the Nursing Alumni Branch, MBA Alumni Association, Engineering Alumni Branch, or Social Work Alumni Branch. Still other branches create connections among Mac grads who share a common interest or affinity, like the MSU Alumni Branch or Letterman's Alumni Association, just to name a few.

The MAA also offers programmes in the greater Hamilton community. The McMaster Alumni Connection Lunchen Series brings high profile speakers to downtown Hamilton to talk with McMaster alumni and friends, and the Albert Lager Lecture Series expands your 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 dozens of events designed to attract alumni, family, friends, students and the community to the McMaster campus.

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 and auto insurance at group rates, or investigate the other services offered through the MAA.

The McMaster Alumni Association also acts as your advocate, with representatives on the University Senate and Board of Governors. These representatives, along with other elected alumni, compose the MAA Board of Directors which, along with hundreds of other alumni volunteers, provides alumni programming in conjunction with the Office of Alumni Advancement. Both the Office and the Association can be contacted in Gilmour Hall 110, or by phone at (905) 525-9140 ext 23900, or by fax at (905) 524-1733.

**CAMPUS NAMES**

The University's Board of Governors has made provision for naming buildings, facilities, spaces and streets after individuals or organizations who have some connection with the University. Recommendations made according to the criteria outlined below are considered by the Advisory Committee on Campus Names. Policy of the Board of Governors on Campus Names

1. The names of distinguished members of the McMaster University community who are no longer actively involved in the affairs of the University.
2. Others in the following groups:
   a) Outstanding scholars outside the University who have had a close relationship with McMaster and whose academic disciplines relate to the structure or area being named.
   b) Major benefactors of the University, including foundations and corporations.
   c) Names that bear a special relationship to McMaster University, Hamilton or district.

(Decisions of the Board of Governors, December 9, 1993)
ONTARIO STUDENT ASSISTANCE PROGRAMME

Financial aid to help students meet the costs of post-secondary education is available from the federal and provincial governments through the Ontario Student Assistance Program (OSAP) which consists of four plans:

- Canada Student Loans Plan
- Ontario Student Loans Plan
- Ontario Special Bursary Plan
- Ontario Work-Study Plan

To be eligible for assistance under each of these plans, a student must be a Canadian citizen or permanent resident of Canada and fulfill certain requirements for residency in Ontario. The amount of financial aid awarded is determined by a need-testing procedure.

It is strongly recommended that students apply by June 30 to ensure that their applications are processed by September. Currently, it takes six to eight weeks to process a regular OSAP application. 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 Loans and Awards Officer in the Student Financial Aid and Scholarships Office as early as possible.

Canada Student Loans Plan

This is a federal government plan, administered by the provincial government, which provides loans to students who can demonstrate financial need for completion of any level of study. Loans are available to full-time students enrolled at recognized post-secondary institutions anywhere in the world. The federal government also provides Canada Student Loans for part-time students who can demonstrate financial need. These loans cover a student's costs for tuition, books, transportation, day care and incidentals and are interest-bearing after 30 days.

Ontario Student Loans Plan

This plan provides loans to full-time students whose financial needs are not fully covered by the Canada Student Loans Plan.

Ontario Special Bursary Plan

This plan helps exceptionally needy students who are unable to attend school full-time but need post-secondary training to improve their job prospects. Bursaries are available to such part-time students enrolled at recognized post-secondary institutions in Ontario only.

Work-Study Programme

The Work-Study Programme complements the original plans in the OSAP package. It offers part-time jobs to students who can demonstrate financial need during the school year to help them meet costs not recognized under regular federal and provincial financial aid programs. In particular, 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.

To apply for the McMaster Work Study Programmes identified below, students should obtain a Student Employment Application from the Office of Student Financial Aid and Scholarships.

THE HAMILTON FAMILY FOUNDATION WORK-STUDY PROGRAMME
Established in 1958 by the Hamilton Family Foundation. A variable number of employment opportunities made available in disciplines related to the fields of Health Sciences and Engineering to assist students who demonstrate financial need. To be eligible for consideration, students must be approved for Work-Study through the Office of Student Financial Aid and Scholarships. (90656)

THE SALLY HORSFALL EATON WORK STUDY PROGRAMME
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 Work-Study through the Office of Student Financial Aid and Scholarships. (90657)

THE HUMANITIES COMMUNICATIONS CENTRE WORK-STUDY ENDOWMENT
Established in 1997 by Edward and Margaret Lyons, McMaster alumni of the Class of '49 and later augmented by friends of the Centre. A variable number of employment opportunities will be made available in the field of Humanities Communications Centre to assist students demonstrating financial need. These jobs will provide an opportunity for students to pursue research in the field of computing and human communication. To be eligible for consideration, students must be approved for the Work-Study Programme through the Office of Student Financial Aid and Scholarships. (90658)

THE McMaster "McWORK" STUDY PROGRAMME
Established in 1996 by the University with the goal of creating meaningful employment opportunities for current full-time students who demonstrate financial need. (90659)

THE McMaster ASSOCIATION OF PART-TIME STUDENTS WORK STUDY PROGRAMME
Established in 1996 by the McMaster Association of Part-time Students and the university to provide meaningful employment opportunities for current part-time students who demonstrate financial need. (90660)

SHORT-TERM EMERGENCY LOANS

Assistance in the form of short-term 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 academic year.

Any student interested in obtaining a short-term loan must complete an application which is available in the Student Financial Aid and Scholarships Office. Once completed, the student will meet with a representative from this office to discuss the possibility of receiving a loan.

THE IDOE LOAN FUNDS
Through the generosity of a number of the local Chapters, Imperial Order Daughters of the Empire, funds are provided to assist female students in any programme or as specified.

SALLY M. GRIFFEN LOAN FUND
Established in 1957 by Paardeburg Chapter, IDOE, in honour of Mrs. H.S. Griffen.

PRINCESS MARINA CHAPTER, IDOE, LOAN FUND
Established in 1975.

EMMA FRANCES PRATT CHAPTER, IDOE, LOAN FUND
Established in 1958. To assist female students in Levels III or IV of any programme.
268 STUDENT FINANCIAL AID

MURIEL CLARK RIDDELL LOAN FUND
Established in 1964 by the Right Honourable Stanley Baldwin Chapter, IODE.

SOVEREIGN CHAPTER, IODE, LOAN FUND
Established in 1960. To assist female students in the final level of any programme.

MARGARET B. SUTTERBY MEMORIAL FUND
Established in 1955 by the 67th University Battery Chapter, IODE.

WENTWORTH CHAPTER, IODE, LOAN FUND
Established in 1953.

THE McILROY LOAN FUND
Established in 1969 by the University Women’s Club of Hamilton. To assist female students in the final level of any programme.

THE McMaster ENGINEERING SOCIETY LOAN FUND
Established in 1971 by the McMaster Engineering Society for the provision of loans to engineering students.

THE IVOR WYNNE MEMORIAL LOAN FUND
Established in 1971 in memory of Ivor Wynne, Dean of Students. To assist students in any programme.

THE UNIVERSITY LOAN FUNDS
Small short-term emergency loans from the University funds are available to assist students in any programme.

Bursaries

Most bursaries are granted by the University Bursary Selection Committee on the basis of a general bursary application. Application forms are available from the Office of Student Financial Aid and Scholarships, Hamilton Hall, Room 404. Any person who is registered and in good standing as a student of McMaster University is eligible to apply.

Bursaries have been grouped according to category and/or Faculty.

GENERAL BURSARIES

THE 4 WINDS BURSARIES
Established in 1997 by John F. Evans 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 670)

THE AINSWORTH BURSARIES
Established in 1996. To be granted to undergraduate students in any programme who demonstrate financial need. Preference to be given to female students. (90579 403)

THE PHYLLIS MAY AITKEN BURSARY FUND
Established in 1997 by the bequest of Phyllis May Aitken. A variable number of bursaries to be granted to students enrolled in any programme who demonstrate financial need. (90653 620)

THE AMEX CANADA BURSARY
Established in 1997 by AMEX Canada Inc. 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 programme who demonstrates financial need. (90805 622)

THE JOY BABY BURSARY
Established in 1997 by the McMaster Student Opportunity Fund Initiative. To be granted to a student enrolled in any programme who demonstrates financial need. (90809 627)

THE CHARLES MURRAY BALL BURSARIES
Established in 1953 by bequest of May Alexandra Ball in memory of her brother Charles Murray Ball. To assist students in any programme who demonstrate financial need. (90560 332)

THE BETZNER FAMILY MEMORIAL BURSARIES
Established in 1996 by the Betzner Family of Dundas, Ontario. A variable number of bursaries to be granted to students enrolled in any programme who demonstrate financial need. (90580 404)

THE BOWES FAMILY BURSARIES
Established in 1996 by Eleanor and Terrence Aurini of Cambridge. A variable number of bursaries to be granted to students enrolled in any programme who demonstrate financial need. Preference to be given to female students. (90581 405)

Bursaries for in-course visa students
Established in 1982 by the University to assist visa students in any programme. (90547)

THE BUSINESS MANAGEMENT SERVICES BURSARIES
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 programme who demonstrate financial need. (90584 406)

THE JAMES CALVIN BURSARIES
Established in 1997 by bequest of James Calvin. A variable number of bursaries to be granted to students enrolled in any programme who demonstrate financial need. (90831 803)

THE CAMCO INC. BURSARIES
Established in 1997 by Camco 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 programme who demonstrate financial need. (90852 804)

THE ANNE AND HAROLD CHALK MEMORIAL BURSARIES
Established by bequest of Anne Maria Lulu Chalk and Harold Henry Chalk of Ottawa. A variable number of bursaries to be granted to students in any programme who demonstrate financial need. (90686 410)

THE CHAWKERS FOUNDATION BURSARIES
Established in 1995 by the Chawkers Foundation, Ottawa, Ontario in support of its belief that all students should be able to pursue their educational goals. To provide assistance to students who demonstrate financial need. Value: $1,800 (90587 411)

THE CIBC BURSARIES
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 programme who demonstrate financial need. (90683 445)

THE SAM M. CINO BURSARY
Established in 1997 by Sam Cino in support of McMaster students. To be granted to a student enrolled in any programme who demonstrates financial need. (90884 846)

THE HUGH CLARK BURSARIES
Established in 1997 by Hugh Clark in support of McMaster students. A variable number of bursaries to be granted to students enrolled in any programme who demonstrate financial need. Preference to be given to the recipient of the Hugh Clark Scholarship. (90685 647)

THE CLASS OF ‘35 BURSARIES
Established in 1985 by the Class of ’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 180)

THE CLASS OF ’46 GOLDEN ANNIVERSARY BURSARIES
Established by the Class of ’46 in honour of their fiftieth reunion on June 1, 1996. A variable number of bursaries to be granted to students enrolled in any programme who demonstrate financial need and are in good academic standing. (90654 337)

THE CLASS OF ’47 GOLDEN ANNIVERSARY BURSARIES
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 programme who demonstrate financial need. (90590 414)

THE CLASS OF ’49 GOLDEN ANNIVERSARY BURSARIES
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 programme who demonstrate financial need. (90591 415)

THE CLASS OF ’51 GOLDEN ANNIVERSARY BURSARIES
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 programme who demonstrate financial need. (90686 848)

THE CLASS OF ’57 BURSARIES
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 programme who demonstrate financial need. (90687 549)

THE DORIS PARTRIDGE COLE BURSARY
Established in 1961, this bursary is to be granted to a worthy student in memory of Doris Partridge Cola (Class of ’46). (90508 002)
THE CONNOR, CLARK & LUNN BURSARY
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 programme who demonstrates financial need. (90666 463)

THE IAN AND JILL COWAN BURSARY
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 programme who demonstrates financial need. (90653 655)

THE THOMAS DALY BURSARIES
Established in 1996 by family, friends and colleagues of Thomas Daly. A variable number of bursaries to be granted to students in any undergraduate programme who demonstrate financial need. (90652 416)

THE JOHN DEERE BURSARIES
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 programme who demonstrate financial need. (90698 660)

THE PATRICIA DETENBECK BURSARIES
Established in 1996 by Patricia Detenbeck (Class of '32). A variable number of bursaries to be granted to students enrolled in any programme who demonstrate financial need. (90850 829)

THE DOFASCO INC. BURSARIES
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 programme who demonstrate financial need. (90598 422)

THE EVANS, PHILP BURSARIES
Established in 1996 by the partners of Evans, Philp in support of McMaster students. A variable number of bursaries to be granted to students enrolled in any programme who demonstrate financial need. (90671 468)

THE ELEANOR EWING BURSARY
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 666)

THE EILEEN GRAY FARLEY BURSARY
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 805)

THE EDITH E. FERRIE BURSARIES
Established in 1965 by the late Edith E. Ferrie. To be granted to students in any programme who demonstrate financial need. (90511 289)

THE FORRESTER/GREGORY BURSARY
Established in 1997 by Shelley Forrester and Douglas Gregory in support of McMaster students. To be granted to a student in any programme who demonstrates financial need. (90707 669)

THE JOHN C. FORSTER BURSARIES
Established by bequest of John Clifton Henry Forster of Windsor, Ontario. A variable number of bursaries to be granted to students in any programme who demonstrate financial need. (90600 424)

THE EMMA FOX BURSARIES
Established in 1936 by the Wallingford Hall Committee of which Emma Fox was treasurer from 1918 to 1958. To assist female students in any programme. (90512 830)

THE GENERAL ELECTRIC CANADA INC. BURSARY
Established in 1997 by General Electric Canada Inc. under the McMaster Student Opportunity Fund Initiative. To be granted to a student enrolled in any programme who demonstrates financial need. (90711 673)

THE GRAND & TOY BURSARIES
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 programme who demonstrate financial need. (90602 429)

THE LELAND GREGORY BURSARIES
Established in 1997 by the bequest of Leland Andrew Gregory. A variable number of bursaries to be granted to students enrolled in any programme who demonstrate financial need. (90719 681)

THE GUARDIAN CAPITAL INC. BURSARIES
Established in 1996 by Guardian Capital 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 in any programme who demonstrate financial need. (90674 471)

THE HAMILTON PORCELAINS BURSARY
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 programme who demonstrates financial need. (90727 689)

THE HAMILTON SPECTATOR BURSARY
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 programme who demonstrates financial need. (90728 690)

THE MIKE AND MURIEL HEDDEN BURSARIES
Established in 1996 by Muriel Hedden in memory of her husband, D.M. (Mike) 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 programme who demonstrate financial need. (90603 427)

THE RUDY HENNZ BURSARY
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 programme who demonstrate financial need. (90577 396)

THE EDWIN W. HILBORN BURSARY
Established in 1965 by bequest of Edwin W. Hilborn. To be granted to a student in any programme. (90520 831)

THE LLOYD ANDREW HILLGARTNER BURSARIES
Established in 1997 by bequest of Lloyd Andrew Hillgartner. A variable number of bursaries to be granted to students enrolled in any programme who demonstrate financial need. (90834 806)

THE INTER-RESIDENCE COUNCIL BURSARY
Established in 1996 by the Inter-Residence Council in support of McMaster students. To be granted to a student in any programme who demonstrates financial need. (90660 480)

THE JACDO ANDERSON BURSARY
Established in 1997 by Jaddco 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 programme who demonstrates financial need. (90798 700)

THE JONES-TURNER BURSARY
Established in 1997 by Sheila Lang (Class of '53) in honour of her family's long-standing association with the University. To be granted to a student enrolled in any programme who demonstrates financial need. (90743 705)

THE MURIEL McBRIEN KAUFFMAN BURSARIES
Established in 1997 by the Muriel 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 programme who demonstrate financial need. (90744 706)

THE ROBERT A. KENNEDY BURSARIES
Established in 1997 by Robert A. Kennedy under the McMaster Student Opportunity Fund Initiative. A variable number of bursaries to be granted to students enrolled in any programme who demonstrate financial need. (90670 708)

THE KAHI UNIVERSITY AND YOUNG MEN'S CHRISTIAN ASSOCIATION MEMORIAL BURSARIES
Established in 1921 by the Khaki University of Canada and the Young Men's Christian Association. To assist students in any programme, preference to be given to children of war veterans. (90523 284)

THE ALBERT ABRUM LAGER BURSARIES
Established in 1995 by the Albert Abram Lager Foundation in memory of Albert Lager, former University Senator and McMaster Alumni Association Director. Two awards to be granted to students enrolled in any programme who demonstrate financial need. Preference to be given to women students who are single parents. Value: $600 (90575)
THE LAIDLAW INC. BURSARIES
Established in 1996 by Laidlaw Inc., a major provider of environment and transportation services to municipalities and industries 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 programme who demonstrate financial need. (90608 432)

THE BETTY MAY LAMB MEMORIAL BURSARY
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 Association from 1986-91. To assist students in any programme who demonstrate financial need. (90555 301)

THE LANCASTER SHEET METAL LIMITED BURSARY
Established in 1997 under the McMaster Student Opportunity Fund Initiative. To be granted to students enrolled in any programme who demonstrate financial need. (90751 713)

THE LANDMARK CONSULTING GROUP BURSARIES
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 in any programme who demonstrate financial need. (90609 433)

THE GARY LAUTENS MEMORIAL BURSARIES
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 programme who demonstrate financial need. (90613 437)

THE BERTRAM LEGGAT MEMORIAL BURSARIES
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 438)

THE LINCLUDEN MANAGEMENT BURSARIES
Established in 1997 by Lincluden Management Ltd., under the McMaster Student Opportunity Fund Initiative. A variable number of bursaries to be granted to students enrolled in any programme who demonstrate financial need. (90755 717)

THE LONDON GUARANTEE BURSARIES
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 to be granted annually to McMaster students who demonstrate financial need. (90757 719)

THE MAKSTEEL BURSARY
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 programme who demonstrate financial need. (90761 723)

THE LINDA MATTHEWS BURSARIES
Established in 1996 by Linda Matthews (Class of '69). A variable number of bursaries to be granted to students enrolled in any programme who demonstrate financial need. Preference to be given to female students. (90664 461)

THE ANDREW McFARLANE BURSARIES
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 832)

THE McMASTER 1980 BURSARIES
Established in 1980 by the University to assist undergraduate students in any programme. (90526 832)

THE McMASTER 1996 BURSARIES
Established in 1996 by the University to assist undergraduate students in any programme who demonstrate financial need. (90624)

THE McMASTER ALUMNIAE CENTENNIAL BURSARY
Established in 1988 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. (90526 214)

THE McMASTER ASSOCIATION OF PART-TIME STUDENTS BURSARIES
Established in 1988 in celebration of McMaster’s Centennial celebration to assist students currently enrolled in a degree or certificate programme who, without such assistance, would be unable to continue their studies. Consideration may be given to students who would not otherwise enroll without such assistance. Applications will be reviewed by the MAPS Centennial Bursary Selection Committee. (90529 290)

THE McMASTER ASSOCIATION OF PART-TIME STUDENTS 20TH ANNIVERSARY BURSARY
Established in 1999 in honour of the 20th anniversary of the Mcmaster Association of Part-Time Students. To be granted to students currently enrolled, on a part-time basis, in a degree, diploma or certificate programme, who demonstrate financial need. Applications will be reviewed by the MAPS Bursary Selection Committee. (90835 607)

THE McMASTER SAVINGS AND CREDIT UNION LIMITED BURSARY
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 programme who demonstrate financial need. (90822 767)

THE McMASTER STUDENT OPPORTUNITY FUND BURSARIES
Established in 1996 by McMaster University from general donations to the University bursary programme 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 programme who demonstrate financial need. (90627 451)

THE McMASTER STUDENTS’ UNION BURSARIES
Established in 1982 by the McMaster Students’ Union. To assist those undergraduate MSU members who demonstrate financial need. (90530 292)

THE McMASTER UNIVERSITY FACULTY ASSOCIATION BURSARY
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 programme who demonstrates financial need. (90768 730)

THE A.J. MELLONI MEMORIAL FUND
To be granted to a student in any programme. (90532 833)

THE MELOCHE MONNEX INC. BURSARY
Established in 1997 by Meloche Monnex Inc. under the McMaster Student Opportunity Fund Initiative in the belief that students should have the opportunity to continue their educational goals. To be granted to students enrolled in any programme who demonstrate financial need. (90776 738)

THE EDNA C. AND FRANK CHARLES MILLER BURSARY
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 programme who demonstrates financial need. (90778 741)

THE WALLACE R. MORRIS BURSARY FUND
Established in 1987 by bequest of Wallace Ronald Morris. A variable number of bursaries to be granted to students enrolled in any programme who demonstrate financial need. (90786 743)

THE JOHN DOUGLAS MOYER BURSARY
Established in 1986 by bequest of John Douglas Moyers to assist needy students. (90534 834)

THE MARJORIE AND BILL NELSON BURSARY
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 programme who demonstrates financial need. (90761 744)

THE NELSON STEEL BURSARY
Established in 1997 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 programme who demonstrate financial need. (90782 745)

THE PETRO-CANADA BURSARIES
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 programme who demonstrate financial need. (90634 483)
THE ROBERT AND RUTH PHILIP STUDENT BURSARIES
Established in 1996 by Robert and Ruth Philip of Hamilton, Ontario. A variable number of bursaries to be granted to students in any programme who demonstrate financial need. (90636 484)

THE GORD RAYMOND BURSARIES
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 Studies. A variable number of bursaries to assist part-time students enrolled in any programme who demonstrate financial need. (90638 487)

THE REDPATH SUGARS BURSARY
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. A variable number of bursaries to be granted to a student enrolled in any programme who demonstrates financial need. (90624 769)

THE JAMES AND ELIZABETH ROBERTS BURSARIES
Established in 1957 by R.H. Roberts in memory of his parents to assist any male student of good academic standing. (90538 835)

THE HUGH AND ALICE ROBERTSON MEMORIAL BURSARIES
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 programme who demonstrate financial need. (90795 758)

THE ROYAL BANK BURSARY FUND
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 780)

THE ROYAL INSURANCE COMPANY OF CANADA BURSARIES
Established in 1997 by Royal 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. (90641 490)

THE HELEN SANSONE BURSARIES
Established in 1997 by Margaret Helen Sansone of Hamilton, Ontario. A variable number of bursaries to be granted to students enrolled in any programme who demonstrate financial need. (90610 362)

THE MYKOLA SEMENIUK BURSARIES
Established in 1997 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 295)

THE ALBERT EDWARD SMITH AND JEAN McTAVISH SMITH BURSARY
Established in 1998 by Mrs. Jean McTavish Smith (Class of ’31), in memory of Albert Edward Smith (Class of ’23) under the McMaster Student Opportunity Fund initiative. To be granted to a student in any programme who demonstrates financial need. (90636 808)

THE SAM SMURLICK BURSARY
Established in 1978 by the Smurlick family in memory of Sam Smurlick (Class of ’35). To be granted to a student in any programme who demonstrates financial need. (90541 836)

THE TARBUTT CONSTRUCTION LTD. BURSARY
Established in 1997 by Tarbutt Construction Ltd. under the McMaster Student Opportunity Fund initiative. To be granted to a student enrolled in any programme who demonstrates financial need. (90732 694)

THE RAY AND JOYCE TRULL BURSARY
Established in 1996 by Roger and Janet Trull and their children in honour of Ray and Joyce Trull. To be granted to a student in any programme who demonstrates financial need. (90837 809)

THE EDITH H. TURNER FOUNDATION BURSARIES
Established in 1996 by The Edith H. Turner Foundation in support of students pursuing their post-secondary studies at McMaster. A variable number of bursaries to be granted to students enrolled in any programme who demonstrate financial need. (90648 487)

THE VALLEY CITY BURSARY
Established in 1996 by Valley City in support of its belief that all students should have the opportunity to pursue their educational goals. To be granted to a student in any programme who demonstrates financial need. (90622 459)

THE WALLINGFORD HALL BURSARIES
Established through anonymous donations to assist students in any programme who demonstrate financial need. (90546)

THE G.S. WARK LTD. BURSARY
Established in 1998 by G. S. Wark Ltd. General Contractors, in support of its belief that all students should have the opportunity to pursue their educational goals. To be awarded to a student in any programme who demonstrates financial need. (90589 413)

THE LLOYD WERDEN MEMORIAL BURSARIES
Established in 1996 by bequest of Lloyd Werden of Bonsaido in the Township of Louth in the County of Lincoln, former Physician. To be granted to students enrolled in any programme who demonstrate financial need. (90651 500)

THE YATES BURSARIES
Established in 1963 by bequest of William Henry Yates of Hamilton. To assist students in any programme. (90549)

ABILITY AND ACCESS BURSARIES

THE AUBREY DALGLEISH BURSARY
Established in 1985. To be granted to a student in any programme who demonstrate financial need with special preference given to handicapped students and/or students in the Faculty of Business. (90509)

THE JAMES R. (JAMIE) GREILICH MEMORIAL BURSARY
Established in 1991 in memory of Jamie Greilich (Class of ’88) by the Operating Committee on the Disabled through its Awareness Week Activities. To be granted to a disabled student in any programme who demonstrates financial need. Students should have registered with the Office for Disability and Access. (90553 287)

THE INTER-RESIDENCE COUNCIL BURSARY
Established in 1996 by the McMaster Inter-Residence Council in recognition of the IRC’s continued support of the University and its students. One or more bursaries to assist students with disabilities who demonstrate financial need and currently reside in one of McMaster’s residences. Students with disabilities must have registered with the Office for Ability and Access. (90572 480)

THE DIANNE MACISAAC MEMORIAL BURSARY
Established in 1994 by friends and family of Dianne Macisaac and augmented in 1996 in conjunction with the McMaster Student Opportunity Fund initiative. To be granted to a student or students enrolled in a programme in Sociology who demonstrate financial need. Preference to be given to students with disabilities. (90571 721)

THE RICHARD KONRAD BURSARIES
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:

b) The Richard Konrad Bursaries for students enrolled in any programme.

THE CROSS COUNTRY CLUB BURSARY
Established in 1989 by the Cross Country Club of Hamilton. To be granted to a hearing disabled student in any programme who demonstrates financial need. In a year that a suitable candidate is not found, the bursary will be granted to a student with another disability provided they demonstrate financial need. Students must have registered with the Office for Disability and Access. (90540 211)

THE LILIAN R. STEGNE MEMORIAL BURSARIES
Established in 1960 in memory of Lillian Rose Stegnes (Class of ’62) by family, friends and colleagues. Two or three bursaries to be granted to handicapped students in any programme who demonstrate financial need. (90543 137)

ATHLETIC BURSARIES

All athletic bursaries are only applicable to students in Level II or higher who meet the OUA and the CIAU regulations for Athletic Bursaries. Verification of eligibility will be done in consultation with the Department of Athletics.

THE CROSS COUNTRY BURSARY
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. (90696 657)
THE SAM DARRAGH GENERAL ATHLETIC BURSARY
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 programme who demonstrates financial need and who is a member of any interuniversity team at McMaster. (90827 783)

THE SAM DARRAGH MEMORIAL BURSARY
Established in 1997 by friends of Sam Darragh under the McMaster Student Opportunity Fund initiative. To be granted to a student enrolled in any programme who demonstrates financial need and who has demonstrated outstanding athletic achievement in interuniversity football. (90657 659)

THE SADIE LUDLOW BURSARIES
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 Interuniversity football or Interuniversity Women's tennis. (90815 439)

McMASTER MEN'S ATHLETICS BURSARY
Established by past and present student-athletes and friends of McMaster Interuniversity Athletics to assist students in any academic programme who demonstrate financial need and who demonstrate outstanding athletic participation in Men's Interuniversity Athletics. (90625 449)

McMASTER MEN'S BASKETBALL BURSARY
Established by past and present student-athletes and friends of McMaster Men's Basketball to assist students in any academic programme who demonstrate financial need and who demonstrate outstanding athletic participation in the sport of men's basketball. (90770 732)

McMASTER SQUASH AND GOLF BURSARY
Established by past and present student-athletes and friends of McMaster Golf and Squash to assist a student in any academic programme who demonstrates financial need and who demonstrates outstanding athletic participation in the sport of golf or squash. (90771 733)

McMASTER WOMEN'S BASKETBALL BURSARY
Established by past and present student-athletes and friends of McMaster Women's Basketball to assist a student in any academic programme who demonstrates financial need and who demonstrates outstanding athletic participation in the sport of women's basketball. (90772 734)

McMASTER WOMEN'S VOLLEYBALL BURSARY
Established by past and present student-athletes and friends of McMaster Women's Volleyball to assist a student in any academic programme who demonstrates financial need and who demonstrates outstanding athletic participation in the sport of women's volleyball. (90773 735)

THE THOMAS ALEXANDER PAIN BURSARY
Established by past and present student-athletes and friends of McMaster Football to assist students in any academic programme who demonstrate financial need and who demonstrate outstanding athletic participation in the sport of football. (90777 739)

THE LES PRINCE BURSARIES
Established in 1996 in memory of 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 programmes such as Athletes helping Athletes. (90637 486)

COMMUNITY SERVICE BURSARIES

THE ERIC JOHN BRETZLER BURSARY
Established in 1997 by family and friends in memory of Eric John Bretzler (Class of '92). To be granted to a student enrolled in any programme who demonstrates financial need. Preference will be given to students associated with the McMaster Students' Union. (90814 634)

THE ARCHIBALD R. CROZIER BURSARIES
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 observed interest in, and concern for, others. It is hoped that recipients, after graduation, will reinvest the fund to the extent of their award so that increasing numbers of students may be assisted. (90665 338)

THE GWEN GEORGE UNDERGRADUATE BURSARIES
Established in 1997 in loving memory of Gwan George by her family and friends under the McMaster Student Opportunity Fund initiative. To be granted to students in any undergraduate programme 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 675)

THE LYNDEN LIONS CLUB BURSARY
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 programme 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. (90758 720)

THE RAYMOND C. LABARGE MEMORIAL BURSARIES
Established in 1973 by friends and associates in memory of Raymond C. Labarge (Class of '36) of Ottawa. Four bursaries are available for senior undergraduate students. Applicants should have a record of academic performance that has normally been at the upper second-class level or higher. They should also have demonstrated a sense of social awareness, shown interest in and concern for others and been an active participant in University or general community affairs. Students should describe their qualifications for this bursary in the covering letter. (90524 212)

REGIONAL BURSARIES

THE JAMES N. ALLAN FOUNDATION BURSARY
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 621)

THE ANCASTER LIONS CLUB BURSARY
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 programme who demonstrates financial need. Preference to be given to students who currently reside in the town of Ancaster. (90804 623)

THE AVESTEL CREDIT UNION LIMITED BURSARIES
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 programme who, are from the Regional Municipality of Hamilton-Wentworth, City of Burlington or Town of Haldimand-Norfolk, who have demonstrated financial need.

Value: $700 each (90504 199)

THE BRANTFORD ALUMNI BRANCH BURSARIES
Established in 1997 by the Brantford Alumni Branch of the McMaster Alumni Association under the Student Opportunity Trust Fund initiative. A variable number of bursaries to be awarded to students demonstrating financial need. Preference to be given to a Level I student from Brant County high schools. (90813 633)

THE CANADIAN FEDERATION OF UNIVERSITY WOMEN (HAMILTON) BURSARY
Established in 1957 by the Canadian Federation of University Women (Hamilton) in support of the McMaster Student Opportunity Fund initiative. To be granted to a student in any academic programme who demonstrates financial need. (90628 764)

THE CITY OF HAMILTON BURSARIES
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. (90515)

THE WILLIAM A. DETENBECK BURSARIES
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. (90597 421)

THE DUNDAS BURSARIES
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 423)
THE HAMILTON ALUMNI BRANCH BURSARIES
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 programme who demonstrate financial need. Preference will be given to students graduating from a high school in the Hamilton-Wentworth Region. (90725 687)

THE HAMILTON CITIZENS' MEMORIAL BURSARIES
Established in 1947 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 207)

HAMILTON COMMUNITY FOUNDATION BURSARIES
Established in 1996-97 by Hamilton Community Foundation from the income of funds generously donated by citizens of this community, notably the late sisters Genevieve Chaney and Cordelia Ensigh, 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 programme, 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 685)

THE MARY A. HILL BURSARY
Established in 1976 by bequest of Mary A. Hill. To be granted to a female student in any programme who demonstrates financial need. Preference to be given to one who has graduated from a secondary school in Hamilton. (90521 837)

THE CLIFFORD JACKSON MEMORIAL BURSARIES
Established in 1987 by family and friends in memory of Clifford Jackson. A variable number of bursaries to be granted annually to students in any programme who demonstrate financial need. Preference will be given to children and grandchildren of employees and retirees of The Hamilton-Wentworth Regional Police. (90737 699)

THE KIWANIS CLUB OF HAMILTON EAST BURSARY
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 programme who demonstrates financial need. Preference to be given to members and former members of the Hamilton East Kiwanis Boys’ and Girls’ Club. (90749 711)

THE LEFLAR FOUNDATION BURSARY
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 programme who demonstrate financial need. Preference to be given to students who are from the Owen Sound area. (90753 715)

THE PAUL R. MACPHERSON BURSARY
Established in 1998 by Paul R. MacPherson (Class of ’57) in support of his belief that all students should be able to pursue their educational goals. To be granted to full-time students enrolled in any Level I programme who demonstrate financial need. Preference to be given to students from Muskoka Lakes Secondary School. (90838 810)

THE MALLOCH FOUNDATION BURSARIES
Established in 1996 by the Malloch Foundation, Hamilton, in the belief that all students should be able to achieve their educational goals. A variable number of bursaries to be granted to students in any programme who demonstrate financial need. Preference to be given to students from the Hamilton area. (90618 442)

THE McMaster SAVINGS AND CREDIT UNION LTD. BURSARIES
Established in 1993 by the McMaster Credit Union Limited. To assist students in any programme. Preference to be given to students who are members of the McMaster Savings and Credit Union or, in the absence of such members, children of employees of McMaster University or Chedoke-McMaster Hospitals. (90580 334)

THE LILLIAN AND LEROY PAGE BURSARIES
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 749)

THE REGIONAL MUNICIPALITY OF HAMILTON-WENTWORTH BURSARIES
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 any programme who demonstrate financial need. Preference will be given to students who permanently reside in the Hamilton-Wentworth Region. (90794 757)

FACULTY-SPECIFIC BURSARIES

ARTS AND SCIENCE PROGRAMME

THE ARTS AND SCIENCE CLASS OF ’97 LEGACY BURSARY
Established in 1997 by the Arts and Science Class of ’97 under the McMaster Student Opportunity Fund Initiative. To be granted to a student in the Arts and Science Programme who demonstrates financial need. (90808 626)

THE BIRGIT AND ROBERT BATEMAN BURSARY
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 Programme, 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 626)

THE LOUIA BRAYFORD MEMORIAL BURSARY
Established in 1998 by Mrs. Janet Leemaan in memory of her late mother, Mrs. Loulia Brayford (nee Bingham, Class of ‘34). To be granted to a student enrolled in the Arts and Science Programme who demonstrates financial need. Preference will be given to a student enrolled in a course in Mathematics. (90838 811)

THE GORDON H. DEAN BURSARIES
Established in 1996 by Gordon H. Dean of Stony Creek. Two or more bursaries to be granted based upon financial need: a) one to a student enrolled in Level III of a programme in Arts and Science; and b) one to a student enrolled in Level III of a programme in the Faculty of Humanities. Preference will be given to students currently on the Deans' Honour List. (90654 418)

THE HAMILTON INTERNATIONAL AIRPORT BURSARY
Established in 1997 by the Hamilton International Airport. To be granted to a student who has demonstrated financial need and is enrolled in a programme in Engineering, Geography, Business or Economics and has demonstrated an interest in a career in transportation. Preference to be given to a student who elects to undertake a fourth year thesis on a topic related to the study of transportation. (90646 495)

THE GEORGE P. GILMOUR MEMORIAL BURSARY
Established in 1987 by the Class of ’82 in support of McMaster students. To be granted to a student enrolled in the Arts and Science Programme who has demonstrated financial need. Preference will be given to the student who wins the George P. Gilmour Memorial Scholarship. (90714 676)

THE JOHNS FAMILY BURSARIES
Established by Martin W. Johns and family. A variable number of bursaries to be granted to students enrolled in the Arts and Science Programme who demonstrate financial need. (90563 932)

THE SAM AND IRENE WATSON BURSARY FUND
Established in 1956 by the estate of Irene Mary Watson. To be granted to students who demonstrate financial need and have completed their second year with a cumulative average of at least 8.0 in the Arts and Science Programme or any of the Faculties of Business, Engineering, Humanities, Science and Social Sciences.

Value: $2,000 (90840 812)

FACULTY OF BUSINESS

THE GARY ALLEN MEMORIAL BURSARY
Established in 1987 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. (90501 234)

THE MATT CASEY BURSARY
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 MBA Programme in the Finance stream. (90581 643)

THE CHAN YIN CHAK BURSARY
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 MBA students, who demonstrate financial need, and are participating in one of the international exchange programmes at the Michael G. DeGroote School of Business. (90682 644)
THE DAVID CLARK BURSARIES
Established in 1996 by David I. Clark and Marilyn D. Eustace. A variable number of bursaries to be granted to students enrolled in a programme in Commerce who demonstrate financial need. Preference to be given to students demonstrating interest in Asian Studies. (905884 412)

THE AUBREY DALGLEISH BURSARIES
Established in 1989 to be granted to a student in any programme who demonstrates financial need with special preference given to handicapped students and/or students in the Faculty of Business. (90509)

THE DAUGHTERS OF THE EMPIRE CLUB, HAMILTON LTD. BURSARIES
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 to be given to women enrolled in the Faculty of Business. (905994 177)

THE MICHAEL G. DEGROOT SCHOOLS OF BUSINESS ADVISORY COUNCIL BURSARIES
Established in 1997 by the Michael G. 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 MBA Programme at the Michael G. DeGroote School of Business. (90659 661)

THE GEORGE AND MARGARET EDRUPT BURSARIES
Established in 1997 in honour of her parents George and Margaret Edrupt 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 programme in the Faculty of Science. (90701 663)

THE FACULTY OF BUSINESS BURSARIES
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 867)

THE FINANCIAL EXECUTIVES INSTITUTE BURSARY
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 programme 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 programme. (90829 785)

THE ALLEN AND MILLI GOULD FAMILY FOUNDATION BURSARIES
Established in 1997 by the Allen and Milli Gould 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 MBA Co-op students. (90716 678)

THE GARY GRAHAM BURSARY
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 MBA Programme at the Michael G. DeGroote School of Business. (90717 579)

THE HAMILTON INTERNATIONAL AIRPORT BURSARY
Established in 1997 by the Hamilton International Airport. To be granted to a student who has demonstrated financial need and is enrolled in a programme in Engineering, Geography, Business or Economics and has demonstrated an interest in a career in transportation. Preference to be given to a student who elects to undertake a fourth year thesis on a topic related to the study of transportation. (90646 495)

THE M.A. (JACK) HASSELL BURSARY
Established by the Hamilton and District Chartered Accountants' Discussion Group in 1952 in memory of M.A. (Jack) Hassell. 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. (90518 297)

THE HAWKRIGG FOUNDATION BURSARIES
Established in 1997 and augmented by the Hawkrigg Family in 1997 in conjunction with the McMaster Student Opportunity Fund initiative. To be granted to outstanding students in Business I or Kinesiology I who demonstrate financial need. (90514 693)

THE HARSH JAIN HUMAN RIGHTS IN EMPLOYMENT BURSARIES
Established in 1996 by Professor Harish C. Jain. A variable number of bursaries to be granted to students enrolled in the Faculty of Business or the Faculty of Social Sciences who demonstrate financial need. Preference to be given to students enrolled in Level III of a programme in Commerce. (90739 701)

THE IVISON FAMILY BURSARY FUND
Established in 1998 by Don and Betty Ivison in support of McMaster students under the McMaster Student Opportunity Fund Initiative. A variable number of bursaries to be granted to students enrolled in the Faculty of Engineering, the Faculty of Business or the Schools of Medicine and Rehabilitation Science in the Faculty of Health Sciences who demonstrate financial need. (90841 813)

THE KELLEY ADVERTISING BURSARY
Established in 1997 by Kelley Advertising Inc., founded in Hamilton in 1911. This bursary to be granted to a student enrolled in Business I, or in the first year of the MBA Programme at the Michael G. DeGroote School of Business who demonstrates financial need. (90745 707)

THE KPMG BURSARIES
Established in 1997 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 431)

THE MANULIFE FINANCIAL BURSARIES
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 724)

THE 3M CANADA INC. BURSARIES
Established in 1980, two bursaries to be granted annually; one to an M.B.A. student and one to a student in Business or Science. (90525 220)

THE McMASTERS MBA ALUMNI ASSOCIATION BURSARIES
Established in 1996 by the McMaster MBA Alumni Association. A variable number of bursaries to be granted to students enrolled in the first year of the Michael G. DeGroote School of Business MBA programme who demonstrate financial need. (90594 450)

THE MINICH FAMILY BURSARIES
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. (90626 452)

THE CLAIRE AND JOHN NOVAK BURSARY
Established in 1997 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 747)

THE ALFRED AND LAURA OAKIE BURSARIES
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. (90631 455)

THE PROCOR BURSARIES
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. (90869 486)

THE RICOH CANADA INC. BURSARIES
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 enrolled in any programme who demonstrate financial need and are enrolled in the Faculty of Business or the Faculty of Engineering. (90589 498)

THE ROBERTSON-YATES CORPORATION BURSARIES
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 programme in Business or Engineering who demonstrate financial need. (90640 489)

THE CARMEN AND DOROTHY RYDER BURSARY
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 783)
THE REBECKAH SCHNURR BURSARY
Established in 1998 by Rebeckah Schnurr, Financial Advisor for the Berkshire Group, in the belief that all students should be able to realize their educational goals. To be granted to a student who demonstrates financial need. Preference to be given to a female student pursuing her studies in the Faculty of Business or the Faculty of Health Sciences who, because of extenuating family or personal circumstances, would be unable to continue her studies without such assistance. (90843 615)

THE SCOTT AMELCIO BURSARIES
Established in 1998 by Scott Amelcio 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 programme who demonstrate financial need. Preference to be given to students enrolled in the Faculty of Business. (90802 765)

THE TERRY SEAWRIGHT BURSARY
Established in 1996 by Terry Seawright, Lecturer in the Faculty of Business. To be granted to a student in the Commerce Programme who demonstrates financial need. Preference to be given to the student who has completed COMMERCE 2NA3 and attained a grade of at least B. (90640 462)

THE STELCO UNDERGRADUATE BURSARIES
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 Faculty of Business, Engineering or Science. Preference will be given to students who are enrolled in the Department of Materials Science and Engineering. (90544 493)

THE G.S. (SANDY) WATT MEMORIAL BURSARY
Established in 1983 by Zeton Inc. of Burlington in memory of G.S. (Sandy) Watt. To be granted to a student in financial need enrolled in the Commerce programme who is a Canadian citizen or permanent resident. Value: $500 (90562 335)

THE SAM AND IRENE WATSON BURSARY FUND
Established in 1998 by the estate of Irene Mary Watson. To be granted to students who demonstrate financial need and who have completed their second year with a Cumulative Average of at least 8.0 in the Arts and Science Programme or any of the Faculties of Business, Engineering, Humanities, Science and Social Sciences.

Value: $2,000 (90840 812)

THE WESTINGHOUSE CANADA INC. BURSARIES
Established in 1996 by Westinghouse Canada Inc. In support of students who, without financial support, would be unable to pursue their educational goals. A variable number of bursaries to be granted to students in a programme in the Faculty of Business and the Faculty of Engineering who demonstrate financial need.

THE ZOMA CLUB OF HAMILTON I BURSARIES
Established in 1998 by the Zoma Club of Hamilton I 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 a student who demonstrates 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. (90850 097)

FACULTY OF ENGINEERING

THE ANDREW FOUNDATION BURSARIES
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 programme in Engineering who demonstrate financial need. Preference to be given to students who are studying Electrical Engineering or Mechanical Engineering. (90806 624)

THE A.H. ATKINSON BURSARIES
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 programme in Engineering who demonstrate financial need.

Value: $700 each (90500 282)

THE BARTEK BURSARIES
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 Dean's Honour List. (90672 469)

THE CANADA TRUST BURSARIES
Established in 1996 by Canada Trust in support of its belief that 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 Environment Science Programme, the Environmental Studies Programme or the Engineering and Society Programme. (90667 464)

THE CANADIAN SOCIETY FOR MECHANICAL ENGINEERING BURSARIES
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. (90619 641)

THE CANON CANADA INC. - OE DIVISION BURSARIES
Established in 1997 by Canon Canada Inc. - OE Division 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 the Environmental Science Programme, the Environmental Studies Program or an Engineering and Society Programme. (90820 642)

THE CRS ROBOTICS CORPORATION BURSARIES
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 658)

THE ENGINEERING CLASS OF '97 LEGACY BURSARY
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. (90688 650)

THE GENERAL CONTRACTORS ASSOCIATION OF HAMILTON BURSARIES
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 672)

THE GENNUM CORPORATION BURSARIES
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 674)

THE GRAY FAMILY BURSARY
Established in 1997 by Donald Gray (Class of '70) and Glenn Gray (Class of '73) and Kerry Gray (Class of '77 and '82 (MBA)) under the McMaster Student Opportunity Fund initiative. To be granted to a third year student enrolled in the Engineering and Management programme who demonstrates financial need. Preference to be given to students who permanently reside in the Hamilton-Wentworth Region. (90718 660)

THE HAMILTON INTERNATIONAL AIRPORT BURSARY
Established in 1997 by the Hamilton International Airport. To be granted to a student who has demonstrated financial need and is enrolled in a programme in Engineering, Geography, Business or Economics and has demonstrated an interest in a career in transportation. Preference to be given to a student who elects to undertake a fourth year thesis on a topic related to the study of transportation. (90646 495)

THE HATCH ASSOCIATES BURSARY
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 692)

THE INGLIS BURSARIES
Established in 1988 by Pat F. Inglis of Mississauga. A variable number of bursaries to be granted to students enrolled in a programme in Commerce or Engineering Management who demonstrate financial need. Preference to be given to students enrolled in Engineering Management. (90506 430)

THE IVISON FAMILY BURSARY FUND
Established in 1998 by Don and Betty Ivison in support of McMaster students under the McMaster Student Opportunity Fund initiative. A variable number of bursaries to be granted to students enrolled in the Faculty of Engineering, the Faculty of Business or the Schools of Medicine and Rehabilitation Science in the Faculty of Health Sciences who demonstrate financial need. (90844 813)
THE JMG COMPUSHOPPE BURSARY
Established in 1997 by JMG Compushoppe in support of its 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 McMaster students enrolled in a programme in Computer Science or Computer Engineering. (90741 703)

THE SZE-WAI LEE MEMORIAL BURSARY
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 714)

THE LIBURDI ENGINEERING LIMITED BURSARY
Established in 1997 by Liburdi Engineering Limited under the McMaster Student Opportunity Fund Initiative. To be granted to a student enrolled in an Engineering programme who demonstrates financial need. (90754 716)

THE NEIL D. McARTHUR BURSARIES
Established in 1997 by the Anne and Neil McArthur Foundation in memory of Mrs. McArthur's parents, Joseph and Josephine Hrynizak. To be granted to students in any programme who demonstrate financial need. Preference to be given to students enrolled in either the Faculty of Science or the Faculty of Engineering. (90765 727)

THE RONALD E. MATERICK BURSARY
Established in 1996 by Ronald E. Materick (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. (90666 465)

THE ROBERT JOHN MORRIS BURSARIES
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 454)

THE ARCHIE MOUGHALIAN BURSARIES
Established by bequest in 1996. A variable number of bursaries to be granted to students enrolled in the Faculty of Engineering who demonstrate financial need. (90852 841)

THE NCR (WATERLOO) BURSARY
Established in 1996 by NCR (Waterloo) under the McMaster Student Opportunity Fund Initiative. To be granted to a student enrolled in an Engineering and Management programme who demonstrates financial need. (90942 814)

THE ORLICK INDUSTRIES LIMITED BURSARIES
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 programme who demonstrate financial need. (90785 748)

THE OTIS CANADA BURSARIES IN ENGINEERING AND MANAGEMENT
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 programme 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. (90632 481)

THE MARC ANDRE ADRIEN PINEAULT BURSARY
Established in 1995 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 programme in Engineering who has demonstrated financial need and involvement in University activities including the McMaster Choir, varsity wrestling, karate club and issues related to the environment and social justice. (90576 822)

THE PATRIOT FORGE INC. BURSARY
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 751)

THE PROCOR BURSARIES
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. (90669 466)

THE RICOH CANADA INC. BURSARIES
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 enrolled in any programme who demonstrate financial need and are enrolled in the Faculty of Business or the Faculty of Engineering. (90639 488)

THE ROBERTSON-YATES CORPORATION BURSARIES
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 programme in Business or Engineering who demonstrate financial need. (90640 489)

THE LEONARDO AND ELIZABETH SHEMILT BURSARY
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 programme. (90863 460)

THE STELCO UNDERGRADUATE BURSARIES
Established in 1996 by Stelco Limited. 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 Faculty of Business, Engineering or Science. Preference will be given to students who are enrolled in the Department of Materials Science and Engineering. (90644 495)

THE SUNCOR INC. 1988 BURSARIES
Established in 1988, this bursary is granted to a student who is a member of the federally designated groups for employment equity (women, native students, handicapped and the visible minorities) who is registered in a Chemical, Mechanical, Manufacturing or Materials Engineering programme. (90652 545)

THE TURKSTRA LUMBER CO. LTD. BURSARIES
Established in 1996 by the Turkstra Lumber Company Limited. A variable number of bursaries to be granted to students enrolled in either the Faculty of Engineering or the Faculty of Humanities who demonstrate financial need. Preference to be given to students attaining a Sessional Average of at least 7.0 at the most recent review. (90647 496)

THE SAM AND IRENE WATSON BURSARY FUND
Established in 1998 by the estate of Irene Mary Watson. To be granted to students who demonstrate financial need and who have completed their second year with a Cumulative Average of at least 8.0 in the Arts and Science Programme or any of the Faculties of Business, Engineering, Humanities, Science and Social Sciences. Value: $2,000 (90340 812)

THE WESTINGHOUSE CANADA INC. BURSARIES
Established in 1996 by Westinghouse Canada Inc. in support of students who, without financial support, would be unable to pursue their educational goals. A variable number of bursaries to be granted to students in a programme in the Faculty of Engineering or the Faculty of Engineering who demonstrate financial need. (90652 501)

THE ZONTA CLUB OF HAMILTON I BURSARIES
Established in 1988 by the Zonta Club of Hamilton I 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 a student who demonstrates 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 097)

FACULTY OF HEALTH SCIENCES

THE DOUGLAS IAN BROWN BURSARY
Established in 1997 by Douglas A. and Lois Aileen Brown in honour of their son Douglas Ian Brown. To be granted to a McMaster student enrolled in the Faculty of Health Sciences who demonstrates financial need. (90815 635)

THE ED BUFFETT BURSARY
Established in 1997 under the McMaster Student Opportunity Fund Initiative. To be granted to students enrolled in a programme in Health Sciences who demonstrate financial need. Preference will be given to students who have demonstrated leadership in their school and community. (90616 636)

THE JEAN, MARTHA AND LAURIE DOUCET MEMORIAL BURSARIES
Established in 1996 by the family in memory of Jean, Martha and Laurie Doucet 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. (90851 840)
THE JACK AND THELMA HEATH MEMORIAL BURSARIES
Established in 1985 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. programme (basic and/or post-diploma stream). (90519 838)

THE HAZEL MAY HINKS BURSARIES
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 programme in Nursing who demonstrate financial need. Recipients must have graduated from a high school located in the City of Burlington. (90604 428)

THE IVISON FAMILY BURSARY FUND
Established in 1999 by Don and Betty Ivison in support of McMaster students under the McMaster Student Opportunity Fund initiative. A variable number of bursaries to be granted to students enrolled in the Faculty of Engineering, the Faculty of Business or the Schools of Medicine and Rehabilitation Science in the Faculty of Health Sciences who demonstrate financial need. (90841 813)

THE KENTS FAMILY BURSARY
Established in 1997 by the Kents Family under the McMaster Student Opportunity Fund initiative. To be granted to student who demonstrates financial need and is enrolled in the School of Medicine, the School of Nursing or the School of Rehabilitation Science. (90747 709)

THE PHILLIP GORDON KETTLE BURSARY
Established in 1996 in memory of Phillip Gordon Kettle. To be granted to a student enrolled in a Nursing programme who demonstrates financial need. Preference to be given to a student studying herbal medicine as alternative therapies. (90678 475)

THE MANULIFE FINANCIAL BURSARIES
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 724)

THE JANET MCKNIGHT MEMORIAL BURSARIES
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 level of the Nursing programme who demonstrate financial need. (90623 447)

THE KATHERINE M. COLLYER McNALLY BURSARY
Established in 1997 by her children in honour of Katherine M. Collyer 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 programme. (90774 736)

THE MDS INCORPORATED BURSARY
Established in 1997 by MDS Incorporated, 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 737)

THE McMASTER WOMEN'S CLUB BURSARY
Established in 1995 by the McMaster Women's Club and augmented in 1996 in conjunction with the McMaster Student Opportunity Fund initiative to assist a student beyond Level I in the University's B.Sc.N. programme. (90531 251)

THE O'SHAUGHNESSY BURSARY
Established in 1996 by the family and friends of the late Margaret O'Shaughnessy, RN, this bursary is used to alleviate financial need for students pursuing an education in Nursing (basic or post-diploma stream) in Level II, III, or IV. (90535 218)

THE PASSI FAMILY BURSARY
Established in 1997 by Chitra and Narendar Passi 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 to a student who demonstrates financial need and is enrolled in the Diploma in Child Life Studies programme. (90787 750)

THE DR. SUSAN BEVERLEY PLANK MEMORIAL BURSARY
Established in 1997 by Dr. 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 754)

THE SALENA FAMILY BURSARY
Established in 1997 under the McMaster Student Opportunity Fund initiative by Dr. Mike Salerno (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 764)

THE REBECKAH SCHNUR BURSARY
Established in 1998 by Rebeckah Schnur, Financial Advisor for the Berkshire Group, in the belief that all students should be able to realize their educational goals. To be granted to a student who demonstrates financial need. Preference to be given to a female student pursuing her studies in the the Faculty of Business or the Faculty of Health Sciences who, because of extenuating family or personal circumstances, would be unable to continue her studies without such assistance. (90543 815)

THE SYLVIA AND BRIAN WALKER BURSARIES
Established in 1996 by Sylvia (Hunt) and Brian Walker. Two bursaries to be granted to students demonstrating financial need: a) one to a student enrolled in Humanities I and; b) one to a student enrolled in Nursing I. Preference to be given to students who have demonstrated leadership and involvement in university and community activities. (90650 499)

THE AUDREY AND BOB WAUGH BURSARY
Established in 1997 by Audrey and Bob Waugh under the Ontario Student Opportunity Fund initiative. To be granted to a student enrolled in the Faculty of Health Sciences who demonstrates financial need. Preference to be given to a student involved in Gerontological research. (90796 759)

FACULTY OF HUMANITIES

THE JENNIFER AND THEODORE ARCADIA ENGLISH BURSARY
Established in 1997 by Theodore Arcand (Class of '57), in memory of his wife, Jennifer (Class of '57), whose interest was Baroque English poetry. To be granted to an undergraduate or graduate student enrolled in a programme in English, who demonstrates financial need. (90807 625)

THE MARJORIE E. (WATSON) BEATTIE BURSARY
Established in 1997 by William W. Beattie (Class of '68) 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 programme who demonstrates financial need. Preference to be given to students enrolled in the Faculty of Humanities. (90811 631)

THE MARIE IRELAND BUSH MEMORIAL BURSARIES
Established in 1996 by Helen Ireland Caldwell in memory of Marie Ireland Bush, Class of '48 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 programme in English who demonstrate financial need. (90583 407)

THE NORMAN NATHANIEL CASKEY BURSARIES
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 programme in Music who demonstrate financial need. (90595 409)

THE SUZANNE E. CRAVEN BURSARY
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 656)

THE GORDON H. DEAN BURSARIES
Established in 1996 by Gordon H. Dean of Stoney Creek. Two or more bursaries to be granted based upon financial need: a) one to a student enrolled in Level III of a programme in Arts and Science and b) one to a student enrolled in Level III of a programme in the Faculty of Humanities. Preference given to students currently on the Deans' Honour List. (90594 418)

THE ENERSYSTEM INSULATION LTD. BURSARY
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 the Faculty of Humanities who demonstrates financial need. (90702 664)

THE FESTIVALIA CORPORATION BURSARY
Established in 1997 by the Festivalia 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 Modern Languages, specializing in Italian, or is enrolled in the School of Art, Drama and Music. (90706 668)

THE HAMILTON PERFORMING ARTS BURSARY
Established in 1997 by the Hamilton Performing Arts Foundation Inc. under the McMaster Student Opportunity Fund initiative. To be granted to a full-time student who has completed at least 30 units of a programme in Art, Drama and Music, 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 Deans' Honour list. (90724 666)

THE MARGARET HARGREAVES BURSARIES
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 691)
THE HARWOOD BURSARIES
Established in 1980 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 058)

THE KARL W. HEINZ MEMORIAL AWARD
Established in 1982 by his wife in memory of Karl Walter Heinz, remembered for his compassion and love for people. To be granted to a student in a program in Modern Languages who is a Canadian citizen or permanent resident of Canada. Value: $500 (90557 113)

THE GENERAL HUMANITIES BURSARY FUND
The General Humanities Bursary Fund, established in 1997 by Humanities alumni, will be granted to undergraduate students at McMaster registered in any Humanities programme who demonstrate financial need. (90734 696)

THE JULIA HURTIG BURSARY
Established by family and friends of the late Julia Hurtig in 1985. This bursary will be granted to a student entering Level II 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. (90522 211)

THE STUART AND MARJORIE IVISON BURSARIES
Established in 1997 by Donald Ivison (Class of ’53) and Betty Ivison (Class of ’52) in honour of his parents Stuart and Marjorie Ivison (Class of ’28/Arts). A variable number of bursaries to be granted to students who demonstrate financial need. Preference will be given to students enrolled in a program in the Department of English who demonstrate a lively interest in English studies and involvement in extra-curricular activities. (90736 698)

THE JAMES R.A. LANGS BURSARIES IN THE ARTS
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 programme in Art, Drama or Music who demonstrate financial need. (90612 436)

THE DR. ALBERT MARTIN BURSARIES
Established in 1996 by Joyce and 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 a programme in Modern Languages who demonstrate financial need. (90620 444)

THE DR. HOLLAND AND MRS. ELVIRA PETERSON BURSARY
Established in 1997 by Dr. Holland and Mrs. Elvira Peterson under the McMaster Student Opportunity Fund initiative. To be granted to a student who demonstrates financial need and is enrolled in Level II or higher of a Spanish or an Portuguese programme in the Department of Modern Languages. (90789 752)

THE JAMES C. MOORE MEMORIAL BURSARY
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 339)

THE LILLIAN PLUMB BURSARY
Established in 1996 by David Plumb in honour of his mother, Lillian Plumb. To be granted to a student enrolled in a programme in Humanities whose work demonstrates financial need. (90893 642)

THE MARY ROMEO BURSARY IN ART HISTORY
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 programme in Art History. (90658 465)

THE SMYRNIS BURSARY
Established in 1996 by Dr. and Mrs. W. Smyrnis. 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 programme of the Faculty of Humanities except Level I. (90601 465)

THE SALVATORE SPIATEL MEMORIAL BURSARY
Established in 1984 and augmented in 1997 by the Spiate family in conjunction with the McMaster Student Opportunity Fund initiative. To be granted to a student in the Department of Modern Languages, Level II or higher, who demonstrates financial need and has completed a minimum of nine units of Italian courses. Preference to be given to a student who has demonstrated active involvement in community life. (90703 655)

THE W. A. TAYLOR BURSARY
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. (90845 494)

THE ROBERTA GRAY TROXEL BURSARY
Established in 1997 by Roberta Gray Troxel 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 programme. (90735 697)

THE TRESSILIA TRUBY MEMORIAL BURSARY
Established in 1992 from the bequest of Tressilla 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 programme in Music. (90555 200)

THE TURKSTRA LUMBER CO. LTD. BURSARIES
Established in 1996 by the Turkstra Lumber Company Limited. A variable number of bursaries to be granted to students enrolled in either the Faculty of Engineering or the Faculty of Humanities who demonstrate financial need. Preference to be given to students attaining a Sessional Average of at least 7.0 at the most recent review. (90647 496)

THE CATHERINE VASAS-BROWN BURSARIES
Established in 1996 by J. Alän Brown in honour of Catherine Vasas-Brown. A variable number of bursaries to be granted to students enrolled in the Faculty of Humanities who demonstrate financial need. (90649 498)

THE SYLVIA AND BRIAN WALKER BURSARIES
Established in 1996 by Sylvia (Hurt) and Brian Walker. Two bursaries to be granted to students demonstrating financial need: a) one to a student enrolled in Humanities I and b) one to a student enrolled in Nursing I. Preference to be given to students who have demonstrated leadership and involvement in university and community activities. (90650 499)

THE SAM AND IRENE WATSON BURSARY FUND
Established in 1998 by the estate of Irene Mary Watson. To be granted to students who demonstrate financial need and who have completed their second year with a Cumulative Average of at least 8.0 in the Arts and Science Programme or any of the Faculties of Business, Engineering, Humanities, Science and Social Sciences. Value: $2,000 (90840 812)

THE CLIFFORD JOHNSTON WEBSTER MEMORIAL BURSARIES
Established in 1993 by Viola Webster in memory of her brother Clifford Johnston Webster (Class of ‘41). To assist students who demonstrate financial need enrolled in the Honours English programme who are Canadian citizens or permanent residents and who have graduated from a public secondary school in Ontario. Applicants should have a record of academic performance that has normally been at the upper second-class level or higher. If sufficient applicants are not eligible in the Honours English programme, the bursaries are available, under similar conditions, to students in the Honours French programme. (90559 336)

THE SHEILA ZACK MEMORIAL BURSARY
The Sheila Zack Memorial bursary established by the 45th Annual BNAI Brith Sports Celebrity Dinner, to be awarded to a student with financial need enrolled in a programme in Drama at McMaster University. (90764 726)

FACULTY OF SCIENCE

THE BIRGIT AND ROBERT BATEMAN BURSARY
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 Programme, 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 629)

THE J.P. BICKELL BURSARIES
The J.P. Bickell Foundation provides a sum of money to assist students specializing in Geology. Recommendations are made by the Department of Geology. (90505 285)

THE CANADA TRUST BURSARIES
Established in 1996 by Canada Trust in support of its belief that 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 Environmental Science Programme, the Environmental Studies Programme or the Engineering and Society Programme. (90667 464)

THE CANON CANADA INC. - OE DIVISION BURSARIES
Established in 1997 by Canon Canada Inc. - OE Division 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 the Environmental Science Programme, the Environmental Studies Programme or an Engineering and Society Programme. (90820 642)
THE GEORGE AND MARGARET EDRUPT BURSARY
Established in 1997 by Sandra Edrupt in honour of her parents George and Margaret Edrupt 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 programme in the Faculty of Science. (90701 663)

THE ASMAHAN HAFEZ MEMORIAL BURSARY
Established in 1997 by her family in memory of Asmahan Hafez. To be granted to a student enrolled in Level 1 of the Faculty of Science who demonstrates financial need. (90721 683)

THE JAMES EDWARD GRADER MEMORIAL BURSARY
Established in 1984 by his sister. To be granted to a student specializing in Geology. Application should be made to the Department of Geology. (90513 839)

THE HAMILTON INTERNATIONAL AIRPORT BURSARY
Established in 1997 by the Hamilton International Airport. To be granted to a student who has demonstrated financial need and is enrolled in a programme in Engineering, Geography, Business or Economics and has demonstrated an interest in a career in transportation. Preference to be given to a student who elects to undertake a fourth year thesis on a topic related to the study of transportation. (90646 495)

THE JENSEN BURSARY
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 programme in the Faculty of Science. (90740 702)

THE JMG COMPUSHOPPE BURSARY
Established in 1997 by JMG Compushoppe 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 programme in Computer Science or Computer Engineering. (90741 703)

THE NORMAN D. LANE BURSARIES
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 programme in Mathematics who demonstrate financial need. (90610 434)

THE JOHN AND HELEN MAXWELL BURSARIES
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 programme in Geology or Chemistry. (90621 445)

THE NEIL D. McARTHUR BURSARIES
Established in 1997 by the Anne and Neil McArthur Foundation in memory of Mrs. McArthur’s parents, Joseph and Josephine Hryniszak. To be granted to students in any programme who demonstrate financial need. Preference to be given to students enrolled in either the Faculty of Science or the Faculty of Engineering. (90765 727)

THE 3M CANADA INC. BURSARIES
Established in 1989, two bursaries to be granted annually; one to an M.B.A. student and one to a student in Business or Science. (90525 220)

THE STELCO UNDERGRADUATE BURSARIES
Established in 1995 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 Faculty of Business, Engineering or Science. Preference will be given to students who are enrolled in the Department of Materials Science and Engineering. (90644 493)

THE ERIC SCHLICHTE MEMORIAL BURSARY
Established in 1966 by his family, classmates and friends. To assist a student in a programme in Geology or other field of Science, in that order of preference. Application should be made to the Department of Geology. (90539 219)

THE BROOKE P. TOWNSEND BURSARY
Established in 1996 by Brooke P. Townsend. To be granted to a student in any programme who has demonstrated financial need. Preference to be given to a female student enrolled in the Faculty of Science. (90670 467)

THE SAM AND IRENE WATSON BURSARY FUND
Established in 1996 by the estate of Irene Mary Watson. To be granted to students who demonstrate financial need and who have completed their second year with a Cumulative Average of at least 8.0, in the Arts and Science Programme or any of the Faculties of Business, Engineering, Humanities, Science and Social Sciences. Value: $2,000 (90840 812)

THE JOHN YARWOOD MEMORIAL BURSARY
Established in 1999 by family and friends in memory of Mr. A.J. Yarwood. To be granted to a Level II student enrolled in an Honours Chemistry programme who demonstrates financial need. (90884 816)

FACULTY OF SOCIAL SCIENCES

THE ANTHROPOLOGY BURSARY
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 programme in Anthropology and who demonstrate financial need. Preference will be given to students entering Level III. (90379 403)

THE BIRGIT AND ROBERT BATEMAN BURSARY
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 Programme, 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 629)

THE NORMA BERTI BURSARY
Established in 1996 under the McMaster Student Opportunity Fund initiative by Norma Berti, active Steelworker for 34 years and recognized by the Hamilton Council of Women as Woman of the Year for her charitable community contributions. To be granted to a student who demonstrates financial need and is enrolled in a programme in Labour Studies. (90812 632)

THE SIDNEY L. BLUM BURSARY
Established in 1989 by friends and associates in memory of Sidney L. Blum. To be granted on the recommendation of the Director of the School of Social Work to any student in good standing in Level III or IV of the Bachelors of Arts/Social Work programme or Level II of the Bachelors of Social Work programme. (90528 286)

THE DR. RICHARD A. BRYMER MEMORIAL BURSARY
Established in 1996, 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 1969 to 1999. To be granted to a student enrolled in a programme in Sociology or Anthropology who demonstrates financial need. (90845 817)

THE JODIE ANNE BULL MEMORIAL BURSARIES
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 to be granted to a student enrolled in Labour Studies. (90673 470)

THE CANADA TRUST BURSARIES
Established in 1996 by Canada Trust in support of its belief that 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 Environmental Science Programme, the Environmental Studies Programme or the Engineering and Society Programme. (90667 464)

THE CANON CANADA INC. - OE DIVISION BURSARIES
Established in 1997 by Canon Canada Inc. - OE Division 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 the Environmental Science Programme, the Environmental Studies Programme or an Engineering and Society Programme. (90820 642)

THE CLASS OF ‘46 BURSARIES
Established by the Year ‘46 in honour of their 40th class reunion. To be granted to a student in a programme in Gerontology. (90621 765)

THE STEWART COOKE BURSARY
Established in 1997 by the United Steelworkers of America in honour of Stewart Cooke, Hamilton staff representative from 1948-70, for his contributions to the labour movement which included appointments as Vice-President of the Ontario Federation of Labour, Treasurer of the New Democratic Party and Director of the Steelworkers, District 6 from 1977-81. To be granted to a student enrolled in a programme in Labour Studies who demonstrates financial need. (90691 653)
THE GERALDINE LORETTA COSFORD BURSARIES
Established in 1997 by Geraldine Loretta Cosford under the McMaster Student Opportunity Fund initiative. To be granted to students who demonstrate financial need and are enrolled in Level II or higher of a programme in Women's Studies. (90692 654)

THE BEN F. DESROCHES BURSARIES
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 programme in Labour Studies who demonstrate financial need. The value of this award shall be not less than $300. (90585 419)

PATRICIA ANNE DICICCO MEMORIAL BURSARY
Established in 1988 this bursary is to be granted to a student or students enrolled in a programme which includes Gerontology as a major, who is a Canadian citizen or permanent resident and who exhibits financial need. (90510 204)

THE GERARD DOQUERIER BURSARY
Established in 1996 by the United Steelworkers of America in honour of E. Gerard Doquier, former National Director of the United Steelworkers in Canada, and founder of the Steelworkers' Humanity Fund in response to the famine in sub-Saharan Africa in 1984. To be granted to a student enrolled in a programme in Labour Studies who demonstrates financial need. (90700 662)

THE MARGARET E. DUNCAN BURSARY
Established in 1998 by Mr. and Mrs. J. Bruce Duncan in honour of his late mother who was a long-time volunteer in McMaster's Gerontology Programmes. A variable number of bursaries to be granted annually to students enrolled in a Gerontology course who demonstrate financial need. (90846 818)

THE MICHAEL EARL MEMORIAL BURSARY
Established in 1991 by family and friends in memory of Michael Earl. In 1997, the Graduating Class in Psychology further augmented this bursary as part of the McMaster Student Opportunity Fund initiative. This bursary is granted to a student enrolled in a psychology programme who demonstrates financial need. (90633 991)

THE BILL FULLER BURSARY
Established in 1996 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 a programme in Labour Studies who demonstrate financial need. The value of this award shall be not less than $300. (90601 425)

THE REG GARDINER BURSARY
Established in 1997 by the United Steelworkers of America in honour of Reg Gardiner, long-time Stelco employee, active union member and President of Local 1005 for eight years. To be granted to a student enrolled in a programme in Labour Studies who demonstrates financial need. (90705 671)

THE REG GYSBORN BURSARIES
Established in 1997 as a tribute to Reg Gysborn, valued Stelco employee, President of Local 1005 from 1961-62 and New Democratic Party Hamilton East M.P.P. for twenty years until 1975. A variable number of bursaries to be granted to McMaster students enrolled in a programme in Labour Studies who demonstrate financial need. (90715 677)

THE HAMILTON AND DISTRICT LABOUR COUNCIL BURSARY
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 Programme who demonstrates financial need. (90726 688)

THE HAMILTON FOLLIES INC. (GERITOL FOLLIES) BURSARY
Established in 1997 by the Hamilton Follies Inc. (Geritol Follies) under the McMaster Student Opportunity Fund initiative. To be granted to a student in any programme who demonstrates financial need. Preference to be given to a student who has completed at least 30 units in the Gerontology programme. (90722 684)

THE HAMILTON INTERNATIONAL AIRPORT BURSARY
Established in 1997 by the Hamilton International Airport. To be granted to a student who has demonstrated financial need and is enrolled in a programme in Engineering, Geography, Business or Economics and has demonstrated an interest in a career in transportation. Preference to be given to a student who elects to undertake a fourth year thesis on a topic related to the study of transportation. (90646 485)

THE MARGARET HARGREAVES BURSARIES
Established in 1997 by Susan Hargreaves Walker in loving memory of her mother, Margaret Hargreaves. Available 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 691)

THE HAWKRIGG FOUNDATION BURSARIES
Established in 1998 and augmented by the Hawkrigg Family in 1997 in conjunction with the McMaster Student Opportunity Fund initiative. To be granted to outstanding students in Business I or Kinesiology I who demonstrate financial need. (90514 693)

THE GORDON HOLSEY BURSARY
Established in 1996 under the McMaster Student Opportunity Fund initiative as a tribute to Gordon Holsey, founding member of Local Union 1005 and former rank and file member of the Union’s Negotiations Committee. To be granted to a student enrolled in a Labour Studies programme who demonstrates financial need. (90733 695)

THE JOHN B. ISBISTER BURSARY
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 programme in Labour Studies who demonstrates financial need. (90605 429)

THE HARISH JAIN HUMAN RIGHTS IN EMPLOYMENT BURSARIES
Established in 1996 by Professor Harish C. Jain. A variable number of bursaries to be granted to students enrolled in the Faculty of Business or the Faculty of Social Sciences who demonstrate financial need. Preference to be given to students enrolled in Level III of a programme in Commerce. (90739 701)

THE JAMES A. JOHNSON CLASS OF '97 BURSARIES
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 programme in Economics who demonstrate financial need. (90742 704)

THE LABOUR STUDIES CLASS OF '97 LEGACY BURSARY
Established in 1997 by the Labour Studies Class of '97 under the McMaster Student Opportunity Fund initiative. To be granted to a student in a Labour Studies programme who demonstrates financial need. (90689 651)

THE KELLY DAWN LAPP MEMORIAL BURSARY
Established in 1997 by family and friends under the McMaster Student Opportunity Fund initiative in memory of Kelly Dawn Lapp who received her BA'88 degree from McMaster University in 1996. To be granted to a student enrolled in the Social Work programme who demonstrates financial need. Preference will be given to a student who has volunteered or worked in programmes 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 819)

THE LISSON BROTHERS BURSARY
Established in 1997 under the McMaster Student Opportunity Fund as a tribute to Brian, Bill and John Lissou, valued Stelco employees and members of the United Steelworkers of America. To be granted to a student enrolled in the Labour Studies programme who demonstrates financial need. (90756 718)

THE JOHN A. 'JACK' MACDONALD BURSARIES
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 programme who demonstrate financial need and interest in extracurricular or community activities. (90616 440)

THE BOB MACKENZIE BURSARY
Established in 1986 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 programme in Labour Studies who demonstrates financial need. (90671 611)

THE BOB MACKENZIE - UNITED STEELWORKERS OF AMERICA BURSARY
Established in 1986 by the United Steelworkers of America in honour of Robert W. (Bob) MacKenzie, former Minister of Labour, former member of the Hamilton Social Planning and Research Council and current member of the Hamilton Philatelic Society. To be granted to a student enrolled in a programme in Labour Studies who demonstrates financial need. (90760 722)
THE ENRICO HENRY MANCINELLI BURSARIES
Established in 1996 by the Labourage Internationale de 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 programme in Labour Studies who demonstrate financial need. Preference to be given to students attaining a Sessional Average of at least 7.0 at the most recent review. (90619 443)

THE LAWRENCE McBREARTY BURSARY
Established in 1986 under the McMaster Student Opportunity Fund Initiative, by Lawrence McBrearty, current National Director of the United Steelworkers of America and President of the Steelworkers' Humanity, Fund, the Union's third world aid and development arm. To be granted to a student enrolled in a programme in Labour Studies who demonstrates financial need. The value of this award shall be no less than $300. (90766 728)

THE R. CRAIG McIVOR BURSARIES
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 an Honours programme in Economics who demonstrate financial need. Preference to be given to students in Level II. (90622 446)

THE CHARLES MILLARD BURSARY
Established in 1997 by the United Steelworkers of America in memory of Charles H. Millard. The Steelworkers of America played a pivotal role in the founding and consolidation of both the AutoWorkers' and Steelworkers' Unions. To be granted to a student enrolled in a programme in Labour Studies who demonstrates financial need. (90759 740)

THE JAMES C. MOORE MEMORIAL BURSARY
Established in 1969 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. (90566 339)

THE HONOURABLE JOHN C. MUNRO BURSARIES
Established in 1996 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 programme in Political Science who demonstrate financial need. (90848 820)

THE NEWCASTLE CAPITAL MANAGEMENT INC. BURSARIES
Established in 1987 by Newcastle Capital Management 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 enrolled In the Gerontology programme who demonstrate financial need. Preference to be given to students who have participated in a conference or workshop on Gerontology. (90783 746)

THE MARION PEARCE BURSARIES
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 programme who have demonstrated financial need. (90936 226)

THE PEVENSING BURSARIES
Established in 1996 by David Hannaford (Class of '94). A variable number of bursaries to be granted to students enrolled in the penultimate year of an Honours programme in Economics who demonstrate financial need. (90676 473)

THE GEORGE PLUMB MEMORIAL BURSARY
Established in 1996 by David Plumb in memory of his father George Plumb. To be granted to a student enrolled in a programme in Gerontology who demonstrates financial need. Preference to be given to a mature student. (90636 485)

THE HARRY POMEROY BURSARY
Established in 1997 by the United Steelworkers of America in memory of Harry Pomeroy, a Stelco employee for over 30 years and a Picket Captain during the historic 1973 Stelco strike, to be granted to a student enrolled in a programme in Labour Studies who demonstrates financial need. (90791 755)

THE ROYAL CANADIAN LEGION BRANCH 163 BURSARY
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 programmes in the country. To be granted to a student enrolled in a Gerontology programme who demonstrates financial need. (90798 761)

THE WILLIAM F. SCANDLAN BURSARIES
Established in the 50th anniversary year of the historical Stelco stool strike of 1946 by William F. Scandlan, valued member of the United Steelworkers of America for 44 years which included appointments as an International Representative in 1955 and Area Supervisor for the Union in the greater Hamilton area from 1976 to 1986. Two bursaries to be granted to students enrolled in a programme in Labour Studies who demonstrate financial need. The value of these bursaries shall be no less than $300. (90642 491)

THE ALEX SHARP BURSARY
Established in 1997 by the United Steelworkers of America in memory of Alex Sharp, a Stelco employee for 25 years, founding member of Stelco Finishing Works Credit Union and board member of the Niagara College of Applied Arts & Technology from 1960-75, being instrumental in its founding. To be granted to a student enrolled in a programme in Labour Studies who demonstrates financial need. (90798 710)

THE JOHN SHIPPERBOTTOM BURSARY
Established in 1997 by the United Steelworkers of America in memory of John Shipperbottom, a Stelco employee for over forty years and active labour organizer who led Local members in the historic 1946 strike. To be granted to a student enrolled in a programme in Labour Studies who demonstrates financial need. (90690 652)

THE SOCIAL SCIENCES SOCIETY BURSARIES
Established in 1997 as a tribute to Lynn R. Williams in recognition of the outstanding contributions to her field of study and their potential to contribute to the Social Sciences. A variable number of bursaries to be granted to all students who are enrolled in a Social Sciences programme. (90848 820)

THE DR. JOHN THOMAS MEMORIAL BURSARY
Established in 1996 in memory of Dr. John Thomas by family, friends and colleagues. This bursary fund is used to assist undergraduate or graduate students who are enrolled in a Philosophy programme, show interest in the field of applied ethics and demonstrate financial need. Undergraduate: Must have taken at least six units from applied ethics courses and have shown, in the view of the Department of Philosophy, promise in the field of applied ethics. Graduate: Must be working on a research thesis which, in the view of the Department of Philosophy, is making or promises to make, a useful contribution to the field of applied ethics. (90675 472)

THE SAM AND IRENE WATSON BURSARY FUND
Established in 1996 by the estate of Irene Mary Watson. To be granted to students who demonstrate financial need and who have completed their second year with a Cumulative Average of at least 8.0 in the Arts and Science Programmes or any of the Faculties of Business, Engineering, Humanities, Science and Social Sciences. Value: $2,000. (90840 812)

THE FRIDA AND JOACHIM WOLTER BURSARY
Established in 1997 under the McMaster Student Opportunity Fund Initiative by Ciaus Wolter (Class of '80) in honour of his parents, Frida and Joachim Wolter. To be granted to a student enrolled in the Kinesiology programme who demonstrates financial need. (90790 753)

THE LYNN R. WILLIAMS BURSARY
Established in 1997 as a tribute to Lynn R. Williams (Class of '44), International President of the United Steelworkers of America from 1983-1994, in recognition of his outstanding contributions to labour and labour studies. To be granted to a student who demonstrates financial need and is enrolled in a programme in Labour Studies. The value of this bursary shall be no less than $300. (90793 756)

THE ZONTA CLUB OF HAMILTON I BURSARIES
Established in 1986 by the Zonta Club of Hamilton I 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 a student who demonstrates 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. (90560 097)
SUPPLEMENTARY BURSARY AID FOR AWARD RECIPIENTS

The University wishes to acknowledge the generosity of several longstanding donors to McMaster's Undergraduate Scholarships Programme who, in response to the Student Opportunity Trust Fund initiative of the Ontario Government, made donations in 1996-97 for the purpose of assisting a specific scholarship or award recipient who demonstrates financial need. To qualify for additional bursary support, scholarship and award recipients are required to demonstrate financial need in accordance with that required of applicants to the regular McMaster Bursary Programme:

- The Rudolf de Buda Scholarship
- The Eleanor Turner Carment Prize
- The Hugh Clark Scholarship
- The Dundas Scholarships
- The George P. Gilmour Memorial Scholarship
- The Inter-Residence Council Scholarship
- The Ivey Scholarship
- The A.I. Johnson Scholarship
- The KPMG Scholarship
- The Gary Lautens Memorial Scholarship
- The Gerald and Verna Simpson Memorial Scholarship
- The Somerville Scholarships
- The T.H.B. Symons Scholarship In Canadian Studies
- The Graham Ronald Toop Scholarship
- The Thomas Truman Memorial Prize
- The Tynowski Scholarship
- The Gladys A. Young Scholarship

EXCHANGE PROGRAMME BURSARIES

Bursary support may be available to students participating in McMaster approved exchange programmes. To be considered for this bursary support, students must complete all application requirements for the exchange programme and, by March 31, 1998, submit a bursary application to the Office of Student Financial Aid and Scholarships, Hamilton Hall, Room 404. Final decisions regarding potential bursary support are contingent upon acceptance to participate in an exchange. For further information about exchange programmes, please refer to International Study in the General Academic Regulations section and Student Exchanges in the Academic Facilities, Services and Organizations section of this Calendar.

THE BEALE-LINCOLN-HALL EXCHANGE PROGRAMME BURSARIES

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 granted to a student who demonstrates financial need and is enrolled in a programme in Commerce, Biochemistry, Biology, English, French, German, History, Mathematics, Physics, Engineering, Physics or Religious Studies who is participating in one of McMaster's formal exchange programmes. Preference will be given to students who have demonstrated a lively interest in the humanities and the human and social implications of scientific developments. (90697 474)

THE CANADIAN FRIENDS OF THE HEBREW UNIVERSITY EXCHANGE PROGRAMME BURSARIES

Established in 1997 by the Canadian Friends of the Hebrew University 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 to students who demonstrate financial need and are participating in one of McMaster's formal exchange programmes at the Hebrew University of Jerusalem, the School for Overseas Students or other accredited Hebrew University programmes, in order to fulfill their academic requirements at McMaster. (90697 440)

THE JAMES R.A. LANGS STUDENT EXCHANGE PROGRAMME BURSARIES

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 programme in Humanities who demonstrate financial need and who are participating in a formal McMaster Exchange Programme. (90697 503)

THE McLAY BURSARY

Established in 1997 by David and Jean McLay under the McMaster Student Opportunity Fund initiative. To be granted to a student in any programme who demonstrates financial need and who is participating in one of McMaster's formal exchange programmes. Preference to be given to students who have been active in international clubs and associations. (90707 729)

THE McLEAN FAMILY EXCHANGE BURSARIES

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 programmes, who demonstrate financial need and who are enrolled in Level II or III of a programme. 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. (90849 821)

THE JAMES MASON YOUNG BURSARY

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 Programme. (90779 742)

INDEX OF BURSARIES

Legend

<table>
<thead>
<tr>
<th>Code</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AA</td>
<td>Ability and Access</td>
<td>E</td>
</tr>
<tr>
<td>AS</td>
<td>Arts &amp; Science</td>
<td>HS</td>
</tr>
<tr>
<td>AT</td>
<td>Athletic</td>
<td>R</td>
</tr>
<tr>
<td>B</td>
<td>Business</td>
<td>S</td>
</tr>
<tr>
<td>CS</td>
<td>Community Service</td>
<td>SS</td>
</tr>
<tr>
<td>U</td>
<td>University-wide</td>
<td></td>
</tr>
</tbody>
</table>

Index

4 Winds Bursaries (U) ............................................. 268
Ainsworth Bursaries (U) ........................................ 268
Phyllis May Atkins Bursary Fund (U) .................. 268
Gary Allen Memorial Bursary (B) ....................... 272
James N. Allen Foundation Bursary (R) ............. 272
Amex Canada Bursary (U) ..................................... 268
Ancaster Lions Club Bursary (R) ......................... 272
Andrew Foundation Bursaries (E) ....................... 275
Anthropology Bursary (SS) .................................. 279
Arts and Science Class of '97 Legacy Bursary (AS) 273
A.H. Atkins Bursary (E) ....................................... 275
Avestel Credit Union Limited Bursary (R) ........... 272
Joy Babi Bursary (U) ........................................... 268
Charles Murray BAIL Bursaries (U) .................... 268
Bartek Bursaries (E) ........................................... 275
Birtill and Robert Baterman Bursary (AS, S, SS) ... 273, 276
Marjorie E. (Watson) Beattie Bursary (H) ........... 277
Norma Berti Bursary (SS) ...................................... 279
Betzner Family Memorial Bursaries (U) .............. 268
J.P. Bickell Bursaries (S) ..................................... 268
Sidney L. Blum Bursary (SS) ................................. 279
Bowes Family Bursaries (U) ................................. 268
Branford Alumni Branch Bursaries (R) .................. 272
Louisa Brayford Memorial Bursary (AS) .............. 273
Eric John Bretzler Bursary (CS) ......................... 272
Douglas Ian Brown Bursary (HS) ......................... 276
Dr. Richard A. Bursary (R) ................................. 277
Ed Buffet Bursary (HS) ......................................... 276
Jodie Ann Bull Memorial Bursary (SS) ................. 279
Bursaries for In-course Visa Students (U) ............ 268
Maile Ireland Bush Memorial Bursary (H) ............ 277
Business Management Services Bursaries (U) ....... 268
James Calvin Bursary (U) ....................................... 268
Camco Inc. Bursaries (U) ....................................... 268
Betsy Taylor Campbell Bursaries (U) .................. 268
Canada Trust Bursaries (AS, E, S, SS) ............... 275, 278
Canadian Federation of University Women's (Burlington) Bursary (R) ........................................ 272
Canadian Society for Mechanical Engineering Bursary (E) ........................................ 275
Canon Canada Inc. - O.E. Division Bursary (E, S, SS) 275, 278
Matt Casey Bursary (B) ........................................ 273
Gary Graham Bursary (B) .................................. 277
Norman Nathaniel Caskey Bursaries (H) ............................................ 277
Hamilton Community Foundation Bursaries (R) .................................. 277
City of Hamilton Bursaries (R) ..................................................... 277
David Clark Bursaries (B) .............................................................. 277
City of Hamilton Bursaries (R) ..................................................... 277
Hugh Clark Bursaries ................................................................. 277
Gary Graham Bursary (B) ......................................................... 277
Class of ’47 Golden Anniversary Bursaries (U) .................................... 277
Jack and Thelma Heath Memorial Bursaries ....................................... 277
Class of ’57 Golden Anniversary Bursaries (U) .................................... 277
Mike and Muriel Hedden Memorial Bursaries (U) ................................ 277
Stewart Thomas Daly Bursaries (U) ................................................ 277
Enersystem Ltd. Bursary (H) .......................................................... 277
Asmahan Hafez Memorial Bursary .................................................. 277
Stewart Thomas Daly Bursaries (U) ................................................ 277
Enersystem Ltd. Bursary (H) .......................................................... 277
Girls of the Empire Club, Hamilton Ltd. Bursaries (B) ......................... 277
Laidlaw Bursary (U) .................................................................... 277
Gwen George Undergraduate Bursaries ........................................... 277
Laidlaw Bursary (U) .................................................................... 277
Haggar Associates Bursaries (H) ....................................................... 277
Laidlaw Bursary (U) .................................................................... 277
Hawkrigg Foundation Bursaries (B, SS) ............................................ 277
Jack and Thelma Heath Memorial Bursaries (HS) ............................... 277
Karl W. Heinze Memorial Bursary (H) ............................................. 277
Inter-Residence Council Bursary (U, AA) .......................................... 277
John B. Isbister Bursary (SS) .......................................................... 277
Kelts Bursary (U) ......................................................................... 277
Kelts Bursary (U) ......................................................................... 277
Stuart and Marjorie Fossan Bursaries (H) .......................................... 277
Clifford Jackson Memorial Bursaries (R) .......................................... 277
Jadeco Anderson Bursary (U) ........................................................ 277
Jansen Bursary (S) ........................................................................ 277
JMG Compusophpe Bursary (E, S) .................................................. 277
John’s Family Bursaries (SS) ........................................................... 277
John’s Family Bursaries (SS) ........................................................... 277
Jones-Turner Bursary (U) ............................................................... 277
Kelley Advertising Bursary (B) ....................................................... 277
Robert A. Kennedy Bursaries (U) .................................................... 277
Kents Family Bursary (HS) ............................................................. 277
Kelts Bursary (U) ......................................................................... 277
Khaki University and Young Men’s Christian Association Memorial Bursaries (U) .................................................. 277
Kiwanis Club of Hamilton East Bursary (R) ....................................... 277
Kiwanis Club of Hamilton East Bursary (R) ....................................... 277
Kelts Bursary (U) ......................................................................... 277
Kelts Bursary (U) ......................................................................... 277
Kelts Bursary (U) ......................................................................... 277
Kelts Bursary (U) ......................................................................... 277
Kelts Bursary (U) ......................................................................... 277
Landmark Consulting Group Bursaries (U) ....................................... 277
Norman D. Lane Bursaries (S) ........................................................ 277
Lang Family Bursaries (U) .............................................................. 277
James R.A. Langa Bursaries in the Arts (H) ....................................... 277
Kelly Dawn Lapp Memorial Bursary (SS) ........................................... 277
Gates Family Bursary (U) .............................................................. 277
Albert Abram Lager Bursaries (U) .................................................... 277
Sze-Wai Lee Memorial Bursary (U) .................................................. 277
Leifar Foundation Bursary (R) ........................................................ 277
Bertram Leggatt Memorial Bursaries ............................................... 277
Liburd Engineering Limited Bursary (E) ............................................. 277
Lincluden Management Bursaries (U) ............................................... 277
Lindsay Brothers Bursary (SS) ........................................................ 277
London Guarantee Bursaries (U) ..................................................... 277
Sandra Linja Bursary (A, U) ............................................................. 277
London Guarantee Bursaries (U) ..................................................... 277
Sandra Linja Bursary (A, U) ............................................................. 277
London Guarantee Bursaries (U) ..................................................... 277
Sandra Linja Bursary (A, U) ............................................................. 277
London Guarantee Bursaries (U) ..................................................... 277
Sandra Linja Bursary (A, U) ............................................................. 277
London Guarantee Bursaries (U) ..................................................... 277
Sandra Linja Bursary (A, U) ............................................................. 277
London Guarantee Bursaries (U) ..................................................... 277
Sandra Linja Bursary (A, U) ............................................................. 277
<table>
<thead>
<tr>
<th>Bursary Name</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enrico Henry Manconelli Bursaries (SS)</td>
<td>281</td>
</tr>
<tr>
<td>Manulife Financial Bursaries (B, HS)</td>
<td>274, 277</td>
</tr>
<tr>
<td>Dr. Albert Martin Bursary (H)</td>
<td>278</td>
</tr>
<tr>
<td>Ronald E. Materick Bursaries (E)</td>
<td>276</td>
</tr>
<tr>
<td>Linda Matthews Bursaries (U)</td>
<td>279</td>
</tr>
<tr>
<td>John and Helen Maxwell Bursaries (S)</td>
<td>279</td>
</tr>
<tr>
<td>3M Canada Inc. Bursaries (B, S)</td>
<td>274, 279</td>
</tr>
<tr>
<td>Neil D. McArthur Bursaries (E, S)</td>
<td>276, 279</td>
</tr>
<tr>
<td>Lawrence McBrearty Bursary</td>
<td>281</td>
</tr>
<tr>
<td>Andrew McFarlane Bursaries (U)</td>
<td>274</td>
</tr>
<tr>
<td>R. Craig McVor Bursaries (SS)</td>
<td>261</td>
</tr>
<tr>
<td>Janet McKnight Memorial Bursaries (HS)</td>
<td>277</td>
</tr>
<tr>
<td>McMaster 1996 Bursaries (U)</td>
<td>270</td>
</tr>
<tr>
<td>McMaster Alumnae Centennial Bursary (U)</td>
<td>270</td>
</tr>
<tr>
<td>McMaster Association of Part-Time Students Bursaries (U)</td>
<td>270</td>
</tr>
<tr>
<td>McMaster Association of Part-Time Students 20th Anniversary Bursary (U)</td>
<td>270</td>
</tr>
<tr>
<td>McMaster MBA Alumni Association Bursaries (B)</td>
<td>274</td>
</tr>
<tr>
<td>McMaster Men's Athletics Bursary (AT)</td>
<td>272</td>
</tr>
<tr>
<td>McMaster Men's Basketball Bursary (AT)</td>
<td>272</td>
</tr>
<tr>
<td>McMaster Savings and Credit Union Limited Bursary (U, R)</td>
<td>270, 273</td>
</tr>
<tr>
<td>McMaster Squash and Golf Bursary (AT)</td>
<td>272</td>
</tr>
<tr>
<td>McMaster Student Opportunity Fund Bursaries (U)</td>
<td>270</td>
</tr>
<tr>
<td>McMaster Student Union Bursaries (U)</td>
<td>270</td>
</tr>
<tr>
<td>McMaster University Faculty Association Bursary (U)</td>
<td>270</td>
</tr>
<tr>
<td>McMaster Women's Basketball Bursary (AT)</td>
<td>272</td>
</tr>
<tr>
<td>McMaster Women's Volleyball Bursary (AT)</td>
<td>272</td>
</tr>
<tr>
<td>Katherine M. Collyer McNally Bursary (HS)</td>
<td>277</td>
</tr>
<tr>
<td>MDS Incorporated Bursary</td>
<td>277</td>
</tr>
<tr>
<td>A.J. Molloni Memorial Fund</td>
<td>270</td>
</tr>
<tr>
<td>Meloche Monnex Inc. Bursaries (U)</td>
<td>270</td>
</tr>
<tr>
<td>Charles Millard Bursary (SS)</td>
<td>281</td>
</tr>
<tr>
<td>Edna C. Milliken Bursary</td>
<td>274</td>
</tr>
<tr>
<td>Minch Family Bursaries (B)</td>
<td>274</td>
</tr>
<tr>
<td>James C. Moore Memorial Bursary (H, SS)</td>
<td>278, 281</td>
</tr>
<tr>
<td>Robert John Morris Bursaries (E)</td>
<td>270</td>
</tr>
<tr>
<td>Wallace R. Morris Bursary Fund (U)</td>
<td>276</td>
</tr>
<tr>
<td>Archie Moughanil Bursaries</td>
<td>275</td>
</tr>
<tr>
<td>John Douglas Moyer Bursary (U)</td>
<td>271</td>
</tr>
<tr>
<td>Honourable John C. Munro Bursaries (SS)</td>
<td>281</td>
</tr>
<tr>
<td>NCR (Walsingham) Bursary</td>
<td>275</td>
</tr>
<tr>
<td>Marjorie and Bill Nelson Bursary (U)</td>
<td>270</td>
</tr>
<tr>
<td>Nelson Steel Bursary (U)</td>
<td>270</td>
</tr>
<tr>
<td>Newcastle Capital Management Inc. Bursaries (SS)</td>
<td>281</td>
</tr>
<tr>
<td>Claire and John Novak Bursary (B)</td>
<td>274</td>
</tr>
<tr>
<td>Alfred and Laura Oakie Bursaries (B)</td>
<td>274</td>
</tr>
<tr>
<td>O'Shaughnnessy Bursary (HS)</td>
<td>277</td>
</tr>
<tr>
<td>Orlick Industries Limited Bursaries (E)</td>
<td>276</td>
</tr>
<tr>
<td>Otis Canada Bursaries in Engineering and Management (E)</td>
<td>276</td>
</tr>
<tr>
<td>Lillian and Leroy Page Bursaries (R)</td>
<td>273</td>
</tr>
<tr>
<td>Thomas Alexander Pain Bursary (AT)</td>
<td>272</td>
</tr>
<tr>
<td>Passi Family Bursary (HS)</td>
<td>277</td>
</tr>
<tr>
<td>Patriot Forge, Inc. Bursary (E)</td>
<td>276</td>
</tr>
<tr>
<td>Marion Pearce Bursaries (SS)</td>
<td>281</td>
</tr>
<tr>
<td>Dr. Holland and Mrs. Elvira Peterson Bursary (H)</td>
<td>278</td>
</tr>
<tr>
<td>Petro-Canada Bursary (U)</td>
<td>270</td>
</tr>
<tr>
<td>Pavansing Bursaries (SS)</td>
<td>281</td>
</tr>
<tr>
<td>Robert and Ruth Philip Student Bursaries (U)</td>
<td>271</td>
</tr>
<tr>
<td>Marc Andre Adrien Pineault Bursary (E)</td>
<td>276</td>
</tr>
<tr>
<td>Dr. Susan Beverly Plank Memorial Bursary (HS)</td>
<td>277</td>
</tr>
<tr>
<td>George Plumb Memorial Bursary (SS)</td>
<td>278, 281</td>
</tr>
<tr>
<td>Lillian Plumb Bursary</td>
<td>278</td>
</tr>
<tr>
<td>Harry Pomery Bursary (SS)</td>
<td>281</td>
</tr>
<tr>
<td>Los Prince Bursaries (AT)</td>
<td>272</td>
</tr>
<tr>
<td>Proctor Bursaries (B, E)</td>
<td>274, 276</td>
</tr>
<tr>
<td>Gerd Raymond Bursaries (U)</td>
<td>271</td>
</tr>
<tr>
<td>Redpath Sugars Bursary (U)</td>
<td>271</td>
</tr>
<tr>
<td>Regional Municipality of Hamilton-Wentworth Bursaries (R)</td>
<td>273</td>
</tr>
<tr>
<td>Ricoh Canada Inc. Bursaries (B, E)</td>
<td>274, 276</td>
</tr>
<tr>
<td>James and Elizabeth Roberts Bursaries (U)</td>
<td>271</td>
</tr>
<tr>
<td>Hugh and Alice Robertson Memorial Bursaries (U)</td>
<td>271</td>
</tr>
<tr>
<td>Robertson-Yates Corporation Bursaries (B, E)</td>
<td>274, 276</td>
</tr>
<tr>
<td>Romeo Bursary in Art History (H)</td>
<td>278</td>
</tr>
<tr>
<td>Royal Bank Bursary Fund (U)</td>
<td>271</td>
</tr>
<tr>
<td>Royal Canadian Legion Branch 163 Bursary (SS)</td>
<td>281</td>
</tr>
<tr>
<td>Royal Insurance Company of Canada Bursaries (U)</td>
<td>271</td>
</tr>
<tr>
<td>Carmen and Dorothy Ryder Bursary (B)</td>
<td>274</td>
</tr>
<tr>
<td>Salena Family Bursary (HS)</td>
<td>277</td>
</tr>
<tr>
<td>Helen Sansone Bursaries (U)</td>
<td>271</td>
</tr>
<tr>
<td>William F. Scandale Bursaries (SS)</td>
<td>281</td>
</tr>
<tr>
<td>Eric Schlichting Memorial Bursary (S)</td>
<td>279</td>
</tr>
<tr>
<td>Rebeckah Schnurr Bursary (HS)</td>
<td>275, 277</td>
</tr>
<tr>
<td>Scott McLoud Bursaries (B)</td>
<td>275</td>
</tr>
<tr>
<td>Terry Seawright Bursary (B)</td>
<td>275</td>
</tr>
<tr>
<td>Mykola Semeniuk Bursaries (U)</td>
<td>271</td>
</tr>
<tr>
<td>Sertoma Club Bursary (AA)</td>
<td>271</td>
</tr>
<tr>
<td>Alex Sharp Bursary (SS)</td>
<td>261</td>
</tr>
<tr>
<td>Leslie W. and Elizabeth Sheenili Bursary (E)</td>
<td>276</td>
</tr>
<tr>
<td>John Shipperbottom Bursary (SS)</td>
<td>281</td>
</tr>
<tr>
<td>Albert Edward Smith and Jean McTavish Smith Bursary (U)</td>
<td>271</td>
</tr>
<tr>
<td>Sam Smurick Bursary (U)</td>
<td>271</td>
</tr>
<tr>
<td>Smyrniv Bursary (H)</td>
<td>278</td>
</tr>
<tr>
<td>Social Science Society Bursaries (SS)</td>
<td>281</td>
</tr>
<tr>
<td>Salvatore Spitali Memorial Bursary (H)</td>
<td>278</td>
</tr>
<tr>
<td>Lillian R. Stegna Bursaries (SS)</td>
<td>278</td>
</tr>
<tr>
<td>Stelco Undergraduate Bursaries (B, E, S)</td>
<td>275, 276, 279</td>
</tr>
<tr>
<td>Suncor Inc. 1988 Bursaries (E)</td>
<td>276</td>
</tr>
<tr>
<td>Terburt Construction Ltd. Bursary (U)</td>
<td>271</td>
</tr>
<tr>
<td>Donald W. Thomas Bursary (H)</td>
<td>271</td>
</tr>
<tr>
<td>Dr. John Thomashas Memorial Bursary (SS)</td>
<td>261</td>
</tr>
<tr>
<td>Brooke P. Townsend Bursary (S)</td>
<td>271</td>
</tr>
<tr>
<td>Ray and Joyce Trull Bursary (U)</td>
<td>271</td>
</tr>
<tr>
<td>Robert Gray Troxel Bursary (H)</td>
<td>278</td>
</tr>
<tr>
<td>Tressela Trudy Bursary (H)</td>
<td>278</td>
</tr>
<tr>
<td>Turkstra Lumber Co. Ltd. Bursaries (E, H)</td>
<td>276, 278</td>
</tr>
<tr>
<td>Edith H. Turner Foundation Bursaries (U)</td>
<td>271</td>
</tr>
<tr>
<td>Valley City Bursary (U)</td>
<td>271</td>
</tr>
<tr>
<td>Catherine Yasas-Brown Bursary (HS)</td>
<td>278</td>
</tr>
<tr>
<td>Wallingford Hall Bursaries (U)</td>
<td>271</td>
</tr>
<tr>
<td>Sylvia and Brian Walker Bursaries (HS)</td>
<td>277, 278</td>
</tr>
<tr>
<td>G. S. Wark Ltd. Bursary (U)</td>
<td>271</td>
</tr>
<tr>
<td>Sam and Irene Watson Bursary</td>
<td>271</td>
</tr>
<tr>
<td>Fund (AS, B, E, S, SS)</td>
<td>273, 275, 276, 278, 279, 281</td>
</tr>
<tr>
<td>G.S. (Sandy) Watt Memorial Bursary (B)</td>
<td>275</td>
</tr>
<tr>
<td>Audrey and Bob Waugh Bursary (HS)</td>
<td>278</td>
</tr>
<tr>
<td>Clifford Johnson Webster Memorial Bursary (HS)</td>
<td>281</td>
</tr>
<tr>
<td>Lloyd Werden Memorial Bursary (U)</td>
<td>271</td>
</tr>
<tr>
<td>Westinghouse Canada Inc. Bursaries (B, E)</td>
<td>275, 276</td>
</tr>
<tr>
<td>Lynn R. Williams Bursary (SS)</td>
<td>281</td>
</tr>
<tr>
<td>Frides and Joachim Wolter Bursary (SS)</td>
<td>281</td>
</tr>
<tr>
<td>John Yarwood Memorial Bursary (S)</td>
<td>279</td>
</tr>
<tr>
<td>Yates Bursary (U)</td>
<td>271</td>
</tr>
<tr>
<td>Sheila Zack Memorial Bursary (HS)</td>
<td>278</td>
</tr>
<tr>
<td>Zonta Club of Hamilton Bursaries (B, E, SS)</td>
<td>275, 276, 281</td>
</tr>
</tbody>
</table>
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 the Community Contribution Awards, full-time and part-time students must be registered in Level II, III, IV or V of a first baccalaureate programme. Eligible candidates must be registered and in good standing as a student of McMaster University.

These awards have a corresponding bursary for which students may apply by demonstrating financial need. In both cases, funds will be provided directly to the student.

A student may receive a maximum of one Community Contribution Award per year, but may be considered for the same or other awards the following year.

The Community Contribution Awards are awarded by a Selection Committee based on a Community Contribution Award application form. Application forms are available from The Student Financial Aid and Scholarships Office, Hamilton Hall, Room 404. The deadline date each year is April 30.

THE ATKINSON CHARITABLE FOUNDATION AWARD
Established in 1996 by The Atkinson Charitable Foundation. To be awarded to a student enrolled in any programme who demonstrates 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 541)

THE AUBURN INDUSTRIAL SERVICES LTD. AWARDS
Established in 1997 by Auburn Industrial Services Ltd. To be awarded to students enrolled in any programme who display superior leadership or innovative skills. (80037 563)

THE BRINSON PARTNERS INC. AWARDS
- Established in 1997 by Brinson Partners Inc. under the McMaster Student Opportunity Fund Initiative. To be awarded to a student enrolled in any programme who demonstrates one or all of the following: service to McMaster University or the community-at-large; superior leadership or innovative skills; outstanding athletic or artistic participation. (80036 555)

THE ELVA CARROL AWARD
Established in 1996 by Elva Carroll. To be awarded to a student enrolled in any programme 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 547)

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 programme who have shown commitment and contribution to their community through volunteer work. (80060 619)

THE KEN DRYDEN ACHIEVEMENT AWARDS
Established in 1997 by individual supporters of The Ken Dryden Achievement Awards Programme at McMaster. This award will be granted to students who have shown remarkable achievement in their communities. Preference will be given to students who have demonstrated high academic achievement and who have had significant experience in the Child Welfare System, having lived in foster homes or group homes. (80039 565)

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 programme 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 576)

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 programme who, in the judgment of a selection committee, has made a significant contribution to the university life of his/her fellow students. (80004 520)

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 programme 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 542)

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 programme who has demonstrated service to the community-at-large. (80032 551)

THE MACWIAC 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 programme 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 552)

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 programme; b) one to a student enrolled in the Faculty of Business, Humanities or Social 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 programmes including athletics. (80012 531)

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 programme in Engineering, and three to be granted to students upon completion of Level II or higher of a programme 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 community and community service. Preference will be given to students who have had a significant influence on the lives of Engineering students at McMaster University. (80024 543)

THE HELEN K. MUSSALEM AWARD
Established in 1996 by Dr. Helen K. Musсалем (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 affairs 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 1 and who, in the judgment of the School of Nursing, have demonstrated notable involvement in extracurricular activities. (80009 528)

THE ONCLOGY NURSING PROGRAMME AWARDS
Established in 1997 in recognition of the contribution of McMaster students. To be awarded to students enrolled in the Oncology Nursing programme who display superior leadership or innovative skills. Preference to be given to students who are working in under-resourced communities and who must travel long distances to participate in the programme. (80040 556)

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 programme who, in the judgment of a selection committee, have demonstrated leadership and community service. (80025 544)

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 programme 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 574)
## COMMUNITY CONTRIBUTION AWARDS

<table>
<thead>
<tr>
<th>Award Name</th>
<th>Established</th>
<th>Eligibility</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>THE GORDON RAYMOND AWARD</strong></td>
<td>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.</td>
<td>To be awarded to the part-time student who, in the judgment of a selection committee, demonstrates enthusiasm for life-long learning and/or had an influence on the lives of part-time students.</td>
<td>(80011 530)</td>
</tr>
<tr>
<td><strong>THE ROTARY CLUB OF ANCASTER COMMUNITY CONTRIBUTION AWARD</strong></td>
<td>Established in 1957 by the Rotary Club of Ancaster In keeping with Rotary’s mission to foster the ideal of service within the community.</td>
<td>To be awarded to a student enrolled in any programme who demonstrates commendable service to the community-at-large. Preference to be given to a student enrolled in an Environmental Science Programme.</td>
<td>(80044 570)</td>
</tr>
<tr>
<td><strong>THE ROTARY CLUB OF BURLINGTON CENTRAL COMMUNITY CONTRIBUTION AWARD</strong></td>
<td>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.</td>
<td>To be awarded to a student enrolled in any programme who demonstrates involvement in extra-curricular or community activities. Preference will be given to a student from the Burlington area.</td>
<td>(80041 567)</td>
</tr>
<tr>
<td><strong>THE ROTARY CLUB OF HAMILTON A.M. COMMUNITY CONTRIBUTION AWARD</strong></td>
<td>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.</td>
<td>To be awarded to a student enrolled in any programme who demonstrates outstanding service to the community-at-large.</td>
<td>(80042 568)</td>
</tr>
<tr>
<td><strong>THE ROTARY CLUB OF HAMILTON COMMUNITY CONTRIBUTION AWARD</strong></td>
<td>Established in 1997 by the Rotary Club of Hamilton in keeping with Rotary’s mission to foster the ideal of service within the community.</td>
<td>To be awarded to a student enrolled in any programme who demonstrates outstanding service to the community-at-large.</td>
<td>(80043 569)</td>
</tr>
<tr>
<td><strong>THE ROTARY CLUB OF HAMILTON MOUNTAIN “SUNRISE” COMMUNITY CONTRIBUTION AWARD</strong></td>
<td>Established in 1997 by the Rotary Club of Hamilton Mountain “Sunrise” in keeping with Rotary’s mission to foster the ideal of service.</td>
<td>To be awarded to a student enrolled in any programme who demonstrates commendable service to the community-at-large.</td>
<td>(80045 571)</td>
</tr>
<tr>
<td><strong>THE SATURN OF HAMILTON EAST ACHIEVEMENT AWARDS</strong></td>
<td>Established in 1996 by SATURN of Hamilton East.</td>
<td>To be awarded to McMaster students who promote the ideals of leadership and community service. One award to be granted in each Faculty.</td>
<td>(80020 539)</td>
</tr>
<tr>
<td><strong>THE SCIENCE CLASS OF ’97 LEGACY AWARD</strong></td>
<td>Established in 1997 by the Science Class of ’97.</td>
<td>To be awarded to a student enrolled in the Faculty of Science who, in the judgment of a selection committee, has demonstrated leadership, innovativeness and/or community service. Preference will be given to students entering Level III or IV.</td>
<td>(80030 549)</td>
</tr>
<tr>
<td><strong>THE ROSA MAUDE SHEARDOWN AWARDS</strong></td>
<td>Established in 1997 by Gordon R. Baker, O.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.</td>
<td>This award will be granted to students in any faculty. Preference will be given to students from single-parent families, foster or group homes, disadvantaged backgrounds, or King Township.</td>
<td>(80038 564)</td>
</tr>
<tr>
<td><strong>THE MEENA AND NARESH SINHA AWARD</strong></td>
<td>Established in 1996 by Meena and Naresh Sinha.</td>
<td>To be awarded to a student enrolled in the Faculty of Engineering who, in the judgment of the Department of Electrical and Computer Engineering, has demonstrated superior leadership or innovative skills through participation in either University and/or community activities.</td>
<td>(80014 533)</td>
</tr>
<tr>
<td><strong>THE LORNA AND DAVID SOMERS AWARDS</strong></td>
<td>Established in 1997 by Lorna Somers (Class of ’81) and David Somers (Class of ’89) under the McMaster Student Opportunity Fund Initiative.</td>
<td>To be awarded to a student enrolled in the Faculty of Humanities who, in the judgment of a selection committee, has demonstrated one or more of the following: service to McMaster or the community-at-large; superior leadership or innovative skills; outstanding athletic or artistic participation. Preference will be given to a student enrolled in Art and Art History.</td>
<td>(80031 550)</td>
</tr>
<tr>
<td><strong>THE ADAM SUDAR PRINTMAKING AWARD</strong></td>
<td>Established in 1997 in memory of Adam Sudar by his friends, this award fund will be used to assist students entering Level III or IV of the Honours Art Programme at McMaster who, in the judgment of the School of Art, Drama and Music, have demonstrated outstanding achievement or promise in the area of printmaking, and who have contributed significantly to the School’s cultural presentations within the community.</td>
<td>(80054 580)</td>
<td></td>
</tr>
<tr>
<td><strong>THE STEPHEN F. H. THRELKELD AWARD</strong></td>
<td>Established in 1997 by friends and colleagues of Stephen F. H. Threlkeld.</td>
<td>To be awarded to a student entering Level IV of an Honours programme in Biology who has demonstrated leadership or innovative skills through participation in either university and/or community activities. Preference will be given to students who have taken at least nine units of Genetics courses.</td>
<td>(80026 545)</td>
</tr>
<tr>
<td><strong>THE TTK INC. AWARDS</strong></td>
<td>Established in 1997 by TTK Inc. in recognition of the contributions of McMaster students.</td>
<td>To be awarded to students enrolled in the Faculty of Engineering who demonstrate outstanding athletic participation and display superior leadership or innovative skills.</td>
<td>(80046 572)</td>
</tr>
<tr>
<td><strong>THE ROGER TRULL AWARD</strong></td>
<td>Established in 1997 by friends and colleagues in recognition of Roger Trull’s ten years of outstanding service and commitment to the Advancement area and the McMaster University community in general. The award will be given to a student who demonstrates solid academic standing and superior leadership in extra-curricular activities in the McMaster community.</td>
<td>(80053 579)</td>
<td></td>
</tr>
<tr>
<td><strong>THE VAUGHN CUSTOM SPORTS CANADA LTD. ACHIEVEMENT AWARD</strong></td>
<td>Established in 1997 by Vaughn Custom Sports Canada Ltd. In support of its belief that all students should have the opportunity to pursue their educational goals.</td>
<td>This award will be granted to McMaster students who have shown remarkable achievement in their communities. Preference will be given to students who have demonstrated high academic achievement and who have had significant experience in the Child Welfare System, having lived in foster homes or group homes.</td>
<td>(80035 564)</td>
</tr>
<tr>
<td><strong>THE SAM WATSON MEMORIAL AWARD</strong></td>
<td>Established in 1996 by his wife Irene M. Watson and friends of Samuel Watson.</td>
<td>One or two awards to be granted to students enrolled in a programme in Arts and Science who, in the judgment of the Arts and Science Programme Admissions, Awards and Review Committee, have made a notable contribution in the community-at-large through participation in extra-curricular activities.</td>
<td>(80002 546)</td>
</tr>
<tr>
<td><strong>THE WESCAST INDUSTRIES CONTINUOUS LEARNING AWARD</strong></td>
<td>Established in 1997 by Wescast Industries Inc. In recognition of the contributions of McMaster students.</td>
<td>To be awarded to a student enrolled in the Faculty of Engineering who is involved in activities displaying superior leadership or innovative skills. Preference will be given to a student enrolled in Materials Engineering.</td>
<td>(80047 573)</td>
</tr>
<tr>
<td><strong>THE ALLAN AND JOY WILLIAMS AWARD</strong></td>
<td>Established in 1996 by Mary Williams (Class of ’87), Anna Williams (Class of ’89) and Ellen and Dan Walker in honour of their parents.</td>
<td>To be awarded to a student enrolled in any programme who, in the judgment of the Department of English, has made a notable contribution to campus and community life and demonstrates a lively interest in English studies.</td>
<td>(80019 538)</td>
</tr>
<tr>
<td><strong>THE ZENON ENVIRONMENTAL AWARDS</strong></td>
<td>Established in 1997 by Zenon Environmental Inc. in recognition of the contributions of McMaster students.</td>
<td>To be awarded to students enrolled in the Faculty of Engineering who display superior leadership or innovative skills. Preference will be given to students enrolled in the Manufacturing Engineering and Society program.</td>
<td>(80051 577)</td>
</tr>
<tr>
<td><strong>THE ZOOM MEDIA AWARDS</strong></td>
<td>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 programme who, in the judgment of a selection committee, have demonstrated superior leadership and innovative skills through participation in either university and/or community activities.</td>
<td>(80029 548)</td>
<td></td>
</tr>
</tbody>
</table>
UNDERGRADUATE ACADEMIC AWARDS

WEB ADDRESS: http://access.mcmaster.ca
E-MAIL ADDRESS: awards@mcmaster.ca

Manager, Scholarships and Bursaries
Elizabeth Seymour
For information, please contact:
Office of Student Financial Aid and Scholarships
Hamilton Hall, Room 404
McMaster University
Hamilton, Ontario, L8S 4K1
Telephone: (905) 525-9140, ext. 24319

The University Senate, acting on behalf of generous benefactors and donors to the University, bestows academic awards on entering, in-course and graduating students to encourage and recognize high levels of scholarship.

All recipients of academic awards are required to complete the particular terms attached to individual academic awards. The general conditions and terms have been established to ensure equity in competition and a high academic standing. Any interpretation of the conditions relating to academic awards is solely the prerogative of the Undergraduate Council.

TERMINOLOGY

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, Full-time Students, Post- Degree Students, Review and Reviewing Period.

Baccalaureate Degrees are listed in the Degrees and Programmes 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 Load is calculated for Undergraduate In-Course Academic Awards and is the number of units specified in the Calendar for an individual level of a programme (e.g. Astrophysics, Level II: 31 units).

If the Calendar does not specify the programme requirements by individual levels, divide the total units for all levels by the number of levels, discarding the remainder. Full-time students must carry a full load of McMaster courses to be eligible for Undergraduate In-Course Academic Awards. A full load is not required to be eligible for graduate awards.

Graduand 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 Section 2, 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.

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.

Full-load Average (FA) is the weighted average computed for Undergraduate In-Course Academic Awards. It is based on the successful completion of a full load of course units, as defined by programme and level. It includes only those courses taken in the Fall/Winter session. Overload courses (courses over and above full load) and Extra courses taken during the Fall/Winter session are included in the Full-load Average.

Reviewing Period for scholarship purposes, normally refers to work completed during the Fall/Winter session. Please refer to the Glossary section of this Calendar.

SECTION 1. 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 programmes at McMaster University. Continuing Students, Post-degree Students, and students registered in the McMaster Medical programme 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 awards such as books and medals; and
   b) awards continued from a previous year (including entrance scholarships), except as provided by the particular terms of an award; and
   c) either one award greater than or equal to the value of a Senate Scholarship ($800 in 1998-99) and one award of less than the value of a Senate Scholarship, or two awards of less than the value of a Senate Scholarship.

3. The University requires that all recipients of academic awards make reasonable use of the benefits of their award to defray the academic fees for baccalaureate degree courses

4. The monetary benefits of other awards will be disbursed only if the recipient is registered in a baccalaureate degree programme, or a specific programme when explicitly required by terms of award, at McMaster University in the next Fall/Winter session after the award was earned and will be allocated in the following manner:
   a) the monetary benefits of award(s) which exceed the value of a Senate Scholarship, or two awards of less than the value of a Senate Scholarship, will be disbursed directly to the student.
   b) the monetary benefits of other awards will be disbursed only if the recipient is registered in a baccalaureate degree programme, or a specific programme when explicitly required by terms of award, at McMaster University in the next Fall/Winter session after the award was earned and will be allocated in the following manner.

5. Awards credited to the student’s academic fees account are not refundable in cash under any circumstances.

6. Awards credited to the student’s academic fees account may be used only to defray academic fees for baccalaureate degree courses taken during the Fall/Winter session in which the account is credited with the awards. Scholarships wishing to defer the benefits of an award to a later session should apply to the Office of Student Financial Aid and Scholarships.

7. Students holding four-year, full-fees scholarships who choose to accelerate their programme and to complete their degree earlier than normal by completing Spring/Summer 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 and Scholarships.

8. Students holding the particular terms for University Academic Awards are listed in Section 2.

SECTION 2. CATEGORIES OF AWARDS

A. Awards for Entering Students (page 288)
   a) McMaster Scholarships Programme (Application required.)
   b) Merit Awards Open to Ontario Students (Application required.)
   c) National Scholarships (No application required.)
   d) Scholarships Open to Ontario Students (No application required.)

B. Awards for Full-time, In-Course Students (Full Load) (page 292)
   a) Medal
   b) Senate Scholarships
   c) Residence Scholarships
   d) Travel Scholarships
McMASTER SCHOLARS (FACULTY OR PROGRAMME-SPECIFIC)
Up to seven scholarships, each valued at $15,000 over four years, to be awarded to students registered in a specific Faculty or Programme of study.
- McMaster Scholars in Arts & Science
- McMaster Scholars in Business
- McMaster Scholars in Engineering
- McMaster Scholars in Health Sciences
- McMaster Scholars in Humanities
- McMaster Scholars in Social Science
- McMaster Scholars in Social Sciences

The Lillian and Leroy Page Scholarships (Faculty-Specific)
Established in 1982 by donation of the Lillian and Leroy Page Foundation for a student from the Hamilton area entering the Faculty of Science.

2. Merit Awards Open to Ontario Students
Each year, allotments of Merit Awards are established for Arts & Science I, Business I, Engineering I, Humanities I (including Music I), Science I, Midwifery I, Nursing I and Social Sciences I (including Kinesiology I) in proportion to full-time undergraduate students enrolled in these Level I programmes. Applications from students completing OACs in the current school year are required by January 15, 1999. Applications must include a resume, and school’s assessment. Details may be obtained from the Office of Student Financial Aid and Scholarships.

The Murray Ball Entrance Scholarship in Earth Sciences
Established in 1990 by May Ball in memory of her brother Murray Ball. To be awarded to the outstanding student entering the Faculty of Science who, in the judgment of the Department of Geology, has demonstrated interest in the study of Earth Sciences.
Value: $1,000 (20007 585)

The Coca-Cola Merit Awards
Established in 1998 by Coca-Cola Bottling Ltd. Two awards to be granted to students entering any programme.
Value: $1,000 each (20101 802)

The Villiers - Mahaffy Merit Awards
Established in 1991 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 Searle Canada, Boehringer Ingelheim, Smithkline Beecham, Monsanto and the Royal Bank. Two scholarships to be awarded to outstanding students graduating from a secondary school in the Halton Region; (a) one to a student entering a full-time programme of study; and (b) one to a student entering full-time study in Science I (or Natural Sciences I) or Music I. Preference will be given to women students.
Value: $1,000 each (20035 251)

The Helen Emery Entrance Scholarship for Environmental Science
Established in 1990 by Miss Helen Emery of Barrie, Ontario. To be awarded to the outstanding student entering the Faculty of Science who, in the judgment of the Department of Geography, has demonstrated interest in addressing environmental matters.
Value: $1,000 (20035 386)

The Kathryn E. Kaake Merit Award
Established in 1996 in memory of Kathryn E. Kaake (Class of ’76) by family and friends.
Value: $1,000 (20022 010)

The Raymond C. Labarge Scholarships
Established in 1990 in memory of Raymond C. Labarge (Class of ’36) of Ottawa.
Value: $1,000 (20035 225)

The Mcmaster Merit Awards
Made available from time to time by authorization of the Board of Governors of the University.
Value: $1,000 (20025)

The Robert John Morris - McMaster University Merit Awards
Established in 1996 by McMaster University in memory of Robert John Morris. Two awards to be granted to students entering Engineering I who, in the judgment of the Faculty of Engineering, have demonstrated outstanding academic achievement and an interest in the field of Engineering.
Value: $3,000 each (20036 519)

The Leslie A. Prince Merit Awards
Established in 1975 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.
Value: $1,000 each (20024 139)
AWARDS NOT REQUIRING APPLICATION

1. National Scholarships

Students applying for admission within two years of completing required subjects at any secondary school in Canada will be automatically considered for these awards. Students studying abroad must submit their academic transcripts to the Office of Student Financial Aid and Scholarships by February 26, 1999 in order to be considered for these awards.

THE ALUMNI ASSOCIATION SCHOLARSHIPS
Established in 1961 by the McMaster University Alumni Association as a memorial to former members of the McMaster faculty in recognition of their contribution to higher learning. Two scholarships to be awarded on the basis of general proficiency in the subjects required for admission to students from any province or territory of Canada.

Value: $12,000 ($3,000 per year for up to four years) (20005)

THE CHARLES MURRAY BALL ENTRANCE SCHOLARSHIPS
Established in 1993 by bequest of May Alexandra Ball in memory of her brother. A variable number of scholarships to be awarded to students entering a full-time programme of study.

Value: $3,000 (20044 331)

THE CHANCELLORS' SCHOLARSHIPS
Up to ten scholarships awarded to students entering a full-time programme of study.

Value: $3,000

THE FORTINOS SCHOLARSHIP
Established in 1990 by John Fortino. To be awarded to an outstanding full-time student entering the School of Business.

Value: $3,000 (20034 233)

THE H.P. FRID SCHOLARSHIP
Established in 1982 by the family of H.P. Frid in memory of her brother. To be awarded to a promising student entering a full-time programme of study.

Value: $3,000 (20020 062)

THE GOVERNORS’ SCHOLARSHIPS
A variable number to be awarded to students entering a full-time programme of study.

Value: $12,000 ($3,000 per year for up to four years) (20007)

THE ASMahan Hafez Memorial Scholarship
Established in 1993 by her family in memory of Asmahan Hafez. To be awarded to a student entering the Faculty of Science.

Value: $3,000 (20042 325)

THE NELLIE P. HOGG SCHOLARSHIPS
Established in 1965 by bequest of Nellie P. Hogg of Hamilton. Two scholarships to be awarded to women students entering a full-time programme of study.

Value: $12,000 ($3,000 per year for up to four years) (20014)

THE JOSEPHINE MAJEE SCHOLARSHIP
Established in 1959 by bequest of Josephine Majee 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.

Value: $12,000 ($3,000 per year for up to four years) (20012)

THE MOULTON COLLEGE ENTRANCE SCHOLARSHIP
Established in 1980 from funds originally subscribed by the Alumnae of Moulton College during the years 1946 to 1949. To be awarded to a woman student entering a full-time programme of study.

Value: $12,000 ($3,000 per year for up to four years) (20013 117)

THE ALVIN I. OGILVIE SCHOLARSHIPS
Established in 1984 by bequest of Alvin I. Ogilvie of Hamilton. Five scholarships to be awarded to students entering a full-time programme of study.

Value: $3,000 (20077)

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 programme of study.

Value: $3,000 (20040 231)

THE TYNOWSKI SCHOLARSHIP
Established in 1989 by the University, friends and colleagues of Olga Tynowski, for her outstanding contributions to McMaster University during 46 years of service. To be awarded to an outstanding student entering a full-time programme of study.

Value: $12,000 ($3,000 per year for up to four years) (20003 296)

2. Scholarships Open To Ontario Students

The following scholarships are open to any student applying for admission from an Ontario secondary school within two years of completing the required OAC subjects. The recipients of these scholarships will be determined primarily on the basis of grades submitted for early admission in the OAC work.

THE ASSOCIATION OF PROFESSIONAL ENGINEERS SCHOLARSHIP
Established in 1981 by the Ontario Professional Engineers Foundation for Education. Two scholarships to be awarded to students entering the Faculty of Engineering.

Value: $1,200 (20007 232)

THE CHANCELLORS’ SCHOLARSHIPS (UNIVERSITY-WIDE)
A variable number to be awarded to students entering a full-time programme of study.

Value: $3,000 (20016)

THE CHANCELLORS’ SCHOLARSHIPS (FACULTY OR PROGRAMME-SPECIFIC)
A variable number to be awarded to students entering a Level I Programme in the Faculties of Business, Health Sciences, Humanities and Social Sciences.

value: $3,000 (20041)

THE ANDREW FOUNDATION - McMaster Scholarships
Established in 1997 by McMaster University in recognition of the Andrew Foundation and its commitment to McMaster students. A variable number of scholarships to be awarded to students entering any programme.

Value: $3,000 each (20064 609)

THE A.H. ATKINSON EDUCATION FUND - McMaster Scholarships
Established in 1997 by McMaster University in recognition of the A.H. Atkinson Education Fund Inc. and its commitment to McMaster students. To be awarded to a student entering the Faculty of Engineering.

Value: $3,000 (20091 616)

THE GORDON R. BAKER, Q.C. - McMaster Scholarships
Established in 1997 by McMaster University in recognition of Gordon R. Baker, Q.C. and his commitment to McMaster students. A variable number of scholarships to be awarded to students entering any programme.

Value: $3,000 each (20094 585)

THE ARNOLD A. BEALE - McMaster Scholarships
Established in 1997 by McMaster University in recognition of Arnold A. Beale and his commitment to McMaster students. A variable number of scholarships to be awarded to students entering any programme.

Value: $3,000 each (20065 584)

THE H. G. BERTRAM FOUNDATION - McMaster Scholarships
Established in 1997 by McMaster University in recognition of the H. G. Bertram Foundation and its commitment to McMaster students. A variable number of scholarships to be awarded to students entering any programme.

Value: $3,000 each (20093 618)

THE BETZNER FAMILY - McMaster Scholarship
Established in 1997 by McMaster University in honour of the Betzner Family and its commitment to McMaster students. To be awarded to a student entering any programme.

Value: $3,000 (20087 586)
THE ED BUFFETT - McMaster Scholarship
Established in 1997 by McMaster University in recognition of Ed Buffett and his commitment to McMaster students. To be awarded to a student entering any programme. Value: $3,000 (20085 610)

THE JOHIE ANNE BULL - McMaster Scholarships
Established in 1997 by McMaster University in memory of Jodie Anne Bull. A variable number of scholarships to be awarded to students entering any programme. Value: $3,000 each (20079 604)

THE CANADA TRUST COMPANY - McMaster Scholarship
Established in 1996 by McMaster University in recognition of Canada Trust and its commitment to McMaster students. A variable number of scholarships to be awarded to students entering any programme. Value: $3,000 each (20076 601)

THE ROBOTICS CORPORATION - McMaster Scholarship
Established in 1997 by McMaster University in recognition of the Robotics Corporation and its commitment to McMaster students. A variable number of scholarships to be awarded to students entering any programme. Value: $200 each (20071 050)

THE GERALDINE LORETTA COSFORD - McMaster Scholarships
Established in 1997 by McMaster University in recognition of Geraldine Loretta Cosford and her commitment to McMaster students. A variable number of scholarships to be awarded to students entering any programme. Value: $3,000 (20083 608)

THE J. ROBERTA MURIEL McBRIEEN - McMaster Scholarship
Established in 1997 by McMaster University in recognition of Roberta Muriel McBrieen and her commitment to McMaster students. A variable number of scholarships to be awarded to students entering any programme. Value: $3,000 each (20071 050)

THE DUNDAS SCHOLARSHIPS
Established in 1984 from funds donated anonymously. A variable number of scholarships to be awarded to students from Dundas and surrounding areas entering a full-time programme of study. Value: $3,000 (20019)

THE DUNAS SCHOLARSHIPS
Established in 1976 by the Dominion Foundries and Steel Company. To be awarded to a student who is a Canadian citizen or permanent resident and who is entering Engineering I. Value: $12,000 ($5,000 per year for up to four years) (20000 050)

THE DUNAS - McMaster Scholarships
Established in 2007 by McMaster University in recognition of Dofasco, one of Canada's and North America's leading steelmakers, and its ongoing commitment to McMaster students. A variable number of scholarships to be awarded to students entering any programme. Value: $3,000 each (20047 508)

THE DUNAS SCHOLARSHIPS
Established in 1997 by McMaster University in recognition of the Partners of Ernst & Young and their commitment to McMaster students. To be awarded to a student entering any programme. Value: $3,000 (20062 607)

THE EILEEN GRAY FARLEY - McMaster Scholarship
Established in 1998 by McMaster University in recognition of Mrs. Eileen Gray Farley and her commitment to McMaster students and in grateful memory of Mr. D. E. Thompson, who established the D. E. Thompson Scholarship in 1980. Three scholarships to be awarded to students entering the Faculty of Humanities. Value: $3,000 each (20103 825)

THE GENNUM CORPORATION - McMaster Scholarship
Established in 1997 by McMaster University in recognition of the Gennum Corporation and its commitment to McMaster students. To be awarded to a student entering any programme. Value: $3,000 (20064 589)

THE ALLEN AND MILLI GOUNL FAMILY FOUNDATION - McMaster Scholarship
Established in 1997 by McMaster University in recognition of the Allen and Milli Gould Family Foundation and its commitment to McMaster students. To be awarded to a student entering the Faculty of Business. Value: $3,000 (20086 611)

THE HAMILTON COMMUNITY FOUNDATION - McMaster Scholarships
Established in 1997 by McMaster University in recognition of the Hamilton Community Foundation and its commitment to McMaster students. A variable number of scholarships to be awarded to Hamilton-Wentworth and Burlington post-secondary students entering any programme. Value: $3,000 each (20089 614)

THE HAWKROG FAMILY - McMaster Scholarship
Established in 1997 by McMaster University in recognition of the Hawkrof Family's commitment to McMaster students. To be awarded alternately to a student entering the Faculty of Business or the Faculty of Social Sciences (Kinesiology) who has demonstrated outstanding academic, community and athletic achievement. Value: $3,000 (20065 590)

THE JOHN HODGINS MEMORIAL SCHOLARSHIP
Established in 1985 by his wife, Joan, 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. Value: $3,000 (20071 050)

THE AMELIA M. MORDEN, PAARDEBURG CHAPTER, IODE, Scholarship
Established in 1998 by the Paardeburg Chapter, IODE. To be awarded to a student from a secondary school in Hamilton who attains good standing in OAC subjects and who has a satisfactory record with respect to character, personality and activities. Preference to be given to children of service or ex-service personnel. Value: $200 (20032 082)

THE MURIEL McBRIEEN KAUFFMAN FOUNDATION - McMaster Scholarships
Established in 1997 by McMaster University in recognition of the Muriel McBrine Kaufman Foundation and its commitment to McMaster students. A variable number of scholarships to be awarded to students entering any programme. Value: $3,000 each (20071 050)

THE ROBERT A. KENNEDY - McMaster Scholarship
Established in 1997 by McMaster University in recognition of Robert A. Kennedy and his commitment to McMaster students. To be awarded to a student entering any programme. Value: $3,000 (20062 587)

THE KPMG - McMaster Scholarships
Established in 1996 by McMaster University in recognition of KPMG's longstanding and increasing financial support of McMaster students. A variable number of scholarships to be awarded to students entering the Faculty of Business. Value: $3,000 each (20052 513)

THE J. BEVERLY KRUGEL - McMaster Scholarship
Established in 1997 by McMaster University in recognition of Beverly Krugel and her commitment to McMaster students. To be awarded to a student entering any programme. Value: $3,000 (20063 588)
THE LAIDLAW - McMaster Scholarships
Established in 1996 by McMaster University in recognition of Laidlaw and its ongoing commitment to McMaster students. A variable number of scholarships to be awarded to students entering any programme.
Value: $3,000 each (2005 514)

THE LINCLUDEN MANAGEMENT - McMaster Scholarship
Established in 1997 by McMaster University in recognition of Lincluden Management Ltd. and its commitment to McMaster students. To be awarded to a student entering any programme.
Value: $3,000 (2006 581)

THE LLOYD MEMORIAL SCHOLARSHIP
Established in 1956 in memory of Henry Hoyes and Lizzie Lloyd by their children. OAC subjects to be included are: Physics, Chemistry, two credits of Mathematics, and either Biology or a third credit of Mathematics.
Value: $12,000 ($3,000 per year for up to four years) (20015)

THE EDWARD AND MARGARET LYONS - McMaster Scholarships
Established in 1997 by McMaster University in recognition of Edward and Margaret Lyons and their commitment to McMaster students. A variable number of scholarships to be awarded to students entering the Faculty of Humanities.
Value: $3,000 each (2006 612)

THE ALEC MacMILLAN - McMaster Merit Scholarship
Established in 1996 in memory of Alec John Royston MacMillan of Toronto. To be awarded to a student entering Engineering I who, in the judgment of the Faculty of Engineering, demonstrates qualities of innovation, leadership and service to the community through participation in school and community programmes including athletics.
Value: $3,000 (2006 511)

THE MAKSTEEL - McMaster Scholarship
Established in 1997 by McMaster University in recognition of Maksteel Inc. and its commitment to McMaster students. To be awarded to a student entering any programme.
Value: $3,000 (2006 592)

THE ALBERT MATTHEWS Scholarship
Established in 1920. OAC subjects to be included are Latin and a language other than English.
Value: $12,000 ($3,000 per year for up to four years) (2004)

THE HAROLD MATTHEWS Memorial Scholarship
Established in 1917. OAC subjects to be included are French and either German or Spanish.
Value: $12,000 ($3,000 per year for up to four years) (2008)

THE LINDA MATTHEWS - McMaster Scholarship
Established in 1996 by McMaster University in recognition of Linda Matthews (Class of '89), and her commitment to McMaster students. To be awarded to a student entering any programme.
Value: $3,000 (2006 512)

THE HELEN AND JOHN MAXWELL - McMaster Scholarship
Established in 1997 by McMaster University in recognition of Helen and John Maxwell and their commitment to McMaster students. To be awarded to a student entering any programme.
Value: $3,000 (2007 776)

THE NEIL D. McARTHUR - McMaster Scholarship
Established in 1997 by McMaster University in recognition of Neil D. McArthur and Anne McArthur and their commitment to McMaster students. To be awarded to a student entering any programme.
Value: $3,000 (2007 599)

THE HOWARD AND JANET McLEAN-McMaster Scholarship
Established in 1997 by McMaster University in recognition of Howard and Janet McLean and their commitment to McMaster students. To be awarded to a student entering any programme.
Value: $3,000 (2008 575)

THE McMaster AlumnI Association - McMaster Scholarships
Established in 1997 by McMaster University in recognition of the McMaster Alumni Association’s ongoing commitment to McMaster students. A variable number of scholarships to be awarded to students entering any programme.
Value: $3,000 each (2008 613)

THE ISABELLA CAMPBELL McNeEE Scholarship
Established in 1915 and augmented in 1926. OAC subjects to be included are three credits of Mathematics and Physics.
Value: $12,000 ($3,000 per year for up to four years) (20010)

THE MELOCHE MONNEX - McMaster Scholarship
Established in 1997 by McMaster University in recognition of Meloche Monnex Inc. and its commitment to McMaster students. To be awarded to a student entering any programme.
Value: $3,000 (2006 593)

THE PETRO-CANADA - McMaster Scholarships
Established in 1996 by McMaster University in recognition of Petro-Canada and its commitment to McMaster students. A variable number of scholarships to be awarded to students entering any programme.
Value: $3,000 each (2005 515)

THE PIONEER GROUP - McMaster Scholarship
Established in 1996 by McMaster University in recognition of The Pioneer Group’s longstanding and increasing financial support of McMaster students. To be awarded to a student entering any programme.
Value: $3,000 (2005 517)

THE GORDON AND JANE PRICE - McMaster Scholarships
Established in 1997 by McMaster University in honour of the late Gordon and Jane Price and their commitment to McMaster students. A variable number of scholarships to be awarded to students entering any programme.
Value: $3,000 (2009 777)

THE PROCR - McMaster Scholarship
Established in 1997 by McMaster University in recognition of Procor Limited and its commitment to McMaster students. To be awarded to a student entering any programme.
Value: $3,000 (2006 594)

THE REGIONAL MUNICIPALITY OF HAMILTON-WENTWORTH - McMaster Scholarships
Established in 1997 by McMaster University in recognition of the Regional Municipality of Hamilton-Wentworth and its commitment to McMaster students. Six scholarships will be awarded to students entering any programme.
Value: $3,000 each (2007 559)

THE RICOH CANADA - McMaster Scholarship
Established in 1997 by McMaster University in recognition of Ricoh Canada Inc. and its commitment to McMaster students. To be awarded to a student entering any programme.
Value: $3,000 (2007 595)

THE SCOTIA-�McLeod - McMaster Scholarship
Established in 1997 by McMaster University in recognition of ScotiaMcLeod Inc. and its commitment to McMaster students. To be awarded to a student entering any programme.
Value: $3,000 (2009 615)

THE STELCO - McMaster Engineering Scholarships
Established in 1997 by McMaster University in recognition of Stelco and its ongoing commitment to McMaster students. Two scholarships to be awarded to students entering the Faculty of Engineering who demonstrate outstanding academic achievement.
Value: $3,000 each (2008 605)

THE TKK INC. - McMaster Scholarship
Established in 1997 by McMaster University in recognition of TKK Inc. and its commitment to McMaster students. To be awarded to a student entering any programme.
Value: $3,000 (2007 597)

THE D.E. THOMSON Scholarship
Established in 1909 and augmented in 1915. OAC subjects to be included are English and either Latin or French.
Value: $12,000 ($3,000 per year for up to four years) (2006)

THE EDITH H. TURNER Foundation - McMaster Scholarships
Established in 1996 by McMaster University in recognition of the Edith H. Turner Foundation and its commitment to McMaster students. A variable number of scholarships to be awarded to students entering any programme.
Value: $3,000 each (2004 509)

THE UNITED STEELWORKERS OF AMERICA - McMaster Scholarship
Established in 1997 by McMaster University in recognition of The United Steelworkers of America and its commitment to McMaster students. To be awarded to a student entering any programme.
Value: $3,000 (2007 698)

THE WESTINGHOUSE - McMaster Scholarships
Established in 1996 by McMaster University in recognition of Westinghouse Canada Inc. and its ongoing commitment to McMaster students. A variable number of scholarships to be awarded to students entering any programme.
Value: $3,000 each (2005 516)

THE WHEELER Scholarship
Established in 1915. OAC subjects to be included are: History, English and a language other than English.
Value: $12,000 ($3,000 per year for up to four years) (2006)
THE ZONTA CLUB OF HAMILTON I - ROBERTA BONDAR - McMASTER SCHOLARSHIPS
Established In 1997 by Mcmaster University in recognition of The Zonta Club of Hamilton I and its commitment to Mcmaster students, and in recognition of Canada's first female astronaut. A variable number of scholarships to be awarded to students entering any programme.
Value: $3,000 (20099 778)

◆ MUSIC AWARD - SCHOLARSHIPS OPEN TO ONTARIO STUDENTS
THE 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, who in the judgment of the School of Drama, Music and Dance, have demonstrated excellence in classical music.
Value: $1,800 each. (20069 559)

B. Awards for Full-time, In-Course Students (Full Load)
The following awards are based on competition across the University or within a Faculty or programme.
1. These awards, which are granted in June or November, are provided exclusively for first baccalaureate degree students registered for a full load qualifying on the basis of work included at the May review (or deferred examinations result therefrom) in either graduating session. Students choosing to graduate at the subsequent Fall convocation forfeit all awards that they have been named to receive.
2. In addition to meeting the General Conditions listed in Section 1, a student must complete, during the Fall/Winter session immediately prior to the May review, a full load of work corresponding at least to:
   a) either the minimum number of units specified in the Calendar for their level and programme;
   b) or, if the Calendar does not specify the programme work by individual levels, the average number of units per level; and
   c) a Full-load Average of 8.0 and no failures.
3. For students who complete a full load of work in the Fall/Winter session as described above a Full-load Average will be computed, which is the weighted average of the grades in all courses taken during that session. Overload courses (courses over and above a full load) and Extra courses taken during the Fall/Winter session are included in the Full-load Average. The Full-load Average will be used to determine academic standing for the awards listed below, unless otherwise stated in the terms of a particular award.
4. The Full-load Average will be used to break any tie in the competition or awards which are based on another criterion.

◆ MEDAL
THE CHANCELLOR’S GOLD MEDAL
Established in 1936. To be awarded to the student who has completed the penultimate year of any four or five-level programme at the most recent spring review, and who ranks highest in scholarship, leadership and influence. (30022)

◆ GENERAL SCHOLARSHIPS AND PRIZES
THE AARON PRIZE
Established in 1964 by Fannie Aaron (Class of’44). To be awarded to the student who has completed Level I and 30-45 units of the three-level English programme and who attains the highest Cumulative Average.
Value: $25 (30004 001)

THE ACI (ONTARIO CHAPTER) SCHOLARSHIP
Established in 1978 by the American Concrete Institute (Ontario Chapter). To be awarded to a student entering Level IV of the Civil Engineering programme who, in the judgment of the Department of Civil Engineering, has demonstrated outstanding academic achievement and knowledge of concrete technology.
Value: $300 (30255 319)

THE W.K. ALLAN MEMORIAL SCHOLARSHIP
Established in 1994 in memory of William Kellock Allan (Class of ’31) by his wife. To be awarded to a student entering the final level of a programme in Mathematics or Physics who attains the highest Full-load Average.
Value: $900 (30221 356)

THE AMOCO CANADA UNDERGRADUATE SCHOLARSHIP IN GEOLOGY
Established in 1990 by Amoco Canada Petroleum Company Limited to recognize outstanding students pursuing a programme of courses related to petroleum geology. To be awarded to a student entering Level III or IV of a Geology programme who, in the judgment of the School of Geography and Geology, has demonstrated the greatest aptitude in such relevant areas as stratigraphy, sedimentology, structural geology, exploration geophysics, palaeontology and geologically oriented computer applications.
Value: $1,500 (30181 230)

THE ANDERSEN CONSULTING SCHOLARSHIP
Established In 1996 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 quality of leadership through service to McMaster University and/or the community in athletic, professional or social organizations.
Value: $850 (30248 801)

THE HERBERT S. ARMSTRONG MEMORIAL FUND
Established in 1997 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 Geology, has achieved notable academic standing and who has made a significant contribution to university life through extra-curricular activities.
Value: $75 for books (30234 558)

THE ASSOCIATION OF PROFESSIONAL ENGINEERS UNDERGRADUATE SCHOLARSHIPS
Established in 1961 by the Ontario Professional Engineers Foundation for Education. Four scholarships: two to be awarded to students with the highest Full-load Average after completion of Engineering I, and two to be awarded to students with the highest Full-load Average in Engineering programmes after completion of Engineering I and 35-90 units.
Value: $900 each (30006 379)

THE H. ATKINSON PRIZE
Established in 1960 by Atkinson Engineering Consultant’s Limited. To be awarded to the student in a Civil Engineering programme who achieves the highest average in CIV ENG 3G03 and 3J04, taken in one session.
Value: $200 (30001 009)

THE MURRAY BALL SCHOLARSHIPS IN GEOLOGY
Established in 1991 by May A. Ball in memory of her brother Murray Ball. Seven scholarships to be awarded to students entering Level II or III of a programme in Geology who, in the judgment of the School of Geography and Geology, have attained notable standing. Ordinarily, not more than one scholarship will be awarded in any one programme.
Value: $900 each. (30162)

THE M. BANKER BATES SCHOLARSHIP
Established in 1975 by Dr. M. Banker Bates and augmented in 1976 in his memory by his family, friends and colleagues. To be awarded to the student who has completed Level I and 60-75 units of a programme in Commerce and who attains the highest Full-load Average.
Value: $350 (30102 257)

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 Programme in the Department of Mathematics and Statistics, who attains the highest Full-load Average and who, in that session, achieves a grade of at least B in STATS 3D06.
Value: $300 (30076)

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 60-75 units of the Honours Commerce Programme and who, in the judgment of the Faculty of Business, has achieved high standing in COMMERCCE 3FA3 and 3FB3, taken in one session.
Value: $100 (30134 012)

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 (or Natural Sciences I) with the highest Full-load Average and who is entering Level II of the Honours Biochemistry, Honours Chemistry or Honours Biochemistry and Chemistry programme.
Value: $300 (30008 014)

THE BARTLETT MEMORIAL MEDAL
Established in 1968 in memory of Professor J. Douglas Bankier by his friends, colleagues and former students. To be awarded to a student who has completed Level I and 60-75 units of a programme in Commerce and who attains the highest Full-load Average.
Value: $350 (30102 257)
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 programme in Music who, in the judgment of the School of Art, Drama, and Music, 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 30-75 units; and (c) one to a student who has completed Music I and who has demonstrated overall musical excellence.
Value: $400 each (30097 015)

THE J.P. BICKELL SCHOLARSHIPS
Established in 1955 by the J.P. Bickell Foundation to encourage interest in the study of geology and metallurgy. Two scholarships to be awarded, normally one to the student entering Level II of Honours Geology or Honours Materials Science, and the other to the student entering Level II of Chemical Engineering, Materials Engineering, or Metallurgical Engineering, who attains the highest average in at least nine units in chemistry and physics in Level I and a Full-load Average of at least 9.5. A scholarship is tenable for three years provided the recipient maintains a Cumulative Average of at least 10.0.
Value: $3,000 each ($1,000 each year) (30078 016)

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 a student who has completed Level II and 60 to 75 units of an Honours programme in Classical Studies or Classics, Drama, English, French, or Modern Languages. Students in all programmes except Drama must have taken at some point
LINGUIST 1A05 and achieved in it a grade of at least B-.
Value: $900 (30013 016)

THE HILDA DOROTHY BORMAN SCHOLARSHIP
Established in 1994 by bequest of Hilda Dorothy Borman. To be awarded to a student studying piano who, in the judgment of the School of Art, Drama, and Music, has attained high academic standing.
Value: $1250 (30224 795)

THE FRANCES BOWLING SCHOLARSHIPS
Established in 1997 by the estate of Marie Bowling in memory of her daughter, Joan Frances Bowling. Three scholarships to be awarded to outstanding classical music scholars registered in Level II and above of a Music programme and who, in the judgment of the School of Art, Drama, and Music, have demonstrated excellence in Music.
Value: $1800 each (30235 559)

THE BRIEN SCHOLARSHIP IN PHILOSOPHY
Established in 1944 by Dr. J. W. Brien of Windsor. To be awarded to the student who has completed Level I and 30 to 45 units of an Honours programme in Philosophy and who, in the judgment of the Department of Philosophy, shows most academic promise.
Value: $450 (30014)

THE JOSEPHINE STAPLES BRIEN SCHOLARSHIP
Established in 1938 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: $300 for books (30091)

THE DR. AND MRS. F.R. BRITTON SCHOLARSHIP IN MATHEMATICS
Established in 1982 by Dr. and Mrs. F.R. Britton and augmented by Mrs. Britton's bequest in 1982. To be awarded to the student who has completed Level I and 30 to 45 units of an Honours Programme in Mathematics who, in the judgment of the Department of Philosophy, shows most academic promise.
Value: $450 (30014)

THE TEN BROEKE-BENSEN MEMORIAL SCHOLARSHIP
Established in 1990 in memory of Dr. James Ten Broeke and Dr. Roy C. Bensen, former Heads of the Department of Philosophy and Psychology. To be awarded to a student who has completed Level I and 30 to 75 units of an Honours Programme in Philosophy who, in the judgment of the Department of Philosophy, has demonstrated outstanding academic achievement.
Value: $1,100 (30015 019)

THE CRISPIN CALVO PRIZE
Established in 1978 in memory of Professor C. Calvo by his family and friends. To be awarded to a student who has completed Level I and at least 60 units of an Honours programme in Chemistry and who, in the judgment of the Department of Chemistry, shows particular promise in thermodynamics.
Value: $200 (30031)

THE BETTY TAYLOR CAMPBELL SCHOLARSHIP
Established in 1999 by William F. Campbell of Oakville, Ontario in memory of his wife Betty Taylor Campbell, a 1937 McMaster graduate, an Olympic medallist in 1936 and 1990 Inducted into the Athletics Hall of Fame. To be awarded to a student who has completed Level I in a programme in Kinesiology and who, in the judgment of the Department of Kinesiology, demonstrates academic excellence and outstanding athletic ability. The award is renewable for up to three years provided the recipient maintains a cumulative average of 8.0.
Value: $5,000 ($1,250 each year) (30246 796)

THE ELLA HALSTEAD CAMPBELL PRIZE
Established in 1976 by Mrs. Verna Caskey and Miss June Caskey in memory of Ella Halstead Campbell and augmented by Mrs. Edna M. Miller in 1967. 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 Art, Drama and Music.
Value: $200 (30048 023)

THE CFUW (HAMILTON) PAST PRESIDENT'S PRIZE
Established in 1945 by the University Women's Club of Hamilton, now the Canadian Federation of University Women. To be awarded to the woman student who has completed Level I and 70 or 90 units of a programme in Engineering with the highest Cumulative Average.
Value: $200 (30149 020)

THE CANADIAN SOCIETY OF CHEMICAL ENGINEERS PRIZE
Established in 1947 by the Chemical Institute of Canada. To be awarded to the student who has completed Level I and 70 to 85 units of a programme in Chemical Engineering and who attains the highest Full-load Average.
Value: $50, medal and certificate (30016 027)

THE CANADIAN SOCIETY FOR CHEMISTRY PRIZES
Established in 1947 by the Chemical Institute of Canada. Two awards to be made to students who have completed Level I and 60 to 80 units: (a) one to a student in an Honours programme in Chemistry or Honours Applied Chemistry who attains high standing in chemistry; (b) one to a student in the Honours Biochemistry or Honours Biochemistry and Chemistry programmes who attains high standing in biochemistry and organic chemistry.
Value: $50, medal and certificate (30017 029)

THE CANADIAN SOCIETY OF CIVIL ENGINEERS (HAMILTON SECTION) PRIZES
Established in 1987. To be awarded to a student entering the final level of a programme 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 029)

THE NORMAN N. CASKEY MEMORIAL PRIZE
Established in 1983 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 30 to 75 units of an Honours programme in Music and who, in the judgment of the School of Art, Drama, and Music, has demonstrated musical excellence.
Value: $100 (30115)

THE CERTIFIED GENERAL ACCOUNTANTS ASSOCIATION PRIZE
Established in 1983 by the Hamilton Chapter of the Certified General Accountants Association of Ontario. To be awarded to a student who has completed Level I and 30 to 45 units of a programme in Commerce and who, in the judgment of the School of Business, has attained an outstanding Full-load Average and a high standing (a grade of at least A-) in COMMERCe 2A03.
Value: $150 (30021 034)

THE CHEMICAL INSTITUTE OF CANADA (HAMILTON SECTION) PRIZES
Established in 1984 by the Hamilton Section. Two prizes to be awarded to students who have completed Level I and 30 to 50 units: (a) one to a student in an Honours programme in Chemistry who, in the judgment of the Department, shows particular promise in Chemistry; and (b) one to a student in a programme in Chemical Engineering who, in the judgment of the Department, shows particular promise in Chemical Engineering.
Value: $50 each (30023 035)

UNDERGRADUATE AWARDS — FULL LOAD 293
THE HUGH CLARK SCHOLARSHIP
Established in 1969 by Hugh Clark in celebration of McMaster's fiftieth years since moving to Hamilton. To be awarded to the student who has completed Level I and 60 to 75 units of an Honours programme in Social Sciences and has attained the highest Full-load Average.
Value: $1,200 (30068 239)

The recipient of this award is eligible to receive additional aid through the corresponding Supplementary Bursary Aid Fund if he/she demonstrates financial need. Please see the section on Supplementary Bursary Aid for Award Recipients in the Student Financial Aid section of this Calendar.

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 60 units of an Honours programme in Drama who, in the judgment of the School of Art, Drama, and Music, has achieved notable academic standing and has made a significant contribution to theatre on campus.
Value: $600 (30214 329)

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 programme who has attained the highest Full-load Average.
Value: $700 (30224 361)

THE CLASS OF '50 SCHOLARSHIP IN HONOURS ECONOMICS
Established in 1962 by the Graduating Class of 1950 in Honours Economics. To be awarded to the student who has completed Level I and 30 to 45 units of an Honours programme in Economics, and who, in the judgment of the Department of Economics, has attained a high Full-load Average and has demonstrated leadership in undergraduate extracurricular activities.
Value: $400 and book (30027 038)

THE CONSULTING ENGINEERS OF ONTARIO (CEO) SCHOLARSHIP
Established in 1990 by the Consulting Engineers of Ontario. To be awarded to a student who has completed Level III of a programme in Engineering who, in the judgment of the Faculty of Engineering, has demonstrated outstanding academic achievement and has made notable contribution to the campus or community by participation in extracurricular activities.
Value: $500 (30163 252)

THE CONSUMERS GLASS SCHOLARSHIP
Established in 1988. To be awarded to a student entering Level V of the Ceramic Engineering and Management programme who, in the judgment of the Department of Materials Science and Engineering, has attained notable academic standing.
Value: $1,000 (30029 345)

THE DR. RUDOLF DE BUDA SCHOLARSHIP
Established in 1989 in memory of Professor de Buda by family, friends and colleagues. To be awarded to a student who has achieved high standing after completion of Level I and 71 to 73 units of Electrical or Computer Engineering programme who wishes to do a four-year thesis on a topic in the field of Information Theory.
Value: $1,000 (30041 240)

THE FULL LOAD AWARD
Established in 1982 by John Deere Limited. To be awarded to the student who has completed Level I and 60 to 75 units of the Honours Commerce programme who, in the judgment of the School 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 (36027 305)

THE DELoitTE & Touche SCHOLARSHIP
Established in 1982. To be awarded to the student who has completed Level I and 60 to 75 units of a programme in Commerce and who attains a high Full-load Average and in that session attains an average of at least 10.0 in COMMERCE 2A3 and 3A3.
Value: $500 (30148 177)

THE ROSEMARIE DOUGLAS-MERCER MEMORIAL PRIZE
Established in 1989. To be awarded to a student who has completed Level I and 30 to 45 units of an Honours programme in French and who has attained the highest Full-load Average in French B2B3 and one of 2/03 or 2J3 and one of 2W03 or 2WW3.
Value: $225 (30124)

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 programme in Philosophy who has attained the most notable standing in his or her Level I programme.
Value: $150 (30066)

THE HELEN EMERY SCHOLARSHIPS IN ENVIRONMENTAL SCIENCE
Established in 1990 by Miss Helen Emery of Barrie, Ontario. Two scholarships to be awarded to: (a) one to a student entering the Honours Environmental Science Programme; and (b) one to a student entering Level III of the Honours Geography and Environmental Sciences or Honours Environmental Science Programmes who, in the judgment of the School of Geography and Geology, demonstrates leadership and influence in addressing environmental matters.
Value: $1,400 each (30184 380)

THE MERRILL FRANCIS SCHOLARSHIP IN FRENCH
Established in 1980 by Group Eight Engineering Limited. To be awarded to the student in a programme in Electrical Engineering who attains the highest average in ELEC ENG 3P4.
Value: $400 and book (30027 029)

THE T. F. ELLIOTT PRIZE
Established in 1981 by the Graduating Class of 1981. To be awarded to a student entering the Honours French Programme who, in the judgment of a French Professor, demonstrates outstanding accomplishment in French language, literature and culture.
Value: $300 (30058 372)

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. To be awarded to the student who has completed Level I and 30 to 45 units of an Honours programme in French and who has attained the highest Full-load Average and in the session attains a grade of at least A- in COMMERCE 2A3.
Value: $350 (30050 241)

THE L. F. ELLIOTT PRIZE
Established in 1982 by the Graduating Class of 1982 as a prize to a student entering the Honours French Programme who, in the judgment of the Faculty of Arts, Drama and Music, has demonstrated excellence in French language, literature and culture.
Value: $250 (30050 241)

THE MERRILL FRANCIS GAGE SCHOLARSHIP
Established in 1982 from the estate of Merrill Francis Gage of Hamilton. To be awarded to a student who has completed Level I and 30 to 75 units of an Honours programme in Music and who, in the judgment of the School of Art, Drama and Music, has demonstrated excellence in performance on a keyboard or orchestral instrument.
Value: $500 (30110)
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 programme 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 773)

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 60 to 75 units of Honours B.Sc. programmes. Ordinarily, not more than one scholarship will be awarded in any one discipline.
Value: $300 each (30079)

THE GEORGE P. GILMOUR MEMORIAL SCHOLARSHIP
Established in 1987 by the Graduating Class of 1982 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 60 to 75 units of an Honours programme in the Arts and Science Programme and who, in the judgment of the Arts and Science Programme 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: $1,000 (30056 067)

THE DAPHNE ETHERINGTON GRAHAM MEMORIAL SCHOLARSHIP IN ENGLISH
Established in 1989 in memory of a former student and dedicated servant of the University by her family, friends, and Professor Emeritus R.P. Graham. To be awarded to the student, registered for a first degree after completing Level I, who attains the highest standing in 18 units of English, all taken in the same session, with an average standing of at least A-, provided that the recipient is not the holder of another scholarship of equal or greater value.
Value: $1,000 (30034 242)

THE DAPHNE ETHERINGTON GRAHAM MEMORIAL SCHOLARSHIP IN HISTORY
Established in 1987 in memory of a former student and dedicated servant of the University by her friends, family, and Professor Emeritus R.P. Graham. To be awarded to the student, registered for a first degree after completing Level I, who attains the highest standing in 18 units of History, all taken in the same session, with an average of at least A-.
Value: $1,000 (30231 556)

THE H.B. GREENING BOOK PRIZE
Established in 1969 by bequest of Gladys Powis Greening in memory of her husband, Harold Benjamin Greening. To be awarded to the student who has completed Level I and 30 to 45 units of an Honours programme in Music and who, in the judgment of the School of Art, Drama and Music, has demonstrated excellence in music.
Value: $100 for books (30062 069)

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 60 to 75 units of an Honours programme in Computer Science, or Level I and 70 to 90 units of a programme in Computer Engineering, and who attains the highest Full-load Average.
Value: $200 (30131)

THE DONALD K. HAM MEMORIAL PRIZE
Established in 1971 in memory of Professor R.K. Ham by his friends and former colleagues. Awarded to the student who has completed Level I and at least 60 units and who, in the judgment of the Department of Materials Science and Engineering, shows most promise as a materials scientist or engineer.
Value: $100 (30129)

THE HAMILTON CHEMICAL ASSOCIATION PRIZE
Established in 1983 by the Trustees of the Hamilton Chemical Association in memory of Dean C.E. Burke. To be awarded to the student who has completed Level I and 30 to 45 units of an Honours programme in Chemistry and who attains the highest Cumulative Average.
Value: $200 (30063)

THE HAMILTON ECONOMIC DEVELOPMENT COMMISSION SCHOLARSHIPS
Established in 1976. (a) Two scholarships to be awarded on the basis of Full-load Average to students entering Level II of a Commerce programme: (b) Four scholarships to be awarded on the basis of Full-load Average: two to students who have completed Level I and 30 to 45 units, and two to students who have completed Level I and 60 to 75 units of a programme in Commerce. Recipients must have obtained all their secondary school education in the Hamilton-Wentworth Region.
Value: $300 each (six awards) (30064 072)

THE HAMILTON HARBOUR COMMISSIONERS 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 60-75 units of a programme in Commerce who, in the judgment of the Faculty of Business, has demonstrated outstanding academic achievement and involvement in the local community.
Value: $1,500 (30227 389)

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 30 to 45 units of a programme in Commerce and who, in the judgment of the School of Business, has achieved high standing in the required Level II Commerce courses, taken in one session.
Value: $350 (30073 075)

THE HELLERIC PRIZE
Established in 1955 by the Greek communities of Hamilton and Burlington. To be awarded to a student entering Level IV who has completed at least 12 units in subjects pertaining to Greek studies and who, in the judgment of the Faculty of Humanities, demonstrates outstanding academic achievement in Greek studies.
Value: $1,000 (30226 360)

THE ANNA MARIE HIBBARD SCHOLARSHIP
Established in 1992 from the bequest of Anna Marie Hibbard. To be awarded to the student completing Level I who attains the highest Full-load Average. The recipient may not hold another scholarship of equal or greater value.
Value: $1,600 (30028 300)

THE ROSE HILL SCHOLARSHIP
Established in 1965 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 a student who has completed 60 units of the Kinesiology programme and who, in the judgment of the Department of Kinesiology, best demonstrates 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 (30130 077)

THE DR. THOMAS HOBLEY PRIZE
Established in 1938 by bequest of Mrs. A. McNea of Windsor. To be awarded to a woman student on the basis of the Full-load Average obtained in the penultimate level of a programme in Economics or Political Science.
Value: $200 (30042)

THE DR. HARRY LYMAN HOOKER SCHOLARSHIPS
Established in 1981, and resulting from the bequest of Dr. H.L. Hooker. Awarded for overall academic excellence (Full-load Average of at least 5.5) to students in undergraduate programmes, 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 Full-load Average of 5.5 or greater.
Value: $1,500 each (30071 093)

THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS (HAMILTON SECTION) PRIZES
Established in 1961. Two prizes to be awarded to students entering the final level who qualify on the basis of high academic standing and, in the judgment of selection committees, demonstrate interest in university activities: a) one to a student in an Electrical Engineering Programme; b) one to a student in a Computer Engineering Programme.
Value: $200 and a book (30071 093)

THE INTERMETCO LIMITED SCHOLARSHIP
Established in 1977. To be awarded to the student who has completed Level I and 70 to 90 units of a programme in Mechanical Engineering and who, in the judgment of the Department of Mechanical Engineering, has attained notable standing.
Value: $500 (30072 084)

UNDERGRADUATE AWARDS — FULL LOAD 295
THE INTER-RESIDENCE COUNCIL SCHOLARSHIP
Established in 1985 by the McMaster Inter-Residence Council in recognition of the CRC's continued support of the University and its students. To be awarded to a student who has completed at least Level I of any programme who, in the judgment of the Awards Selection Committee of Undergraduate Council, has demonstrated notable academic achievement and has made a significant contribution to the University life of resident students with disabilities.
Value: $600 (30228 392)

THE ROBERT A. KENNEDY SCHOLARSHIP
Established in 1998 by Robert A. Kennedy. To be awarded to any student entering Level I of any programme who, in the judgment of the Department, has attained notable standing in at least 9 units of Italian courses above Level 61. The recipient must have graduated from a secondary school in the Hamilton area.
Value: $150 (30070 086)

THE IVEY SCHOLARSHIP
Established in 1971 by Professor and Mrs. G.S. French in memory of Mr. and Mrs. J.E. French. To be awarded to a student who has completed at least 30 units of study in any language and who, in the judgment of the Department, has attained notable standing in at least 9 units of Italian courses above Level 75. The recipient of this award is eligible to receive additional aid through the corresponding Supplementary Bursary Aid Fund if he/she demonstrates financial need.
Value: $500 and certificate (30022 259)

THE JURY PRIZE
Established in 1941 by bequest of Dr. A.I. Jury by his friends and fellow colleagues. To be awarded to a student who has completed Level I and 110 to 30 units of a programme 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 (30094 090)

THE STANFORD N. KATAMBALA GEOLOGY PRIZE
Established in 1965 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 50 to 75 units of the Honours Geology programme and who attains high standing in Geology.
Value: $50 (30143)

THE ROBERT A. KENNEDY SCHOLARSHIP
Established in 1998 by Robert A. Kennedy. To be awarded to any student entering Level II, III or IV programme in the Faculty of Business who, in the judgment of the Faculty, demonstrates outstanding academic achievement.
Value: $250 (30243 785)

THE GEORGE P. AND LEATHA M. KEYS 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 programmes in those Departments: (a) one to a student who has completed Level I and 30 to 75 units of the Computer Science programme; (b) one to a student who has completed Level I and 60 to 75 units of a programme in Mathematics; and (c) one to a student who has completed Level I and 60 to 75 units of a programme in Statistics.
Value: $350 each (30057 091)

THE KIT MEMORIAL SCHOLARSHIP
Established in 1936 by the Hamilton Branch of the Canadian Women's Press Club (now the Manitoba Club of Canada, Hamilton Branch) in memory of the 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 30 units on the basis of journalistic ability or on completion of Level I and 60 to 75 units of an Honours programme in English on the basis of full-load Average.
Value: $175 (30085 092)

THE KPMG SCHOLARSHIP
Established in 1958 by Pettif, 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 60 to 75 units of a programme 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 175)

THE HOWARD O. LAWRENCE SCHOLARSHIP
Established in 1968 by Industrial Ceramics Limited. To be awarded to a student entering Level IV of the Ceramic Engineering and Management programme and who, in the judgment of the Department of Materials Science and Engineering, has achieved high standing in Level III of the programme.
Value: $500 (30067)

THE MEGAN LAWRENCE SCHOLARSHIP
Established in 1975 by the Honourable Ray Lawson, C.B.E., D.C.L., D.Cn.L., LL.D., K.G-St.J., Lieutenant-Governor of Ontario from 1946 to 1952. Two scholarships to be awarded for the highest Full-load Averages in an Engineering and Management programme: (a) one to a student who has completed 90 units of the Kinesiology programme and who, in the judgment of the Department of Kinesiology, demonstrates excellence in scholarship, leadership and participation in sport, dance and fitness.
Value: $700 (30108 376)

THE RAY LAWSON SCHOLARSHIPS
Established in 1968 by the Zonta Club of Hamilton II in memory of Megan Lawrence, Zontian and educator in the City of Hamilton. To be awarded to a student who has completed 90 units of the Kinesiology programme and who, in the judgment of the Department of Sociology, demonstrates excellence in scholarship, leadership and participation in sport, dance and fitness.
Value: $400 each (30128 099)

THE BETTY MacMILLAN PRIZE
Established in 1985 by Betty MacMillan, Class of 54, To be awarded to the student who has completed Level I and 50 to 75 units in an Honours programme in Sociology and who, in the judgment of the Department of Sociology, is the most promising student.
Value: $100 (30010)

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 60 to 75 units of an Honours programme 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: $700 (30100 092)
THE RONALD E. MATERICK SCHOLARSHIP
Established in 1987 by Ronald E. Materick (Class of ’70). To be awarded to a student who has completed Level I and 70 to 85 units of a programme in Civil Engineering and who, in the judgment of the Department of Civil Engineering, has attained notable academic standing.
Value: $1,000 (30127 106)

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 60 to 75 units of the Honours English and History programme and who has the highest Full-load Average.
Value: $425 (30105)

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 50 to 75 units of an Honours Classics programme and 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 260)

THE A.B. McLAY SCHOLARSHIP IN PHYSICS
Established in 1991 by C. Lucy McLay in memory of her late husband, A. Boyd McLay (Ph.D., R.F.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 30 to 45 units of an Honours programme in Physics and who, in the judgment of the Department of Physics and Astronomy, has attained notable standing.
Value: $450 (30186 254)

THE BOYD MCLAY SCHOLARSHIP IN PHYSICS
Established in 1977 to commemorate the contributions of Dr. A. Boyd McLay (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 60 to 75 units of an Honours programme in Physics with a high Full-load Average.
Value: $360 (30011 109)

THE McMaster HUMANITIES SOCIETY SCHOLARSHIP
Established in 1998 by the McMaster Humanities Society. Two scholarships to be awarded to students who have completed Level I and 30 units and who, in the judgment of the Faculty of Humanities, have demonstrated an enthusiastic interest in the University through their involvement in extra-curricular activities.
Value: $250 each for books (30244 798)

THE McMaster UNIVERSITY Retirees ASSOCIATION SCHOLARSHIP
Established in 1991 by the McMaster University Retirees’ Association. To be awarded to the student who has completed Level I and at least 30 units of an Honours programme and who attains the highest Full-load Average. The student must enrol in a programme in Gerontology in the subsequent Fall/Winter session.
Value: $300 (30187 271)

The McNABB SCHOLARSHIP
Established in 1989 in memory of Donald G. McNabb (Class of ’37) by friends, family and business associates. To be awarded to the student who has completed Level I plus 60 to 75 units of an Honours programme in Chemistry who, in the judgment of the Department of Chemistry, has achieved notable academic standing. Preference will be given to students who demonstrate leadership, self-motivation, and practical aptitude appropriate for a future in the chemical industry.
Value: $1,000 (30106 243)

THE Simon McNally SCHOLARSHIP
Established in 1972 by S. McNally and Sons Limited, in honour of Simon McNally. One or two scholarships to be awarded to Canadian citizens who have completed Level I and 35 to 50 units of a programme in Civil Engineering. Awards are based on scholarship and evidence of practical engineering experience and background.
Value: $650 each (30139 112)

THE PETER McPhATER MEMORIAL SCHOLARSHIP
Established in 1986 by Peter McPhater’s friends in recognition of his art, craftsmanship and humanitarianism. To be awarded to a student who has completed Level I and 60 to 75 units of a programme in Honours Art or Honours Art History and who, in the judgment of the School of Art, Drama and Music, is outstanding.
Value: $500 (30119 114)

THE J.J. 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 entering Level IV of the Honours Biology programme with an outstanding Full-load Average and a grade of at least A- in BIOLOGY 3E03 in Level III.
Value: $350 (30077 115)

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 programme in Geography and Environmental Studies, Geography and Environmental Science, Environmental Science, or Engineering and Society, who attains the highest Full-load Average.
Value: $700 (30213 181)

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 60 to 75 units in an Honours programme in Chemistry and who, in the judgment of the Department of Chemistry, is outstanding in the field of inorganic chemistry.
Value: $150 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 sons of members of Her Majesty’s Canadian Armed Forces on the basis of Full-load Average.
Value: $900 (30047)

THE MOUTON COLLEGE SCHOLARSHIP
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 Full-load Averages: (a) one after completion of Level I and 30 to 45 units, and (b) one after completion of Level I and 60 to 75 units. Value: $1,000 each (30112 377)

THE ANNE MURRAY SCHOLARSHIP
Established in 1985 in memory of Anne M. Murray (Class of ’82) by her family. To be awarded to a student who has completed at least 50 units beyond Level I in a programme in the Department of Modern Languages and who, in the judgment of the Department, has attained notable standing in at least 9 units of German courses above Level I.
Value: $300 (30005 119)

THE NCR (WATERLOO) DIVERSITY SCHOLARSHIP
Established in 1999 by NCR (Waterloo). To be awarded to a student entering Level II in the Engineering and Management programme who, in the judgment of the programme has achieved outstanding academic standing. The scholarship is tenable for up to four years provided the student maintains a 3.5 Sessional Average.
Value: $26,000 ($6,500 per year) (30250 826)

THE NIE MiER SCHOLARSHIP
Established in 1938 and reconstituted in 1952 by Dr. O.W. Niemeyer. To be awarded to the student who attains the highest Full-load Average at the completion of Level I and 31 to 55 units of the Nursing programme.
Value: $600 (30114 244)

THE ROBERT NIXON SCHOLARSHIP
Established in 1991 by the Brant-Haldimand Liberal Association in honour of Dr. Robert Nixon (Class of ’50, LLD, ’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: $850 (30203 144)

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 60 to 75 units of an Honours programme in Chemistry and who, in the judgment of the Department of Chemistry, shows particular promise as an experimental scientist.
Value: $100 for books (30053)

THE ONTARIO HYDRO SCHOLARSHIP IN ELECTRICAL ENGINEERING
Established in 1986. To be awarded to the student who has completed Level I and 35 to 55 units of a programme in Electrical Engineering and who, in the judgment of the Department of Electrical and Computer Engineering, has achieved notable standing (Full-load Average of at least 9.5), displayed strong communication skills, and demonstrated leadership ability and involvement in extracurricular activities.
Value: $2,400 (30116 127)

UNDERGRADUATE AWARDS — FULL LOAD 297
THE GLADYS BALLANTYNE PARKER PRIZE
Established in 1953 in memory of Gladys Ballantyne Parker by her father, Harry Ballantyne. To be awarded to a student enrolled in a programme in Classics in which, in the judgment of the Department of Classics, demonstrates outstanding achievement in Greek or Latin.
Value: $50 (30080 133)

THE F.W. PAULIN SCHOLARSHIP
Established in 1981 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 70 to 85 units of the Civil Engineering programme, or Level I and 110 to 130 units of the Civil Engineering and Management programme. Award is based on scholarship 'Full-load Average of at least 9.5 and evidence of leadership, self-motivation, and practical aptitude appropriate for a future in the construction industry.
Value: $1,100 (30052 134)

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 programme who, in the judgment of the School of Art, Drama and Music, has attained notable academic standing and demonstrated excellence in keyboard performance.
Value: $300 (30222 356)

THE PEVENSING SCHOLARSHIP
Established in 1987 by David C. Hannaford (Class of '84). To be awarded to a student who has completed Level I and 60 to 75 units of an Honours programme in Economics and who, in the judgment of the Department of Economics, has attained notable academic standing.
Value: $500 (30120 135)

THE PIONEER GROUP LIMITED SCHOLARSHIP
Established in 1988. To be awarded to a student who has completed Level I and at least 30 units of a programme in Gerontology and who, in the judgment of the Gerontology Committee on Instruction, achieves high standing in 12 units of Gerontology courses (excluding GERONTOL 1A06) and who, demonstrates leadership in the field of Gerontology.
Value: $350 (30121 371)

THE PRICE WATERHOUSE COOPERS SCHOLARSHIP
Established in 1959 by Price Waterhouse and Co. To be awarded to the outstanding student on the basis of qualifications and academic record after completion of Level I and 60 to 75 units of a programme 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 (30122 138)

THE PSYCHOLOGY SOCIETY PRIZES
Established in 1985 by the Psychology Society and the Faculty and Alumni of the Department of Psychology. Three prizes to be awarded to students who have completed Level I and 60 to 75 units with the highest Full-load Average: (a) one in the Honours Psychology B.A. programme; (b) one in the Honours Psychology B.Sc. programme; and (c) one in a combined Honours programme in Psychology.
Value: $50 each (30123 141)

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 I and 30 to 45 units of an Honours programme in History with the highest Full-load Average and who in that session achieves a grade of at least A- in HISTORY 2J05 (Canadian History).
Value: $600 (30039 142)

THE SHARON REEVES SCHOLARSHIP
Established in 1987 by Kevin W. Reeves (Class of '80) in memory of his wife, Sharon (Class of '79). To be awarded to a student entering Level III or IV of an Honours programme in Music (Education) and who, in the judgment of the School of Art, Drama and Music, has attained notable standing.
Value: $350 (30135 143)

THE ELLA JULIA REYNOLDS SCHOLARSHIP
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 30 to 75 units of the Honours English or the Honours English and History programmes with a Full-load Average of at least 9.5. The recipients must not be holders of another scholarship.
Value: $900 each (30044)

THE HERBERT A. RICKER SCHOLARSHIP
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 (Full-load Average of at least 9.5) and character to: (a) two to students who have completed Engineering I, or Level I and 35 to 90 units of a programme in Engineering, and (b) two to students who have completed Science I (or Natural Sciences I), or Level I and 30 to 75 units of a programme in Science. The recipients must not be holders of another scholarship.
Value: $1,500 each (30065 145)

THE ROSART PROPERTIES INC. SCHOLARSHIP
Established in 1986 by John D. and Dominic J. Rosart of Burlington. To be awarded to a student who has completed Level I and 60 to 75 units of an Honours programme in Geography and who, in the judgment of the School of Geography and Geology, has attained high academic standing.
Value: $525 (30129 146)

THE LEONA ALLERSTON RYAN AND GORDON HENRY STEVENS MEMORIAL SCHOLARSHIP
Established in 1995 by Elaine Kelloor in memory of Laona and Gordon Stevens. To be awarded to a student who has completed Level I and 30-75 units of an Honours programme in Music or Art who, in the judgment of the School of Art, Drama and Music has demonstrated outstanding achievement.
Value: $500 (30022 393)

THE E. TOGO SALMON PRIZE IN HISTORY
Established in 1973 by friends and colleagues of Professor E.T. Salmon on his retirement. In recognition of his outstanding contribution to the Department of History. To be awarded to the student who has completed Level I and 60 to 75 units and who, in the judgment of the Department of History, attains notable standing in an Honours programme in History.
Value: $100 for books (30045 245)

THE SCHOOL OF ART, DRAMA AND MUSIC SCHOLARSHIP IN MUSIC
Established in 1993 by the Department of Music which later became part of the School of Art, Drama and Music. To be awarded to a student who, in the judgment of the School of Art, Drama and Music, has demonstrated academic excellence in Music.
Value: $1,000 (30216 324)

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 60 to 75 units of the Honours English programme, and who attains the highest Full-load Average.
Value: $400 (30136 150)

THE CHARLOTTE E. SEIDEL SCHOLARSHIP
Established in 1994 by Genevieve J. Heinz in memory of Charlotte E. Seidel. To be awarded to a student in a programme in Music who, in the judgment of the School of Art, Drama and Music, has attained high academic standing and has made significant contributions to the campus or community.
Value: $500 (30023 357)

THE LOUIS J. SHEIN SCHOLARSHIP
Established in 1990 by family and friends in memory of Dr. L.J. Shein, founder and first chair of the Russian Studies programme and faculty member from 1958 to 1980. To be awarded to the student who has completed at least 30 units beyond Level I in a programme in the Department of Modern Languages and who, in the judgment of the Department has attained notable standing in at least nine units of Russian courses above Level I.
Value: $400 (30189 255)

THE SHELL CANADA SCHOLARSHIPS IN ENGINEERING AND MANAGEMENT
Established in 1985. Three scholarships to be awarded to students who have completed Level I and at least 110 units of a programme in Engineering and Management. Awards will be based on scholarship and on the quality of and creativity shown in written and oral reports.
Value: $600 each (30137 384)

THE SHENSTONE PRIZE
Established in 1905 by J.N. Shenstone of Toronto, and continued by members of his family. To be awarded to the student who has completed Science I (or Natural Sciences I) and who attains the highest average in any of the four of the Level I courses in Chemistry, Physics and Biology.
Value: $125 (30138)

THE GERALD AND Verna Simpson Memorial Scholarship
Established in 1957 by the children in memory of their parents. To be awarded to the student who has completed Level I and 30 to 45 units of the Honours Physics programme or the Honours Chemistry and Physics programme with highest Full-load Average.
Value: $300 (30059 156)

The recipient of this award is eligible to receive additional aid through the corresponding Supplementary Bursary Aid Fund if he/she demonstrates financial need. Please see the section on 'Supplementary Bursary Aid for Award Recipients in the Student Financial Aid section of this Calendar.'
THE PATRICIA L. SMEY MEMORIAL PRIZES
Established in 1972 by the Patricia Smye Memorial Fund Committee. Two scholarships are to be awarded to students who have completed Level I and 30 to 45 units and who attain the highest Full-load Average: (a) one in the three-level English programme and (b) one in the three-level Psychology B.A. programme. Value: $250 each (30119)

THE SOCIETY OF MANAGEMENT ACCOUNTANTS OF ONTARIO SCHOLARSHIP
Established in 1983. To be awarded to the student who has completed Level I and 60 to 75 units of a programme in Commerce and who obtains the highest Full-load Average and in that Session attains a grade of at least A- in COMMERCE 2AB3.
Value: $500 (30140 158)

THE SONS OF ITALY OF ONTARIO SCHOLARSHIP
Established in 1971 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 programme in the Department of Modern Languages and who, in the judgment of the department, has attained notable standing in at least 9 units of Italian courses above Level I.
Value: $500 (30141 160)

THE SOUTH ONTARIO ECONOMIC DEVELOPMENT COUNCIL SCHOLARSHIP
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. programmes, to the students who have completed Level I and 60 to 75 units of the Honours Geography programme and who elect GEOG 4C06 (formerly GEOG 4C06) 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: $1,200 each (30142 161)

THE MARNE SPEARS SCHOLARSHIP
Established in 1993 by many friends, colleagues and alumni of McMaster University as a tribute to Marnie Spears (Class of '69), Executive Director, Development and Public Relations from 1968-93 and dedicated alumnus who served as President of the McMaster Alumni Council. In 1980, in recognition of her outstanding contribution to the University. To be awarded to the student who has completed Level I and at least 30 units of an Honours programme with notable academic standing and who, in the judgment of a Selection Committee, has demonstrated leadership in public, community or University alumni relations.
Value: $590 (30217 323)

THE SALVATORE SPITALE MEMORIAL PRIZE
Established in 1964 by the Spitalte family. To be awarded to a student who has completed at least 30 units beyond Level I in a programme in the Department of Modern Languages and who, in the judgment of the Department, has attained notable standing in at least nine units of Italian courses above Level I and has demonstrated an active involvement in community life.
Value: $100 (30133 162)

THE S.L. SQUIRE SCHOLARSHIP
Established in 1938 by bequest of S.L. Squire of Toronto. Four awards to be made to students in any Level I programme who attain the highest standing in any two of MATH 1A35, 1B03, 1H05, 1HN3, and in other tests provided for this scholarship by the Department of Mathematics and Statistics. Value: $400 each (30130)

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 Full-load Average.
Value: $150 (30025)

THE MABEL Stockley SCHOLARSHIP
Established in 1956 by the Young Women's Canadian Club of Toronto (now the Cape Women's Canadian Club of Toronto). To be awarded to a woman student who has completed Level I and 30 to 45 units of any programme and who gives evidence of outstanding academic achievement and leadership. Value: $425 for books (30103)

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 60 to 75 units of an Honours programme in French and who, in the judgment of the Department of French, has achieved notable academic standing.
Value: $400 (30104 166)

THE MARK JOHN STOJICIC SCHOLARSHIP
Established in 1987 by bequest of Mark John Stojicic. Two scholarships to be awarded to students entering the fourth year of a Materials Engineering programme who, in the judgment of the Faculty of Engineering, demonstrate outstanding academic achievement.
Value: $1,000 each (30242 780)

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 programme with the highest Full-load Average. The recipient must be from the Hamilton-Wentworth Region.
Value: $500 (30092 169)

THE H.B. SYMONS PRIZE IN CANADIAN STUDIES
Established in 1978. To be awarded to the student who has completed Level I and 60 to 75 units of a programme in Political Science who, in the judgment of the Department of Political Science, has achieved notable standing in at least nine units of Canadian Politics courses.
Value: $250 (30144 170)

THE HUGH R. THOMPSON MEMORIAL PRIZE
Established in 1980 in memory of Dr. Hugh R. Thompson. To be awarded to the student who has completed Level I and 30 to 45 units of the Honours Geography or the Honours Geography and Geology programme with the highest Full-load Average.
Value: $200 (30069 174)

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 1887-1910, in recognition of his contribution to education in Hamilton. To be awarded to the student who has completed Level I and 60 to 75 units of the Honours Computer Science, Honours Computer Science and Mathematics, Honours Computer Science and Statistics, Honours Mathematics or Honours Statistics programme, and who attains a high Full-load Average.
Value: $225 (30040)

THE GRAHAM RONALD TOOP SCHOLARSHIP
Established in 1988 in memory of Graham Toop (Class of '89) by family and friends. To be awarded to the student entering Level IV of an Honours Philosophy programme 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: $300 (30190 256)

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 Programme in Classics who, in the judgment of the Department of Classics has achieved notable academic standing.
Value: $200 (30151 162)

THE F.W. WATERS SCHOLARSHIP IN PHILOSOPHY
Established in 1930 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 Programme in Philosophy who, in the judgment of the Department of Philosophy, shows the most academic promise.
Value: $750 (30197)

THE WEISS FAMILY FOUNDATION SCHOLARSHIP
Established in 1982. To be awarded to the student who has completed Level I and 60 to 75 units of the Honours Commerce programme and who attains the highest Full-load Average (at least 9.5).
Value: $1,500 (30152 184)
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 1963-1985. To be awarded to the student who has completed at least 30 units beyond Level I of an Honours programme 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: $425 (30191 272)

THE MANUEL W. DALLEY MEMORIAL SCHOLARSHIP IN PHYSICS
Established in 1965 by bequest of Edwin Marwin Dalley of Hamilton.
Value: $800 (30049)

THE JANICE WILSON MEMORIAL PRIZE
Established in 1961 in memory of Janice Mary Wilson of Stoney Creek. To be awarded to the woman student who has completed Level I and 30 to 45 units of an Honours History programme and who attains the highest Cumulative Average.
Value: $100 (30906 376)

THE WOMEN'S ARTS 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 30 to 45 units of a programme in Honours Art or Honours Art History with the highest Full-load Average. The recipients must be from the Hamilton-Wentworth Region.
Value: $250 each (30153 185)

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 I and 60 units of the Kinesiology programme and has demonstrated outstanding achievement in the programme.
Value: $200 (30673 169)

THE GLADYS A. YOUNG SCHOLARSHIP
Established in 1991 by T.G. Harvey in honour of his wife, Gladys (B.Sc., '37, M.Sc. '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 30 to 65 units of an Honours programme in Mathematics or Physics with the highest Full-load Average. The recipient must not hold another scholarship of equal or greater value.
Value: $1,600 (30206 303)

THE LILIAN AND MANUEL ZACK SCHOLARSHIP
Established in 1984 by Lilian and Manuel Zack (Class of '40) of Hamilton. To be awarded to a student who has completed Level I and 70 to 85 units of a programme 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: $900 (30101 190)

The following scholarships are awarded for general academic proficiency at the discretion of the Undergraduate Council.

Each year, quotas of Senate Scholarships are established for each Faculty and other academic units in proportion to the number of full-time undergraduate students enrolled, all of which are funded by the donors listed below.
Value: $800 each

THE EDGAR R. ASHALL SCHOLARSHIP
Established in 1965 by bequest of his wife, Edith M. Ashall. (30162)

THE EDWIN MARWIN DALLEY MEMORIAL SCHOLARSHIPS
Established in 1965 by bequest of Edwin Marwin Dalley of Hamilton. (30164)

THE EDUCATION FOUNDATION OF THE FEDERATION OF CANADIAN PROFESSIONALS OF ONTARIO SCHOLARSHIPS
Established in 1968 by the Foundation. Two scholarships to be awarded: (a) one to a student in a programme in Arts and Science, and (b) one, on a rotating basis, to a student in a programme in Chemistry, Mechanical Engineering, and Physics. (30163 056)

THE HAMILTON INDUSTRIAL SCHOLARSHIPS
Established in 1958. (30165)

THE BERTRAM OSNER HOOPER SCHOLARSHIP
Established in 1957 by bequest of Isobel F. Hooper. To be awarded in Arts. (30161)

THE NINA LOUISE HOOPER SCHOLARSHIP
Established in 1969 by bequest of Bertram O. Hooper. (30200)

THE CLAUDE G. LISTER SCHOLARSHIP
Established in 1980 by bequest of Pauline Detwiler Lister in memory of her husband. To be awarded to a student in a programme in the School of Business. (30199 262)

THE TONY PICKARD MEMORIAL SCHOLARSHIP
Established in 1973 by his wife and family, in honour of Captain Antony F. Pickard, O.B.E., C.D., R.C.N. (Ret'd). (30172)

ROTARY CLUB OF HAMILTON SCHOLARSHIP
Established in 1989. (30168 263)

THE HILDA SAVAGE MEMORIAL SCHOLARSHIP
Established in 1960 by bequest of Bertha Savage. (30166)

THE SOMERVILLE SCHOLARSHIPS
Established in 1966 by bequest of William L. Somerville, architect of the McMaster University buildings of 1930. (30169 169)

The recipient of this award is eligible to receive additional aid through the corresponding Supplementary Bursary Aid Fund if he/she demonstrates financial need. Please see the section on Supplementary Bursary Aid for Award Recipients in the Student Financial Aid section of this Calendar.

THE STELCO - McMaster SCHOLARSHIPS
Established in 1997 by McMaster University in recognition of Stelco and its ongoing commitment to McMaster students. Three scholarships will be awarded to undergraduate students who demonstrate outstanding academic achievement.
Value: $800 each (30238 763)

THE STOBO SCHOLARSHIP
Established in 1957 by bequest of William O. Stobo. (30170)

THE UNIVERSITY SCHOLARSHIPS
Made available from time to time by authorization of the Board of Governors of the University. (30173)

THE MARQUERITE Z. YATES SCHOLARSHIP
Established in 1978 by bequest of Mrs. W.H. Yates of Hamilton. (30167)

THE YATES SCHOLARSHIPS
Established in 1963 by bequest of William Henry Yates of Hamilton. (30171)

The following scholarships are awarded for general academic proficiency in addition to meeting the conditions noted in Category B above, the recipients must express intent to live in residence in the following academic year. The monetary benefits will be credited to residence fees in January.

THE SHELIA SCOTT SCHOLARSHIPS FOR BRANDON HALL (Two awards) (30202)

SHELIA SCOTT SCHOLARSHIP FOR WALLINGFORD HALL (30158)

BATES RESIDENCE SCHOLARSHIP (30155)

EDWARDS HALL RESIDENCE SCHOLARSHIP (30158)

HEDDEN HALL RESIDENCE SCHOLARSHIP (30198)

MATTHEWS HALL RESIDENCE SCHOLARSHIP (30157)

MCKAY HALL RESIDENCE SCHOLARSHIP (30201)

MOULTON HALL RESIDENCE SCHOLARSHIP (30259)

WALLINGFORD HALL RESIDENCE SCHOLARSHIP (30237)

WHIDDEN HALL RESIDENCE SCHOLARSHIP (30199)

WOODSTOCK HALL RESIDENCE SCHOLARSHIP (30160)

Value: $300 each
TRAVEL SCHOLARSHIPS

Students who wish to be considered for these awards should consult the Office of Student Financial Aid and Scholarships before January 15.

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 Grieg Alexander. Two scholarships to be awarded to students who have completed Level I and 60 to 75 units on the basis of excellence in a modern language or languages, English, and History (with emphasis on French). The purpose of the scholarships is to enable the winners to study abroad during the vacation before the final Fall/Winter session.

Value: $5,500 each (30174)

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 Harley H. Hall, U.S.N. To be awarded to a student enrolled in a programme in Biochemistry, Biology, Chemistry, Commerce, Engineering Physics, English, French, Geology, History, Materials Science, Mathematics, Modern Languages, Physics or Religious Studies who demonstrates high academic standing and is participating in one of McMaster's formal exchange programmes. Preference will be given to students who have demonstrated a lively interest in the humanities and the human and social implications of scientific developments.

Value: $900 (30175 037)

THE CLASS OF '37 TRAVEL SCHOLARSHIP IN ARTS AND SCIENCE
Established in 1989 by the Graduating Class of 1937 in celebration of their 50th anniversary and augmented by friends of the Arts and Science programme. To be awarded to a student who has completed Level I and 30 to 72 units of an Honours programme in the Arts and Science Programme. Applicants should have demonstrated a lively interest in developing countries. The purpose of this award is to enable the winner to spend the summer immediately following its receipt, working and studying in a developing country.

Value: $3,500 (30177 053)

THE JOHN R. EVANS TRAVEL SCHOLARSHIP
Established in 1991 by many friends, colleagues, students and graduates of McMaster University as a tribute to John (Jack) F. Evans upon his retirement as Chancellor, Vice-President, University Services and Secretary of the Board of Governors in recognition of the 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 programme with notable academic standing and has demonstrated a scholarly interest in a subject area that is of interest to John F. Evans. Preference will be given to a student who is a member of the Department of Modern Languages.

Value: $500 each (30123 273)

THE MODERN LANGUAGES TRAVEL SCHOLARSHIP
Established in 1991 by the Department of Modern Languages. To be awarded to a student who has completed at least 30 units beyond Level I in a programme in Modern Languages and who, in the judgment of the Department of Modern Languages, has attained notable academic standing. The purpose of the scholarship is to assist with travel expenses to study and travel abroad. Priority will be given to a student participating in the Humanities Studies Abroad Programme.

Value: $400 each (30188 274)

THE E.T. SALMON SCHOLARSHIP
Established in 1991 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 a student who has completed Level I and 30 to 45 units of any Honours Classics or Honours History programme, 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 304)

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 programme in Philosophy, and has, in the judgment of the Department of Philosophy, attained notable standing. The award is to be used to travel to study overseas in Level III.

Value: $500 (30225 365)

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 in his/hers penultimate level who shows ability and promise in the use of the French language. The recipient will spend some weeks of residence and study in a French-Canadian home during the summer vacation.

Value: $500 (30176)

THE T. RUSSELL WILKINS MEMORIAL SCHOLARSHIP
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). To be awarded to a student who has completed Level I and 60 to 75 units of an Honours programme in any one of the following subject fields ( singly or in combination): Biochemistry, Biology, Chemistry, Computer Science, Geology, Materials Science and Physics. Candidates for this scholarship must have attained high standing in the subjects of their programme and must, in addition, have demonstrated 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 winner to spend the summer before the final Fall/Winter session in travel and study outside Canada.

Value: $6,000 (30178)

C. Awards for Part-time, In-Course Students (Part-Time Studies)

The following awards are based on competition across the University or within a Faculty or programme.

1. These awards, which are granted in November, are provided exclusively for part-time first baccalaureate degree students 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 listed in Section 1, 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.

THE ALUMNI ASSOCIATION SCHOLARSHIPS
Established in 1974 by the McMaster University Alumni Association and later augmented by bequest of Harold E. Amy. Two scholarships to be awarded to part-time students who have attained the highest Cumulative Average of at least 8.0 and no failures.

Value: $500 each (60000)

THE AUDREY DIEMERT MEMORIAL BOOK PRIZE
Established in 1991 by family, friends and colleagues in memory of Audrey Diemert. To be awarded to a part-time student who attains the highest standing in ENGLISH 2G06 or 2106.

Value: $125 for books (60005 256)

THE WILLIAM J. MCCALLION SCHOLARSHIPS
Established in 1994 in honour of Professor McCallion (B.A. '43, M.A. '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. To be awarded to part-time students who have attained the highest Cumulative Average at the most recent review.

Value: $250 each (60004)

THE McMASTER UNIVERSITY RETIREES’ ASSOCIATION PRIZE
Established in 1992 by the McMaster University Retirees’ Association. To be awarded to the part-time student enrolled in a programme in Gerontology who attains the highest Cumulative Average.

Value: $100 for books (60007 364)

THE ANNE STEIN MEMORIAL PRIZE
Established in 1981. 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: $100 (60001)
D. Specific Achievement Awards for Full-time and Part-time Students

The following awards are granted based on competition across the University or within a Faculty or programme.

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). 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 listed in Section 1, 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.

4. An award name ending with an ‘*’ indicates that the award is open to both full-time and part-time second baccalaureate degree students.

**ACHIEVEMENT AWARD OF EXCELLENCE FOR STUDENTS WITH DISABILITIES**

Established in 1998. A variable number of scholarships are awarded to students who, in the judgment of the Centre for Student Development, give evidence of outstanding academic achievement. Students who wish to be considered for this award should contact the Office of Student Financial Aid and Scholarships for information and an application.

Value: $500 (40085 794)

**THE ALUMNI CANADIAN GEOGRAPHY PRIZE**

Established in 1985 by the Geography Branch of the McMaster University Alumni Association in recognition of Dr. Lloyd G. Neids 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 2H3C (Canada) (formerly GEOG 2E03).

Value: $175 (40001 004)

**THE ALUMNI SOCIAL WORK PRIZE**

Established in 1991 by the Social Work Branch of the McMaster Alumni Association. To be awarded to the student who attains the highest standing in SOC WORK 2B3.

Value: $50 for books (40056 275)

**THE AMERICAN-STANDARD PRIZE**

Established in 1976. To be awarded to the student in the Ceramics stream of the Materials Engineering programme who attains the highest grade in GEO 2K03 (formerly GEOLOGY 2B03).

Value: $100 (40002 007)

**THE ARTS & SCIENCES PROGRAMME BOOK AWARD**

Established in 1995. To be awarded from time to time to an Arts & Science student who, in the judgment of the Arts & Science Programme Awards Committee, has demonstrated outstanding academic achievement in both arts and science.

Value: $75 (40078 390)

**THE MARRY BALL PRIZES IN GEOLOGY**

Established in 1981 by May A. Ball in memory of her brother Murray Ball. Two scholarships are awarded to students in Sciences I (or Natural Sciences I) who, in the judgment of the School of Geography and Geology, attained notable standing in GEO 1G03 (formerly ENVIR SC 1G03).

Value: $200 each (40057)

**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 from 1958 to 1979. To be awarded to the student who, in the judgment of the Department of Psychology, has demonstrated outstanding achievement in PSYCH 4D06 (Honours Thesis).

Value: $100 (40075 381)

**THE CFUW (HAMILTON) RUBY BROWN BOOK PRIZE IN ENGLISH**

Established in 1970 by bequest of Mrs. Edgar Brown. To be awarded to a student in any Level I programme for the most creative essay in a Level I English course.

Value: $100 (40046 248)

**THE CANADIAN INSTITUTE OF INTERNATIONAL AFFAIRS PRIZE**

Established in 1994 by the Canadian Institute of International Affairs (Hamilton Branch). To be awarded to a student who has completed Level I and at least 30 units of a programme 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 349)

**THE ELEANOR TURNER CARMENT PRIZE**

Established in 1995 by Eleanor Carment. To be awarded to a student entering Level IV of a combined Honours programme in Women's Studies who, in the judgment of the Committee of Instruction for Women's Studies, has demonstrated notable academic achievement and community involvement.

Value: $75 (40079 395)

**THE JAMES ROBERTSON CARRUTHERS MEMORIAL PRIZE**

Established in 1992 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 2H06 (United States History).

Value: $300 (40015 032)

**THE CITIZEN ACTION GROUP PRIZE**

Established in 1984 by the Citizen Action Group, Hamilton, to honour Professor James A. Penny, founding Director of the School of Social Work and Board Member of Citizen Action Group. To be awarded to the student in a programme in Social Work who submits an essay or report based on the student's field work experience that best addresses the needs for innovative or non-traditional social work practice.

Value: $210 (40006 031)

**THE COMPARATIVE LITERATURE PRIZE**

Established in 1998. To be awarded to a student in an Honours programme in Comparative Literature who, in the judgment of the Department of Modern Languages, has achieved notable standing in Level II courses in Comparative Literature.

Value: $225 (40008)

**THE CONSUL GENERAL OF ITALY BOOK PRIZE**

Established in 1982. To be awarded to in-course students for excellence in Italian studies.

Value: $400 (40010 041)

**THE BEATRICE CORRIGAN MEMORIAL BOOK PRIZE**

Established in 1990 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 Modern Languages, has achieved notable standing in Italian.

Value: $75 (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 are 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 2C03.

Value: (a) $150; (b) $100 (40011)

**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 34 years of service. To be awarded to a student who has completed Level I and at least 50 units of an Honours programme 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: $300 (30032 047)

**THE DRAMA BOOK PRIZE**

Established in 1974 by Professor Ronald W. Vince. To be awarded to the student who attains the highest standing in DRAMA 1A06.

Value: $400 (40014 052)

**THE ENVIRONMENTAL ISSUES PRIZE**

Established in 1993 by the Regional Municipality of Hamilton-Wentworth in recognition of the Hamilton-Wentworth Environmental Foundation.

Value: $100 (40070 341)
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 MATLS 305.
Value: $100 (400067 121)

THE FRENCH GOVERNMENT BOOK PRIZES
To be awarded from time to time to in-course students for proficiency in Level I French. (40017)

THE L. R. GENTILCORE PRIZE
Established in 1989 by the family and friends of Professor L. R. Gentilcore on the occasion of his retirement from the Department of Geography. To be awarded to a student in an Honours programme in the Department of Geography and Geology who, in the judgment of the School, has demonstrated exceptional achievement in historical-cultural geography.
Value: $400 (400062 064)

THE GERMAN EMBASSY BOOK PRIZE
To be awarded from time to time for in-course students for proficiency in Level II or III German. (40018)

THE GILMOUR MEMORIAL PRIZE*
Established in 1927 by Year '27, in memory of Dr. Joseph Leeming Gilmour, who, in the judgment of the School, has displayed outstanding achievement in RELIG. To be awarded to a student in an Honours programme in the Department of Modern Languages, religious studies, or philosophy who, in the judgment of the School of Art, Drama and Music, has displayed outstanding achievement.
Value: $50 (400026 014)

THE HUGHES SCHOLARSHIP
Established in 1993 by Heidie Dickensen-Hughes in memory of her husband Peter Hughes (Class of '69). To be awarded to a student who has completed Level I and 30-75 units of the Music Programme who, in the judgment of the School of Art, Drama and Music, has displayed outstanding achievement in Music Education.
Value: $225 (400069 320)

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 3Y03 or 4D06.
Value: $250 for books (400067 828)

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 3LLS.
Value: $200 (400080 394)

THE PAUL HYPER PRIZE
Established in 1988 in memory of Paul F. Hypher by his friends and classmates. To be awarded to the student in a programme in Commerce who attains the highest standing in COMMERCE 2MA3.
Value: $150 for books (400038 060)

THE INTER NATIONS (BONN) BOOK PRIZE*
To be awarded from time to time to in-course students for proficiency in German studies. (40024)

THE MUNICIPAL CHAPTER OF HAMILTON, IODE, PRIZE
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 (400036 081)

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 60 units of an Honours programme in the Department of Mathematics and Statistics, who in the judgment of the department has demonstrated achievement in MATH 3AA3.
Value: $400 (400021 311)

THE HERBERT M. JENKINS PRIZE
Established in 1990 as a tribute to Dr. Herbert M. Jenkins, first Director of the Arts and Science Programme, by his many friends, colleagues and students on the occasion of his retirement from McMaster University. To be awarded to a student in an Arts and Science Programme whose work, in the judgment of the Arts and Science Programme Awards and Review Committee, best reflects scholarship and the spirit of inquiry.
Value: $175 (300185 249)

THE JEAN JONES PRIZE*
Established in 1989 in recognition of the distinguished service of Professor Jones to the School of Social Work. To be awarded to the student who attains the highest grade in SOC WORK 2B03.
Value: $50 (400026 014)

THE KINESIOLOGY PRIZES
Established in 1989. Two prizes to be awarded to students who have completed the courses in Level III of the Kinesiology programme: (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, in the judgment of the Department of Kinesiology, has demonstrated outstanding improvement in academic standing throughout the programme.
Value: $50 each (400041)

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 1Z06.
Value: $100 (400031 096)

THE SAM LAWRENCE PRIZE*
Established in 1957 by the East Hamilton Independent Labour Party C.C.F. Club in honour of Sam Lawrence. 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: $150 (400048)

THE LINGUISTICS PRIZE*
Established in 1989. To be awarded to a student in an Honours programme in Modern Languages and Linguistics who, in the judgment of the Department of Modern Languages, has achieved notable standing in Level II courses in Linguistics.
Value: $225 (400032)

THE MacGIBBON SCHOLARSHIP*
Established in 1970 by bequest of Professor Duncan A. MacGibbon (Class of '08). To be awarded to the student in a programme in Economics who, in the judgment of the Department of Economics, stands highest in courses in economic history.
Value: $350 (400044 101)

THE WILLIAM MacKENZIE MEMORIAL 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: $200 (400053 312)

THE ELEANOR DORBUSH MARPLES PRIZE IN ART HISTORY*
Established in 1985 by Mrs. Barbara Niemierow and her family in memory of her sister. To be awarded to a student who, in the judgment of the School of Art, Drama and Music, has demonstrated outstanding achievement.
Value: $100 (400015 103)

THE ELEANOR DORBUSH MARPLES PRIZE IN DRAMA*
Established in 1987 by Vaughan W. Marples in memory of his wife. To be awarded to the student who attains the highest grade in DRAMA 2D06.
Value: $100 (400016 104)

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 2N06.
Value: $100 (400022)

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 programme in Nursing who, in the judg-
THE McMASTER NURSING ALUMNI PRIZE
Established in 1984 by the Nursing Chapter of the McMaster University Alumni Association. To be awarded to a student who has completed Level I and 70 to 85 units of the Nursing programme and who, in the judgment of the School of Nursing, has demonstrated leadership while participating in undergraduate activities.
Value: $200 and book (30107 111)

THE MEDICAL-SURGICAL EXCELLENCE IN CLINICAL NURSING AWARD
Established in 1998 by Professor Gerry Benson. To be awarded every two years to a student who has completed Level II of the Nursing Programme who, in the judgment of the School of Nursing, demonstrates academic excellence in medical-surgical nursing. Students who wish to be considered for this award should consult the School of Nursing for terms and conditions.
Value: $250 (40086 799)

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 MATHS 4C03.
Value: $100 (40087 195)

THE ELAINE NARDOCCHIO MEMORIAL SCHOLARSHIP FUND
Established in 1998 by family, colleagues, and friends in memory of Dr. Elaine Nardocchio, a professor for over 23 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 programme, who, in the judgment of the French Department, has shown a strong interest in computer skills as applied to the Humanities.
Value: $250 (30254 827)

THE NEOACID CERAMIC ENGINEERING PRIZE
Established in 1978 by Neosid (Canada) Limited. To be awarded to the student who has completed Level I and at least 75 units of the Ceramics Engineering Stream of the Materials Engineering programme and who attains the highest grade in MATHS 3B03.
Value: $50 (40037 122)

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 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 programme in Psychology who has attained the highest average in PSYCH 1A03 and 1AA3.
Value: $300 (40072 969)

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. Hans 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 endeavours and high academic achievement.
Value: $200 (40064 306)

THE DERRY NOVAK SCHOLARSHIP
Established in 1994 by the Political Science alumni and colleagues in honour of Professor Derry Novak. To be awarded to the student in a programme in Political Science 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: $350 (40012 125)

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 30 to 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: $375 (40009 265)

THE PIONEER GROUP LTD. PRIZE
Established in 1990. To be awarded to a student in a Gerontology programme who, in the judgment of the Gerontology Committee ofInstruction, has achieved notable academic standing, and demonstrates practical aptitude for a career in health care of the elderly.
Value: $400 (40056 270)

THE RAND MEMORIAL PRIZE OF CLASS '98
Established by the Class of '98 in Arts, on the occasion of the 25th anniversary of graduation, 1923, in memory of Chancellor Theodore Rand, to encourage original literary work. To be awarded to the student who has completed Level I and 60 to 75 units and, in the judgment of the Department of English, has made the most notable original contribution to student publications.
Value: $200 (40045)

THE ABRAHAM ROSENBERG MEMORIAL PRIZE
Established in 1986 by bequest of Abraham L. Rosenberg (Class of '34) of Hamilton and Kitchener. To be awarded to the student who attains the highest standing in ENGLISH 3B03 or SOCIOLOGY 2X03.
Value: $150 (40000 147)

THE MORRIS AND SARAH ROSENFELD MEMORIAL PRIZE
Established in 1986 by bequest of Sarah Rosenfeld of Hamilton. To be awarded to the student who attains the highest standing in ENGLISH 1D06.
Value: $150 (40033 152)

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 30-45 units of a programme in History who, in the judgment of the Department of History, attains notable academic standing in at least nine units of History courses.
Value: $150 for books (40076 359)

THE LARRY SAYERS PRIZE IN CHINESE HISTORY
Established in 1963 in memory of Larry P. Sayers (Class of '82) 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 Chinese history.
Value: $250 (40049 149)

THE REBECKAH SCHNURR AWARD
Established in 1998 by Rebeccah Schnurr to provide support to McMaster students. To be awarded to a student registered in a Bachelor of Commerce programme who, in the judgment of the Faculty of Business, has demonstrated outstanding academic achievement and leadership through community involvement.
Value: $500 (40084 793)

THE LARRY SEFTON SCHOLARSHIP
Established in 1985 by the Hamilton Steelworkers' Area Council in memory of Larry Sefton, area supervisor (1946-53) and director of District 6 (1953-73) 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 programme who, in the judgment of the Committee of Instruction for Labour Studies, have achieved notable standing in any level.
Value: $500 each (30098 151)

THE GRACE SENRA FONTES MEMORIAL PRIZE
Established in 1989 by the graduating class (Class of '89) in association with the McMaster University Nursing Society and the McMaster Nursing Students' Association in memory of Grace Senra-Fontes (Class of '89) of Toronto. To be awarded to a student who has completed Level I and 60 to 85 units of the Nursing programme and who, in the judgment of the School of Nursing, demonstrates leadership in extracurricular endeavours and high academic achievement.
Value: $250 (30091 249)

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 1AA3.
Value: $125 (40009 277)
### UNDERGRADUATE AWARDS — GRADUAND

#### THE SOCIAL WORK PRIZE
Established in 1982. To be awarded to the student who attains the highest grade in SOC WORK 2A06.  
Value: $50 (400652)

#### 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: $100 (40003)

#### THE STO PRIZE IN GERONTOLOGY
Established in 1987 by the Superannuated Teachers of Ontario, District 13. To be awarded to the student who attains the highest standing in GERONTOL 1A06.  
Value: $100 (40047163)

#### 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 area(s) of monetary economics and financial institutions and of public finance.  
Value: $100 (400029171)

#### 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 2C06.  
Value: $50 each (40035286)

#### THE CORELENE HELEN TOSTEVIN SCHOLARSHIPS
Established in 1989 by bequest of Corelone Tostevin. Three awards to be granted to students who are registered in a Post-RN Degree programme and who, in the judgment of the School of Nursing, have demonstrated notable academic achievement.  
Value: $250 each (40083791)

#### THE JOHN TOTH MEMORIAL PRIZE*
Established in 1983 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 (40028176)

#### 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: $300 (30061179)

#### 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 1986 to 1990. To be awarded to the student entering the final level of an Honours programme 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 (40068313)

#### THE RALPH WEEKES SCHOLARSHIP*
Established in 1984 by the Investors Group Financial Services to recognize the accomplishments of Ralph Weekes (Class of '79). To be awarded to a student enrolled in a programme 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: $300 (40073360)

#### THE WIDMAIER PRIZES FOR PROFICIENCY IN GERMAN
Established in 1990 by Dr. and Mrs. F. Widmaier. Two prizes to be awarded to students of GERMAN 1206 who, in the judgment of the Department of Modern Languages, have achieved notable proficiency in German.  
Value: $250 each (40004278)

#### 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, has written the best essay on a topic relating to English literature of the period 1650-1800.  
Value: $200 for books (40004772)

**NOTE:** An award name ending with an "*n" indicates that the award is open to both full-time and part-time second baccalaureate degree students.

### E. Awards for Graduating Students

The following awards are based on competition across the University or within a Faculty or programme.

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 programme.

2. In addition to meeting the general conditions listed in Section 1, 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 programme;
      ii) or, if the Calendar does not specify the programme work by individual levels, the final 30 units of work.

#### MEDALS

<table>
<thead>
<tr>
<th>MEDAL</th>
<th>DESCRIPTION</th>
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</thead>
<tbody>
<tr>
<td>THE GOVERNOR GENERAL'S ACADEMIC MEDAL</td>
<td>Given by His Excellency the Governor General of Canada. To be awarded to the student graduating from a first baccalaureate degree programme who, in the judgment of the selection committee, has attained the highest standing throughout the programme. (50022)</td>
</tr>
<tr>
<td>THE E.H. AMBROSE GOLD MEDAL</td>
<td>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 1957 to 1967 and its Chair, 1965 to 1967, and augmented by Mrs. E.H. Ambrose in 1987. To be awarded to the student in the graduating class of a programme in Commerce who, on the basis of scholarship and leadership, is judged to be the outstanding member of the class. (50014006)</td>
</tr>
<tr>
<td>THE ASSOCIATION OF PROFESSIONAL ENGINEERS GOLD MEDAL</td>
<td>Established in 1961 by the Ontario Professional Engineers Foundation for Education. To be awarded to the graduating student in Engineering who attains the highest Cumulative Average. (50005028)</td>
</tr>
<tr>
<td>THE BASU MEDAL</td>
<td>Established in 1984 in memory of Professor Sanjoy Basu by friends, colleagues and accounting organizations. To be awarded to the graduating student who, in the judgment of the School of Business, has displayed outstanding achievement in accounting and has attained an average of at least 10.0 in any four of COMMERCE 4A3, 4A3C, 4A3D, 4AE3, 4AF3. (50006013)</td>
</tr>
<tr>
<td>THE EJIO CAPPADOCIA MEDAL</td>
<td>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 programme in History who, in the judgment of the Department of History, has displayed outstanding achievement and has contributed to the Department's activities. (50018030)</td>
</tr>
</tbody>
</table>
THE J.E.L. GRAHAM MEDAL
Established by the Faculty of Social Sciences in 1982 in recognition of Professor J.E.L. Graham for his outstanding contributions to the Faculty and the University during 22 years of service. To be awarded on the recommendation of the Faculty of Social Sciences to a student in the graduating class who, on the basis of scholarship, is judged to be an outstanding member of the class of Social Sciences graduands, and who has completed the programme primarily on a part-time basis. (50029)

THE AMELIA HALL GOLD MEDAL
Established in 1980 by members of the Class of ‘80 in recognition of Amelia Hall (Class of ‘79), 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 Art, Drama and Music, has made a significant contribution to drama during the student’s University career. (50030)

THE HURD MEDAL
Established in 1965 by Donald W. Hurd (Class of ’49) in memory of his father, Dean William Burton Hurd. To be awarded to a student at graduation for distinguished achievement in an Honours programme in which economics is a major field of study. (50027)

THE JENSEN MEDAL
Established in 1995 by friends and colleagues as a tribute to Dr. Doris E.N. Jensen in recognition of her contribution in developing Cooperative Education Programmes 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) Programme who, in the judgment of the Committee of Instruction, demonstrates outstanding academic achievement and excellence in co-op placements. (50075)

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 programme in Computer Science who attains the highest Cumulative Average. (50069)

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 R.C. McIVOR MEDAL
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 graduating in the class who, on the basis of scholarship, is judged to be the outstanding member of the class of Social Sciences graduands. (50043)

◆ RING

THE BURKE MEMORIAL RING
Presented by science graduates of the University in memory of Dean C.E. Burke. To be awarded to a graduate of a B.Sc. programme who is named to the Deans’ Honour List and who has made the most outstanding contribution to undergraduate activities. (50007)

◆ SCHOLARSHIPS AND PRIZES

THE CAMERON D. ALLEN BOOK PRIZE
Established in 1978 in memory of Cameron D. Allen. To be awarded to a student graduating from an Honours programme in Geography who, in the judgment of the School of Geography and Geology, shows outstanding achievement in studies in climatology. Value: $150 for books (50009)

THE AMBASSADOR OF SPAIN BOOK PRIZE
Established in 1982. To be awarded to a graduating student in a programme in the Department of Languages who, in the judgment of the Department, has displayed notable proficiency in Spanish. (50002)

THE ANTHROPOLOGY PRIZE
Established in 1982. To be awarded to the graduating student who has completed a programme in Anthropology primarily on a part-time basis and who, in the judgment of the Department of Anthropology, has demonstrated outstanding academic achievement. Value: $50 (50004)

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 graduating student in History who, in the judgment of the Department of History, has displayed outstanding achievement in an Honours History programme. Value: $200 (50050)

THE MARION BATES BOOK PRIZE
Established in 1967, Centennial Year, by the Alumnae members of the McMaster Association of University Women in honour of Marion Bates, Dean of Women from 1947 to 1985. To be awarded to a student graduating from an Honours programme in History who, in the judgment of the Department of History, has displayed outstanding achievement in Canadian history courses consistently throughout the degree programme. Value: $50 for books (50003)

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 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. programme in Psychology; (b) one to the student who attains the highest Cumulative Average in the Honours B.Sc. programme in Psychology; (c) one to the student who attains the highest Cumulative Average in the Honours Biology and Psychology (Life Sciences) programme. Value: (a) $75; (b) $75; (c) $75 (50000)

THE RUTH BURKE MEMORIAL PRIZE
Established in 1963 by Dr. and Mrs. Herbert S. Armstrong in memory of Mrs. Charles E. Burke. To be awarded to the student in the Nursing programme who attains the highest Cumulative Average. The Prize is a set of engraved sterling silver coffee spoons. (50047)

THE CERTIFIED GENERAL ACCOUNTANTS ASSOCIATION PRIZE
Established in 1982 by the Certified General Accountants Association of Ontario. To be awarded to the graduating student who, in the judgment of the School of Business, has displayed outstanding achievement in accounting and has attained an average of at least 10.0 in COMMERCE 2A83, 3A83, 3AC3 and 3AA3. Value: $150 (50012)

THE CFUW (HAMILTON) MEMORIAL PRIZE IN WOMEN’S STUDIES
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 programme 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 programme. Value: $175 and book ends (50062)

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 graduating and, 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: $225 (50013)

THE CSEP/SCPE UNDERGRADUATE STUDENT AWARD
Established in 1999 by the Canadian Society for Exercise Physiology. To be awarded to the student from the Kinesiology programme who, in the judgment of the Department of Kinesiology, shows high standing in KINESIO 2C06 (Physiology of Exercise) and either KINESIO 4C03 or 4C06. Value: Medal and Certificate (50008)

THE LAURA DODSON PRIZE
Established in 1985 by Laura Dodson (Class of ’56). To be awarded to the student graduating from the Honours Arts and Science programme who has displayed outstanding achievement in both arts and science. Value: $150 (50031)

THE HELEN EMERY PRIZE IN ENVIRONMENTAL SCIENCE
Established in 1990 by Miss Helen Emery of Barrie, Ontario. To be awarded to a student graduating from the Honours Geography and Environmental Sciences or the Honours Environmental Science programme who has displayed outstanding achievement. Value: $250 (50053)

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 programme in History who, in the judgment of the Department of History, has displayed outstanding achievement in European history courses consistently throughout the degree programme. Value: $100 (50017)

THE BARNS MEMORIAL PRIZE
Established in 1990 by the McMaster Alumni Association in honour of Marion Bates, Dean of Women from 1947 to 1985. To be awarded to a student graduating from an Honours programme in History who, in the judgment of the Department of History, has displayed outstanding achievement in Canadian history courses consistently throughout the degree programme. Value: $200 (50050)

THE AMBASSADOR OF SPAIN PRIZE
Established in 1982. To be awarded to a graduating student in a programme in the Department of Languages who, in the judgment of the Department, has achieved notable proficiency in Spanish. (50002)

THE HURD MEDAL
Established in 1965 by Donald W. Hurd (Class of ’49) in memory of his father, Dean William Burton Hurd. To be awarded to a student at graduation for distinguished achievement in an Honours programme in which economics is a major field of study. (50027)

THE JENSEN MEDAL
Established in 1995 by friends and colleagues as a tribute to Dr. Doris E.N. Jensen in recognition of her contribution in developing Cooperative Education Programmes 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) Programme who, in the judgment of the Committee of Instruction, demonstrates outstanding academic achievement and excellence in co-op placements. (50075)

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 programme in Computer Science who attains the highest Cumulative Average. (50069)

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 R.C. McIVOR MEDAL
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 graduating in the class who, on the basis of scholarship, is judged to be the outstanding member of the class of Social Sciences graduands. (50043)
THE GERONTOLOGY PRIZES
Established in 1988 by the Pioneer Group Limited. Two prizes to be awarded (a) one to a full-time student and (b) one to a part-time student, both of whom are graduating from a programme in Gerontology who, in the judgment of the Gerontology Committee of Instruction, have demonstrated high academic achievement and leadership in extracurricular activities.
Value: $100 each (50021 086)

THE IROQUOIS TROPHY
Established in 1970 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. (50028)

THE BURTON R. JAMES MEMORIAL PRIZE
Established in 1974 by his friends and colleagues in honour of Burton R. James (Class of '39), Controller, 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 programme in Commerce.
Value: $150 (50008)

THE W. NORMAN JEEVES SCHOLARSHIP
Established in 1987 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 graduand of an Honours programme in French who, in the judgment of the Department of French, has demonstrated outstanding academic achievement in the French component of the programme.
Value: $400 (50052 068)

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 programme in Sociology.
Value: $50 (50020)

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: $50 (50058)

THE RUTH LANDES PRIZE
Established in 1982 in honour of Professor Ruth Lanodes for her outstanding contributions to the Department of Anthropology. To be awarded to the graduating full-time student in a three-level programme in Anthropology who, in the judgment of the Department of Anthropology, has demonstrated outstanding academic achievement.
Value: $50 (50048)

THE FELIKS LITKOWSKI 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 programme in Political Science who, in the judgment of the Department of Political Science, has demonstrated outstanding academic achievement.
Value: $400 (50032 100)

THE BERT MacKINNON MEMORIAL SCHOLARSHIP
Established in 1986 in memory of Bert MacKinnon, B.A. (Class of '43), LL.D. (Class of '77), first Associate Chief Justice of Ontario (1978 to 1986). One or two scholarships to be awarded to graduating students who enrol in a Bachelor of Laws degree programme in the academic session immediately following graduation. Students selected will have demonstrated high academic achievement and leadership in extracurricular activities. Applications and the name of two referees should be submitted to the Office of Student Financial Aid and Scholarships by the first Friday in April.
Value: $700 each (50061 298)

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 programme in English who has attained the most notable standing in English throughout the degree programme.
Value: $150 (50001)

THE CATHERINE MacNEILL PRIZE
Established in 1948 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: $150 (50011)

THE ESTHER McCANDLES MEMORIAL PRIZE
Established in 1984 by friends and colleagues in memory of Professor E.L. McCandless, a humanist 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 programme in Biology.
Value: $225 (50016)

THE JOHN R. MCCARTHY SCHOLARSHIP
Established in 1987 by John R. McCarthy LL.D. (Class of '85), 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 programme in Arts and Science, Humanities, Science, or Social Sciences who enrols in the Faculty of Education at 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 endeavours. Applications and the name of two referees should be submitted to the Office of Student Financial Aid and Scholarships by April 2.
Value: $700 (50030 107)

THE A.G. McKay PRIZE IN CLASSICAL STUDIES
Established in 1980 by Professor Emeritus A.G. McKay. To be awarded to a graduating student from an Honours programme in Classics who, in the judgment of the Department of Classics, has demonstrated outstanding academic achievement and leadership.
Value: $100 (50064 269)

THE WALTER SCOTT McLAY PRIZE
Established in 1958 in honour of Dean McLay, by his daughter, Mrs. R.R. McLaughan (Marjorie McLay 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 programme in English.
Value: $250 (50057 279)

THE E.S. MOORE PRIZE IN GEOLOGY
Established in 1956 by Elwood S. Moore, LL.D. (Class of '55). To be awarded to the student graduating in an Honours programme in Geology who, in the judgment of the School of Geography and Geology, has attained the most notable standing in Geo.
Value: $150 (50015 116)

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 graduand, who, in the judgment of the Department of Materials Science and Engineering, has submitted an outstanding thesis in the area of Corrosion Science and Engineering.
Value: $100 (50036 120)

THE P.L. NEWBIGGING PRIZES
Established in 1982 in recognition of Dr. Lynn Newbigging for his outstanding contributions to the Department of Psychology. 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. programme in Psychology; (b) one to a student in a B.A. programme in Psychology who has completed the programme primarily on a part-time basis; (c) one to a full-time student in the three-level B.Sc. programme in Life Sciences with a concentration in Psychology; and (d) one to a student in a B.Sc. programme in Life Sciences with a concentration in Psychology who has completed the programme primarily on a part-time basis.
Value: $50 each (50040 280)

THE ONTARIO ASSOCIATION OF PROFESSIONAL SOCIAL WORKERS PRIZE
Established in 1986 by the Hamilton Branch. To be awarded to the graduating student who successfully completes SOC WORK 406D and attains the highest grade in SOC WORK 406D in the same session.
Value: $125 (50037 126)

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 programme.
Value: $50 (50023)

THE PIONEER GROUP PRIZE 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 programme 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 370)
THE UNDERGRADUATE AWARDS — SECOND DEGREE

THE POLITICAL SCIENCE PRIZE
Established in 1982. To be awarded to a graduating student who has completed a programme 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 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 achievement in POL SCI 4206.

Value: $50 (50059)

THE LLOYD REEDS PRIZES
Established in 1982 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. programme in Geography; (b) one to the student who attains the highest Cumulative Average in an Honours B.Sc. programme in Geography; (c) one to the student who attains the highest Cumulative Average in a three-level B.A. programme in Geography or a B.Sc. programme in Geoscience (formerly Earth Sciences) with a concentration in Geo; and (d) one to the student who, in the judgment of the School of Geography and Geology, has demonstrated outstanding achievement in GEO 4R06 (formerly GEOG 4C06).

Value: $50 each (50033)

THE RELIGIOUS STUDIES PRIZES
Established in 1982. Two prizes to be awarded to students who attain the highest Cumulative Average within a three- or four-level programme in Religious Studies: (a) one to a student who has completed the programme on a full-time basis, and (b) one to a student who has completed the programme primarily on a part-time basis.

Value: $50 each (50045)

THE RELIGIOUS STUDIES HONOURS ESSAY PRIZE
Established in 1982. To be awarded to the student who, in the judgment of the Department of Religious Studies, has demonstrated outstanding achievement in RELIG ST 4J06.

Value: $50 (50044)

THE SHELL CANADA PRIZES IN ENGINEERING AND MANAGEMENT
Established in 1983. Three prizes to be awarded to students graduating from an Engineering and Management programme. Awards will be based on scholarship and on the quality of and creativity shown in written communication.

Value: $25 each (50049, 154)

THE RICHARD SLOBODIN PRIZE
Established in 1982 in honour of Professor Richard Slobodin for his outstanding contributions to the Department of Anthropology. To be awarded to the graduating full-time student in an Honours Anthropology programme who, in the judgment of the Department, has demonstrated outstanding academic achievement.

Value: $50 (50046)

THE SOCIETY OF CHEMICAL INDUSTRY MERIT AWARDS
Established in 1961. Three plaques to be awarded: (a) one to a Chemical Engineering graduand, (b) one to an Honours Biochemistry or Honours Biochemistry and Chemistry graduand, and (c) one to an Honours Applied Chemistry, Honours Chemistry or Honours Chemistry and Physics graduand, who have attained the highest Cumulative Average (at least 9.5) and have completed the programme in the normal number of years. (50060 369)

THE SOCIOLOGY PRIZES
Established in 1982. Two prizes to be awarded to students with the highest Cumulative Averages: (a) one to a student who has completed the three-level programme in Sociology on a full-time basis; and (b) one to a student who has completed a programme in Sociology primarily on a part-time basis.

Value: $50 each (50051)

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 based on achievement in HISTORY 4Q06 or 4Q07.

Value: $300 (50067 367)

THE HARRY WAISGLASS BOOK PRIZE
Established in 1988 in honour of Harry Waisglass, the first Director of the Labour Studies Education Programme at McMaster. To be awarded to a student graduating from a programme in Labour Studies who, in the judgment of the Committee of Instruction for Labour Studies, has demonstrated outstanding achievement.

Value: $50 (50024)

THE MARK WATSON MEMORIAL PRIZE IN HISTORY
Established in 1987 by friends in the Department of History in memory of Mark A. Watson (Class of '86). To be awarded to a student graduating from a three-level programme in History who, in the judgment of the Department of History, has displayed outstanding achievement consistently throughout the degree programme.

Value: $100 (50035 183)

F. Awards for Second Baccalaureate Degree Students

The following awards are granted based on competition across the University or within a Faculty or programme.

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 listed in Section 1, 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.

THE CANADIAN ASSOCIATION OF OCCUPATIONAL THERAPISTS BOOK PRIZE
Established in 1992 by the Canadian Association of Occupational Therapists. To be awarded to any graduating student who, in the judgment of the School of Rehabilitation Science, is most outstanding in the theory component of the Occupational Therapy programme.

Value: $60 (50078 770)

THE FIELDWORK PRIZE
Established originally at Mohawk College as the Muriel Westmorland Prize, and transferred to McMaster University in 1953. To be awarded to a graduating student who, in the judgment of the School of Rehabilitation Science, demonstrates excellence in clinical fieldwork throughout the Occupational Therapy programme.

Value: $60 (50065 316)

THE HAMILTON DISTRICT ONTARIO PHYSIOTHERAPY ASSOCIATION BOOK PRIZE
Established by the Hamilton District of the Ontario Physiotherapy Association. To be awarded to a graduating student who is active in the OPA/CPA and who, in the judgment of the selection committee, contributes to the involvement of others in the OPA/CPA, while maintaining a good academic standing.

Value: $100 (50074 362)

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 graduating student from a programme in Gerontology who, in the judgment of the Gerontology Committee of Instruction, has demonstrated high academic achievement and leadership in community activities.

Value: $100 (50064 317)

THE ELEANOR LEES BOOK PRIZE
Established in 1994 in memory of Eleanor Lees by friends in Physiotherapy. To be awarded to a student graduating from the Physiotherapy programme who, in the judgment of the School of Rehabilitation Science, has demonstrated notable academic achievement and excellence in clinical fieldwork related to neurology. (50073 354)

THE ONTARIO ASSOCIATION OF PROFESSIONAL SOCIAL WORKERS PRIZE
Established in 1982 by the Hamilton Branch. To be awarded to the graduating student from the second baccalaureate degree programme in Social Work who has attained the highest average in SOC WORK 4D06 and 4D08.

Value: $125 (The above award is offered in addition to the award in Category E with the same name and terms.)

THE PHYSIOTHERAPY SECTION OF THE CANADIAN LUNG ASSOCIATION BOOK PRIZE
Established in 1992 by the Canadian Physiotherapy Cardio-Respiratory Society. To be awarded to a graduating Physiotherapy student who, in the judgment of the School of Rehabilitation Science, has demonstrated notable academic achievement and excellence in clinical fieldwork related to cardio-respiratory physiotherapy.

Value: $150 (50063 315)
THE SMITH AND NEPHEW INC. PHYSICAL HEALTH AWARD
Established in 1991. To be awarded to an Occupational Therapy student who, in the judgment of the School of Rehabilitation Science, has demonstrated outstanding academic achievement and excellence in clinical fieldwork related to adult physical health.
Value: $75 (40066 307)

THE SMITH AND NEPHEW PROFESSIONAL ADVANCEMENT AWARD
Established in 1994. To be awarded to a graduating student in Occupational Therapy who, in the judgment of the School of Rehabilitation Science, has shown the most promise in the advancement of the profession of Occupational Therapy by his/her innovative and creative contributions as well as academic performance.
Value: $500 (50080 771)

THE CORELENNE HELEN TOSTEVIN SECOND DEGREE SCHOLARSHIPS
Established in 1996 by bequest of Corelene Tostevin. Two awards to be granted to students who are registered in a second degree Nursing programme and who, in the judgment of the School of Nursing, have demonstrated notable academic achievement.
Value: $250 each (50079 792)

SECTION 3. INDEX OF AWARDS

Legend

B Business
E Engineering
H Humanities
S Science
SS Social Sciences

N Nursing
AS Arts & Science Programme
HS Health Sciences
U University-wide
OT/PT Occupational Therapy/Physiotherapy

Index

Aaron Prize (H) .................................................. 282
Achievement Award of Excellence for Students with Disabilities (U) ........................................ 302
ACI (Ontario Chapter) Scholarship (E) .......................... 282
A.G. Alexander Scholarships (H) ................................ 301
W.K. Allan Memorial Scholarship (S) ........................... 292
Garnet Burke Memorial Ring (U) ................................ 289
Alumni Association Scholarships (U) .................................. 289
Alumni Association Scholarships (Part-time) (U) .......................................................... 301
Alumni Canadian Geography Prize (U) .................................. 302
Alumni Social Work Prize (SS) ........................................ 302
Ambassador of Spain Book Prizes (H) ........................................ 282
E.H. Ambrose Gold Medal (B) ........................................ 305
American Standard Prize in Industry (U) ......................... 305
Amoco Canada Undergraduate Scholarship (H) .......... 282
Andersen Consulting Scholarship (E,S,B) ................. 289
Andrew Foundation - McMaster Scholarships (U) .......... 289
Anthropology Prize (SS) ................................................. 305
Herbert M. Armstrong Memorial Fund (U) ...................... 282
Arts & Science Programme Book Award (AS) .......................... 302
Edgar R. Ashall Scholarship (U) ........................................ 300
Ashbaugh Scholarships (U) ................................................. 288
ASM International (Ontario Chapter) Scholarship (E,S) .... 282
Association of Professional Engineers Gold Medal (E) ........ 305
Association of Professional Engineers Scholarship (E) .... 289
Association of Professional Engineers Undergraduate Scholarships (E) ........................................ 289
A.H. Atkinson Education Fund - McMaster Scholarship (E) .... 289
A.H. Atkinson Prize (E) .................................................. 282
Gordon R. Baker, Q. C. - McMaster Scholarships (U) ........ 289
Charles Murray Ball Entrance Scholarship (U) .................. 289
Murray Ball Entrance Scholarship in Earth Sciences (S) .... 288
Murray Ball Prizes in Geology (S) ........................................ 302
Murray Ball Scholarships in Geology (S) ......................... 302
M. Banker Bates Scholarship (B) ........................................ 289
J. Douglas Bankier Memorial Scholarship (S) ................. 289
William and Lida Barns Memorial Prize in History (H) .... 305
Scott Bartlett Memorial Prize (B) ........................................ 282
Basu Medal (S) ......................................................... 305
Marion Bates Book Prize (H) ............................................. 305
Bates Residence Scholarship (U) ........................................ 300
Arnold A. Beale - McMaster Scholarships (U) ................. 289
Beale - Lincoln - Hall Travel Scholarship (U) .................... 301

UNDERGRADUATE AWARDS — INDEX 309

Beauty Counselors of Canada Scholarship (S) .................. 292
H. G. Bertram Foundation - McMaster Scholarships (U) 289
Louise E. Bettgar Scholarships in Music (H) ..................... 293
Beatrice Bickell Memorial Scholarship (B) ......................... 289
J. P. Bickell Scholarships (E,S) ....................................... 293
Abe Black Memorial Prize (Essay) (S, SS) ....................... 302
Abe Black Memorial Prizes (S, SS) .................................... 302
Brian Blakey Memorial Scholarship (H) ......................... 293
Hilda Borman Scholarship (H) ........................................ 293
Frances Bowling Entrance Scholarships (H) ..................... 292
Frances Bowling Scholarships (U) .................................... 292
Brien Scholarship in Philosophy (H) ................................. 293
Josephine Staples Brien Scholarship (U) ......................... 293
Dr. and Mrs. F.R. Britton Scholarship in Mathematics (S) .... 293
Ten Broeck-Bensen Memorial Scholarship (H) .................. 293
Ed Buffet - McMaster Scholarship (U) ............................. 290
Jodie Ann Bull - McMaster Scholarship (U) ....................... 290
Burke Memorial Ring (S) ................................................. 290
Ruth Burke Memorial Prize (N) ....................................... 306
Crapin Calvo Prize (S) .................................................. 293
Betty Taylor Campbell Scholarship (SS) ................. 302
Ella Halsted Campbell Prize (H) .............................. 293
Canada Trust Company - McMaster Scholarship (U) ....... 300
Canadian Association of Occupational Therapists Book Prize (OT/PT) ........................................ 308
Canadian Friends of the Hebrew University - McMaster Scholarship (U) ......................... 290
Canadian Institute of International Affairs Prize (AS, H, SS) .... 308
Canadian Society For Chemical Engineering Prize (E) .... 293
Canadian Society For Chemistry Prizes (S) .................. 293
Canadian Society of Civil Engineers (Hamilton Section) Prize (E) ........................................ 293
Eziel Cappelocia Medal (H) ............................................. 305
Eleanor Turner Carment Prize (SS) .................................. 302
James Robertson Carruthers Memorial Prize (U) ............. 302
Norman N. Caskey Memorial Prize (H) ......................... 293
Certified General Accountants Association Prize (E) .... 293
Certified General Accountants Association Prize (B) .... 293
Coca Cola Foundation Past President's Day (E) .................. 293
CFUW (Hamilton) Memorial Prize in Women's Studies (U) .... 293
CFUW Ruby Brown Book Prize in English (U) ................ 302
CFUW (Hamilton) Scholarship (U) .................................. 293
Chancellors Scholarships (U) ........................................ 289
Chancellors' Scholarships (Specified LevelI) .................. 289
Chancellors' Gold Medal (U) .......................................... 292
Chancellors Scholarship (U) ........................................... 292
Chemical Institute of Canada (Hamilton Section) Prizes (E,S) .... 293
Citizen Action Group Prize (SS) .............................. 294
Hugh Clark Scholarship (SS) .......................................... 294
Class of 37 Scholarship (H,S) ........................................ 304
Class of 37 Travel Scholarship in Arts and Science (AS) .... 301
Class of 43 Golden Anniversary Scholarship (H) ......... 294
Class of 44 Scholarship (U) ............................................. 304
Class of 50 Scholarship in Honours Economics (SS) ....... 294
Classics Prize (H) ......................................................... 294
Coca - Cola Merit Awards (U) ........................................ 288
Coca - Cola Scholarship (U) ........................................... 280
Dentons Coates Memorial Scholarship (E,S) ................... 300
Comparative Literature Prize (H) ................................. 320
Consil India Book Prize (H) ............................................. 300
Consulting Engineers of Ontario (CEO) Scholarship (E) ........ 294
Consumers Glass Scholarship (E) ................................... 294
Beatrice Corrigan Memorial Book Prize (U) .................... 302
Geraldine Loretta Cosford - McMaster Scholarship (U) .... 290
Cranson Prize (H) ....................................................... 320
CRS Robotics Corporation - McMaster Scholarships (U) .... 290
CSG Undergraduate Research Award (SS) .......................... 293
Helen M. Currey Scholarship (U) .................................... 290
Edwin Marvin Dalley Memorial Scholarships (U) .......... 300
Daughters of the Empire (Hamilton) - McMaster Scholarships (U) ........................................ 290
D. M. Davies Prize (S) .................................................. 302
Dr. Rudolf de Buda Scholarship (E) ............................... 294
John Deere Limited Scholarship (S) ............................ 294
DeVillers-Mahayra Merit Awards (U, S, H) .................. 296
Deloitte & Touche Scholarship (B) ............................... 294
Audrey Dimeart Memorial Book Prize (H) ..................... 301
Laura Dodsone Prize (AS) ............................................. 306
Dofasco - McMaster Scholarship (U) ........................................ 290
Dofasco Scholarships (E) ....................................................... 290
Rosemary Douglas-Mercer Memorial Prize (H) .................. 290
Hedden Hall Residence Scholarship (U) ............................................ 283
Horace A. Dulmage Prize in Philosophy (H) .......................... 294
Joan Jackson Dunbar Travel Scholarship (H) ......................... 301
Dundas Scholarships (U) .......................................................... 300
Education Foundation of the Federation of Chinese Canadian Professionals of Ontario Scholarships (AS, E, S) .................. 300
Edwards Hall Residence Scholarship (U) ........................................ 288
George and Nora Etwin Scholarships (U) ................................. 288
Helen Emery Entrance Scholarship for Environmental Science (S) ........................................ 288
Helen Emery Scholarships in Environmental Science (S) .... 294
Helen Emery Prize in Environmental Science (S) ....... 306
Energyday Scholarship (H) ....................................................... 294
Enviromental Issues Prize (S, SS) ........................................... 302
Ernest & Young - McMaster Scholarship (U) .................. 280
Ernest & Young Scholarship (B) ................................................. 308
L.F. Eull Prize (E) ................................................................. 289
European History Prize (H) ....................................................... 306
John P. Evans Travel Scholarship (H) ........................................ 301
Eileen Gray Farley Scholarship (H) ........................................... 288
Eileen Gray Farley - McMaster Scholarship (H) ......................... 290
Fieldwork Prize (OT/PT) ......................................................... 306
Neil Forsey Prize (E) ............................................................... 295
Fortinos Scholarship (B) .......................................................... 289
Barbara Francis Scholarship (AS) ............................................. 294
Harold and Gertrude Freeman Scholarship in French (H) .... 294
French Government Book Prizes (H) ......................................... 303
H.P. Frid Scholarship (U) .......................................................... 295
Klaus Fritzke Memorial Prize (S) .............................................. 294
Merrill Francis Gage Entrance Scholarship (H) ....................... 289
Merrill Francis Gage Scholarship (H) ......................................... 294
Gemmum Corporation - McMaster University Scholarship (U) .... 290
R. Louis Gentilcore Prize (S, SS) ............................................. 303
Gwen George Award (U) .......................................................... 295
German Embassy Book Prize (H) .............................................. 303
Gerontology Prizes (SS) ........................................................... 294
J.L.W. Gill Prizes (S) .............................................................. 295
Gilmour Memorial Prize (U) ..................................................... 303
George P. Gilmour Memorial Scholarship (AS) .................... 295
Allen and Milli Gould Family Foundation - McMaster Scholarship (B) ........................................ 290
Governor's Academic Medal (U) .............................................. 290
Governors' Scholarships (U) ................................................... 289
Daphne Ethington Graham Memorial Scholarship in English (H) ........................................ 295
Daphne Ethington Graham Memorial Scholarship in History (H) ........................................ 295
J.E.L. Graham Medal (SS) ....................................................... 306
Greek Community of Burlington and District Scholarship (U) ... 303
H.S. Greening Book Prize (H) ............................................... 295
Guardian Capital Inc. - McMaster Scholarship (U) .................. 289
Asmahan Hafaz Memorial Scholarship (S) .......................... 289
Amelia Hall Gold Medal (H) ..................................................... 306
Ruth and Jack Hall Prize (E, S) .............................................. 295
Ronald K. Ham Memorial Prize (E, S) ..................................... 295
Hamilton Chemical Association Prize (S) ...................................... 295
Hamilton Community Foundation - McMaster Scholarships (U) ........................................ 290
Hamiton District Ontario Physiotherapy Association Book Prize (OT/PT) ........................................ 295
Hamilton Economic Development Commission Scholarships (B) ........................................ 295
Hamilton Engineering Institute Prize (E) .................................... 293
Hamilton Harbour Commissioners' Scholarship .................. 295
Hamilton Industrial Scholarships (U) ........................................ 290
Donald HarT Scholarship (B) .................................................... 295
Hawkridge - McMaster Scholarship (SS) ...................................... 288
Hedden Hall Residence Scholarship (U) ...................................... 300
Helicon Prize (H) ................................................................. 295
Anna Marie Hibbard Scholarship (U) ........................................ 295
Rose Hill Scholarship (SS) ....................................................... 288
Dr. Thomas Hobley Prize (SS) .................................................... 295
John Hodges Memorial Scholarship (E) ........................................ 290
Nettie F. Hulme Scholarship (E) .............................................. 290
Dr. Harry Lyman Hooker Entrance Scholarships (E) ........................................ 288
Dr. Harry Lyman Hooker Scholarships (U) ...................................... 288
Bertram Omer Hooper Scholarship (B, H, SS) .................. 300
Nina Louise Hooper Scholarship (U) ........................................ 300
Hughes Scholarship (H) ......................................................... 303
Human Rights Award (SS) ...................................................... 294
Hutchinson Medal for Spelling Achievement (H) ................... 295
William D.G. Hunter Prize (SS) ............................................. 303
Hurd Medal (SS) ................................................................. 306
Paul Hyphen Prize (B) ............................................................. 303
Municipal Chapter of Hamilton, IODE, Prize (U) ............... 303
Amelia Morden, Paardeberg Chapter, IODE, Scholarship (U) ........................................ 290
Institute of Electrical and Electronics Engineers (Hamilton Student Prize) ...................................... 295
Intermetco Limited Scholarship (E) ........................................... 295
Inter Nations (Bonn) Book Prize (H) ....................................... 303
Inter-Residence Council Scholarship (U) ...................................... 296
Iroquois Trophy (E) ............................................................... 307
ITCA Community Involvement Prize (H) ...................................... 296
Ivey Scholarship (H) .............................................................. 290
H. L. Jackson Memorial Scholarship (S) ...................................... 303
Burton R. James Memorial Prize (E) ............................................. 307
W. Norman Jeeves Scholarship (H) ........................................... 307
Herbert M. Jenkins Prize (AS) .................................................. 303
Jensen Medal (S) ................................................................. 306
A.L. Johnson Scholarship (E) ................................................... 296
Kathleen Mary Johnson Memorial Prizes (SS) .............................. 306
Frank E. Jones Prize (SS) ......................................................... 307
Jean Jones Prize (SS) ............................................................. 303
Jury Prize (H) ................................................................. 296
Cathryn E. Kaske Merit Award (U) ............................................ 288
Stanford N. Katamba Geology Prize (S) ...................................... 296
Muriel McBrien Kauffman Foundation - McMaster Scholarships (U) ........................................ 290
Gerald L. Keech Medal (S) ....................................................... 306
Robert A. Kennedy Scholarship (B) ........................................... 296
Robert A. Kennedy - McMaster Scholarship (U) .......................... 290
George F. and Leatha M. Keys Scholarships (S) ......................... 296
Kari Kinanen Alumni Prize in Gerontology (SS) ...................... 308
Kinesiology Prizes (SS) .......................................................... 303
Kinesiology Prize (SS) .......................................................... 307
Kinesiology Prize (H) ............................................................ 307
Kit Memorial Scholarship (H) .................................................. 296
KPMG - McMaster Scholarship (B) ........................................... 290
KPMG Scholarship (B) ........................................................... 290
J. Beverly Krugel - McMaster Scholarship (U) ......................... 290
Raymond C. Labarge Merit Awards (U) ...................................... 290
Laidlaw - McMaster Scholarships (U) ...................................... 291
Ruth Landes Prize (SS) ......................................................... 307
Latin Prize (U) ................................................................. 290
Gary Laubten Memorial Scholarship (U) ...................................... 296
Howard O. Lawrence Scholarship (E) ........................................ 296
Lawrence Scholarships (SS) ..................................................... 296
Sam Lawrence Prize (SS) ......................................................... 303
Ray Lawson Scholarships (E) .................................................. 296
Eleanor Lees Book Prize (OT/PT) ............................................. 308
Lincluden Management - McMaster Scholarship (U) ............. 296
Linguistics Prize (H) .............................................................. 303
Claude C. Lister Scholarship (B) ................................................ 300
Feliks Litkowski Prize in Political Science (SS) ...................... 295
Lloyd Memorial Scholarship (U) .............................................. 291
Edward and Margaret Lyons - McMaster Scholarships (H) ........ 291
MacGibbon Scholarship (SS) .................................................. 303
Bert MacKinnon Memorial Scholarship (U) .............................. 307
William Mackenzie Memorial Prize (SS) .................................... 303
Alec MacLachlan Memorial Scholarship (E) ............................ 295
Benjamin MacMillan Prize (SS) ............................................ 296
Agnes and John MacNeill Memorial Prize (H) ......................... 307
Catherine MacNeill Prize (U) ................................................... 307
Josephine Magee Scholarship (U) ............................................. 289
MacKee - McMaster Scholarship (U) ........................................ 291
MAPS Gold Medal (U) ............................................................ 306
Liang Minu Scholarship (SS) .................................................... 290
Eleanor Dombush Marples Prize in Art History (H) .................. 303
Eleanor Dombush Marples Prize in Drama (H) ...................... 303
Ronald E. Materick Scholarship (E) ........................................... 297
Matthews Hall Residence Scholarship (U) ...................................... 300
Albert Matthews Scholarship (U) ........................................... 291
Harold Matthews Memorial Scholarship (U) ............................. 291
Linda Matthews - McMaster Scholarship (U) ............................. 291
Helen and John Maxwell - McMaster Scholarship (U) ............. 291
Neil McArthur - McMaster Scholarship (U) ............................. 291
UNDERGRADUATE AWARDS — INDEX

William J. McCa1lton Scholarships (Part-time) (U) .................................................. 301
Esther McCandless Memorial Prize (S) ........................................................................... 307
John R. McCarthy Scholarship (AS, H, SS) ................................................................. 297
H.W. McCreary Prize in British History (H) ................................................................. 303
McGregor-Smith-Burr Memorial Scholarship (H) ......................................................... 297
R.C. Mclvor Medal (SS) .................................................................................................. 306
McKay Hall Residence Scholarship (U) ........................................................................ 300
A.G. McKay Prize in Classics Studies (H) ...................................................................... 307
Alexandrea McNichol Memorial Scholarship (H) .......................................................... 304
Janet McKnight Award (N) ............................................................................................ 303
Boyd McLay Scholarship in Physics (S) ......................................................................... 297
Walter Scott McLay Scholarship (H) .............................................................................. 297
Howard and Janet McLean - McMaster Scholarship (U) .............................................. 291
McMaster Alumni Association - McMaster Scholarships (U) ....................................... 291
McMaster Humanities Society Scholarship (H) ............................................................ 297
McMaster Merit Awards (U) .......................................................................................... 286
McMaster Nursing Alumni Prize (N) ............................................................................. 304
McMaster Scholars (Faculty/Programme Specific) (U) ................................................... 288
McMaster University Retirees' Association Scholarship (SS) ...................................... 294
McMaster University Retirees' Association Part-time Prize (SS) ................................. 301
McRabb Scholarship (S) .................................................................................................. 301
Simon McNally Scholarships (E) .................................................................................. 297
Isabella Campbell McNee Scholarship (U) .................................................................... 297
Peter McPhater Memorial Scholarship (H) ..................................................................... 297
Meloche Monnex - McMaster Scholarship (U) .............................................................. 297
Medical-Surgical Excellence in Clinical Nursing Award (N) .......................................... 297
Dr. F. A. Mirza Scholarship (E) ....................................................................................... 304
Modern Languages Travel Scholarship (H) .................................................................. 304
Moffat Kinoshita Associates Inc. Prizes (U) ................................................................. 297
Melton Scholarship in Environmental Studies (E, S, SS) ................................................. 297
E.S. Moore Prize in Geology (S) ................................................................................... 307
John F. Moore Prize (E) .................................................................................................. 288
Robert John Morris - McMaster Merit Awards (E) ........................................................ 288
Michael J. Morton Memorial Book Prize (S) .................................................................... 297
Elizabeth Mosgrove Scholarship (U) ............................................................................. 297
Moulton College Entrance Scholarship (U) ................................................................... 289
Moulton College Scholarships (U) .................................................................................. 289
Moulton Hall Residence Scholarships (U) ...................................................................... 289
Anne Murray Scholarship (H) ....................................................................................... 289
National Association of Corrosion Engineers (E) .......................................................... 289
NCR (Waterloo) Diversity Scholarship (E) .................................................................... 289
Eline Nardocchio Memorial Scholarship (H) .................................................................. 289
Neosic Ceramic Engineering Prize (E) ........................................................................... 304
P. L. Newbigging Prizes (S, SS) ...................................................................................... 304
P.L. Newbigging Prize (S) ............................................................................................. 304
Alan G. Newcombe Prize in Peace Studies (SS) ............................................................. 304
Niemeler Scholarship (N) ............................................................................................. 289
Robert Nixon Scholarship (U) ....................................................................................... 289
Derry Novak Prize (SS) .................................................................................................. 304
Alvin I. Ogilvie Scholarships (U) ................................................................................... 289
Fredric P. Olsen Book Prize (S) ..................................................................................... 287
Ontario Association of Professional Social Workers Prize (SS) ....................................... 307
Ontario Hydro Scholarship in Electrical Engineering (E) ............................................ 289
Connie O'Shaughnessy Memorial Prize (U) ................................................................... 289
Lillian and Leroy Page Scholarship (S) .......................................................................... 288
Gladys Baldwin Parker Prize (H) ................................................................................... 289
F. W. Paulin Scholarship (E) ........................................................................................... 289
Irena Pearl Scholarship (H) ........................................................................................... 289
Harry L. Penny Prize (SS) ............................................................................................. 307
Petco-Canada - McMaster Scholarship (U) .................................................................. 291
Pevensian Scholarship (SS) ............................................................................................ 289
Physiotherapy Section of the Canadian Lung Association Book Prize (OT/PT) ................. 308
Tom D. Pitcher Memorial Book Prize (U) ....................................................................... 308
Pioneer Group - McMaster Scholarship (U) ................................................................... 291
Pioneer Group Prize in Nursing (N) ............................................................................... 307
Pioneer Group Limited Prize (SS) .................................................................................. 304
Pioneer Group Limited Scholarship (SS) ....................................................................... 298
Political Science Honors Essay Prize (SS) ...................................................................... 308
Political Science Honors Essay Prize (SS) ...................................................................... 308
Gordon and Jane Price - McMaster Scholarship (U) ....................................................... 281
Price Waterhouse Cooper's Scholarship (B) ................................................................... 289
Leslie A. Prince Merit Awards (U) ................................................................................ 288
Proctor - McMaster Scholarship (U) ............................................................................. 291
Psychology Society Prizes (S, SS) ................................................................................... 288
Dr. John A. Pylypiuk Scholarship (H) ............................................................................ 298
Rand Memorial Prize of Class '88 (H) ............................................................................ 304
Lloyd Reeds Prizes (S, SS) ............................................................................................ 308
Sharon Reeves Scholarship (H) .................................................................................... 298
Regional Municipality of Hamilton-Wentworth - McMaster Scholarships (U) .................. 291
A.G. Reilly Scholarship (U) ........................................................................................... 289
Religious Studies Prizes (SS) ......................................................................................... 306
Reilly Memorial Book Prize (SS) .................................................................................... 306
Ella Julia Reynolds Scholarships (H) .............................................................................. 298
Herbert A. Ricker Scholarships (E, SS) ........................................................................ 297
Ricoh Canada - McMaster Scholarship (U) ................................................................... 291
Rosart Properties Inc. Scholarship (S, SS) ..................................................................... 289
Abraham Rosenberg Memorial Prize (H) ....................................................................... 304
Morris and Sarah Rosenhead Memorial Prize (U) ......................................................... 291
Rotary Club of Hamilton Scholarship (U) ...................................................................... 300
Loona Albertson Ryan and Gordon Henry Stevens Memorial Scholarship (H) .................. 299
E.T. Salmon Scholarship (H) ........................................................................................ 301
E. T. Gozo Salmon Prize in History (H) ........................................................................ 296
Nolan Family Memorials - Honours Awards (AS, H) ................................................... 307
Hilda Savage Memorial Scholarship (U) ....................................................................... 300
Larry Sayers Prize in Chinese History (H) ....................................................................... 304
Rebeckah Schnurr Award (B) ........................................................................................ 304
School of Art, Drama and Music Scholarship in Music (H) ........................................... 298
ScottiaMcLeod - McMaster Scholarship (U) .................................................................. 291
Sheila Scott Scholarship in English (H) ......................................................................... 296
Shelburne Hall Residence Scholarships (SS) .................................................................. 300
Shelby Scott Scholarships for Brandon Hall (U) ............................................................. 300
Larry Seifton Scholarships (SS) .................................................................................... 297
Charlotte E. Seidel Scholarship (H) ............................................................................... 296
Grace Senra-Fontes Memorial Prize (N) ........................................................................ 304
Margaret A. Service Book Prize (S) ............................................................................... 304
Albert Shalom Travel Scholarship (H) ........................................................................... 306
Louis L. Sholn Scholarships (H) ..................................................................................... 296
Shell Canada Prizes in Engineering and Management (E) ............................................ 308
Shell Canada Scholarships in Engineering and Management (E) ................................. 296
Shenstone Prize (S) ........................................................................................................ 298
Gerald and Verna Simpson Memorial Scholarship (S) ................................................... 296
Richard Slobodin Prize (SS) .......................................................................................... 306
Smith and Nephew Inc. Award (OT/PT) ....................................................................... 309
Smith and Nephew Professional Award (OT/PT) .......................................................... 309
Patricia L. Smye Memorial Scholarships (H, SS) ........................................................... 299
Social Work Prize (SS) .................................................................................................... 305
Society of Chemical Industry Merit Awards (E, S) ......................................................... 308
Society of Management Accountants of Ontario Scholarship (B) ................................. 299
Smythe Scholarship (S, SS) ........................................................................................... 298
Somerville Scholarships (U) ........................................................................................... 300
Sons of Italy of Ontario Scholarship (H) ........................................................................ 299
South Ontario Economic Development Council Scholarships (S, SS) .......................... 299
Marnie Spears Scholarship (U) ..................................................................................... 299
Savittors Spiritus Memorial Prize (H) ............................................................................ 298
S.L. Squire Scholarships (E, SS) .................................................................................... 298
Clarence L. Starr Prize (N) ............................................................................................ 299
Anne Stein Memorial Prize (SS) ..................................................................................... 298
Anne Stein Memorial Prize (Part-time) (SS) ................................................................... 298
Stelco - McMaster Scholarships (E) ............................................................................... 300
The Stelco - McMaster Scholarships (U) ...................................................................... 291
StR Prize in Microbiology (U) ....................................................................................... 305
Mabel Stookly Scholarships (U) .................................................................................... 298
Stobo Scholarship (U) .................................................................................................... 300
Marie L. Stock Scholarship (H) ..................................................................................... 298
Mark John Stojic Scholarships (E) .................................................................................. 298
Juanita LeBaron Symington Scholarship (H) .................................................................. 298
T.H. B. Symons Scholarship in Canadian Studies (H, SS) .............................................. 299
Kemp - McMaster Scholarship (U) ................................................................................ 299
Hugh R. Thompson Memorial Prize (SS) ....................................................................... 298
Dr. R.A. Thompson Prize in Mathematics (S) ............................................................. 299
D. E. Thomson Scholarship (U) ..................................................................................... 291
Michael Thomson Memorial Book Prizes (S) ................................................................ 305
Frank Thorofon Memorial Scholarship (H) ..................................................................... 289
Tina McDonald Travel Scholarship (H) ......................................................................... 298
Graham Ronald Toop Scholarship (H) .......................................................................... 299
Corelene Helen Tostevin Scholarships (N) ................................................................... 305
Corelene Helen Tostevin Second Degree Scholarships (N) .......................................... 309
John Tuth Memorial Prize (H) ........................................................................................ 305
John H. Trueman Scholarship (E) ................................................................................... 305
<table>
<thead>
<tr>
<th>Award Name</th>
<th>Department/Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>John H. Trueman Prize (H)</td>
<td>308</td>
</tr>
<tr>
<td>Thomas Truman Memorial Prize (SS)</td>
<td>305</td>
</tr>
<tr>
<td>Edith H. Turner Foundation - McMaster Scholarships (U)</td>
<td>291</td>
</tr>
<tr>
<td>Tynowski Scholarship (U)</td>
<td>289</td>
</tr>
<tr>
<td>United Steelworkers of America - McMaster Scholarship (U)</td>
<td>291</td>
</tr>
<tr>
<td>University Prizes for Special Achievement (U)</td>
<td>305</td>
</tr>
<tr>
<td>University Scholarships (U)</td>
<td>300</td>
</tr>
<tr>
<td>University Scholarships (Part-time) (U)</td>
<td>302</td>
</tr>
<tr>
<td>Valley City Manufacturing Co. Ltd. Scholarships (S)</td>
<td>299</td>
</tr>
<tr>
<td>Varey Scholarship (S)</td>
<td>299</td>
</tr>
<tr>
<td>Harry Waisglass Book Prize (SS)</td>
<td>308</td>
</tr>
<tr>
<td>Wallingford Hall Entrance Scholarship (U)</td>
<td>289</td>
</tr>
<tr>
<td>Wallingford Hall Residence - Scholarship (U)</td>
<td>300</td>
</tr>
<tr>
<td>Melinda Wapshaw Achievement Award (SS)</td>
<td>305</td>
</tr>
<tr>
<td>F.W. Waters Scholarship in Philosophy (H)</td>
<td>299</td>
</tr>
<tr>
<td>F.W. Waters Scholarship in Philosophy for Part-time Students (H)</td>
<td>302</td>
</tr>
<tr>
<td>Mark Watson Memorial Prize in History (H)</td>
<td>308</td>
</tr>
<tr>
<td>Ralph Woenkes Scholarship (AS, S)</td>
<td>295</td>
</tr>
<tr>
<td>Weisz Family Foundation Scholarship (B)</td>
<td>299</td>
</tr>
<tr>
<td>Westinghouse - McMaster Scholarships (U)</td>
<td>291</td>
</tr>
<tr>
<td>Wheeler Scholarship (U)</td>
<td>291</td>
</tr>
<tr>
<td>Howard P. Whidden Scholarship (U)</td>
<td>301</td>
</tr>
<tr>
<td>Whidden Hall Residence Scholarship (U)</td>
<td>300</td>
</tr>
<tr>
<td>Widmaier Prizes for Proficiency in German (U)</td>
<td>305</td>
</tr>
<tr>
<td>R.M. Wiles Memorial Book Prize (H)</td>
<td>305</td>
</tr>
<tr>
<td>T. Russell Wilkins Memorial Scholarship (S)</td>
<td>301</td>
</tr>
<tr>
<td>Marjorie and Charles Wilkinson Scholarship (SS)</td>
<td>300</td>
</tr>
<tr>
<td>T. E. Willey Scholarship (H)</td>
<td>305</td>
</tr>
<tr>
<td>Emanuel Williams Scholarship in Physics (S)</td>
<td>300</td>
</tr>
<tr>
<td>Jenice Wilson Memorial Prize (H)</td>
<td>300</td>
</tr>
<tr>
<td>Women's Art Association Scholarships (H)</td>
<td>300</td>
</tr>
<tr>
<td>Woodstock Hall Residence Scholarship (U)</td>
<td>300</td>
</tr>
<tr>
<td>Ivor Wynne Memorial Prize (SS)</td>
<td>300</td>
</tr>
<tr>
<td>Marguerite Z. Yates Scholarship (U)</td>
<td>300</td>
</tr>
<tr>
<td>Yates Scholarships (U)</td>
<td>300</td>
</tr>
<tr>
<td>Gladys A. Young Scholarship (U)</td>
<td>300</td>
</tr>
<tr>
<td>Lillian and Manuel Zack Scholarship (N)</td>
<td>300</td>
</tr>
<tr>
<td>Zonta Club of Hamilton - Roberta Border McMaster</td>
<td>292</td>
</tr>
<tr>
<td>Scholarships (U)</td>
<td></td>
</tr>
</tbody>
</table>
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GENERAL INDEX

Abbott Memorial Scholarship Loan Fund (Medicine) .................. 54
Ability and Access Bursaries ............................................... 271
Academic Awards (Medicine) ............................................ 53
Academic Awards, General Conditions ................................. 281
Academic Counselling at Admission ..................................... 16
Academic Ethics ................................................................ 23
Academic Facilities, Student Services and Organizations .......... 259
Academic Probation (defined) ............................................. 8
Academic Regulations, Arts and Science Programme ............... 18, 27
Academic Regulations, Department of Kinesiology .................. 19
Academic Regulations, Faculty of Engineering ....................... 19, 39, 47
Academic Regulations, Faculty of Health Sciences .................. 19
Academic Regulations, Faculty of Humanities ....................... 19, 66
Academic Regulations, Faculty of Science ............................. 19, 80
Academic Regulations, Faculty of Social Sciences .................. 19, 107
Academic Regulations, General .......................................... 17
Academic Regulations, Indigenous Studies (Interdisciplinary Minor) .................................................. 129
Academic Regulations, Midwifery Programme ....................... 56
Academic Regulations, Occupational Therapy and Physiotherapy Second Degree Programme ........................................... 64
Academic Regulations, School of Business ............................ 19, 35
Academic Regulations, School of Nursing ............................ 59, 61
Academic Regulations, School of Social Work ....................... 19, 125, 128
Academic Regulations, Theme Schools .................................. 128
Academic Standing and Programme Requirements .................. 18
Academic Standing Requirements, Level I Registration, and ... 18
Academic User Fees ......................................................... 28
Access Bursaries, Ability and ............................................. 271
Address, Mailing ............................................................... 2
Admissions Office, enquiries .............................................. 2
Admissions Office, enquiries .............................................. 2
Adult Oncology Courses ..................................................... 226
Adult Oncology Programme .............................................. 61
Advanced credit, admission with ........................................ 12
Advanced Placement Courses, admission ......................... 12
Advanced Standing (defined) .............................................. 6
Alcohol Policy and Residence Community Alcohol Policy ........ 23
Alumni Association, enquiries, description ........................... 2, 268
Ancient History and Archaeology (Classics) ......................... 70
Anthropology, courses ...................................................... 135
Anthropology programmes (Department of) ......................... 108
Anthropology Subfields .................................................... 108
Anti-Discrimination Policy .................................................. 23
Anti-Discrimination, Student Services, Office (S.H.A.D.O.) ..... 262
Antirequisite (defined) ..................................................... 8
Appeal Procedures ........................................................... 23
Application, Deadlines, (all programmes, full- and part-time) .... 16
Application Deadlines, Health Sciences ............................... 16, 48
Application Procedures (see also Faculties, Programmes ......... 15
Art and Art History courses ............................................. 138
Art and Art History programmes ....................................... 67
Art, Drama and Music, School of, programmes .................... 67
Art Gallery (see McMaster Museum of Art) ......................... 67
Art History Programmes .................................................. 67
Art Portfolio .................................................................... 10, 65, 138
Arts and Science, combined programmes ............................. 28-33
Arts and Science courses .................................................. 140
Arts and Science Programme ............................................ 27
Arts and Science Programme Bursaries ............................... 273
Asian Studies, (Thematic Area) ......................................... 130
Associate Vice-President (Student Affairs) ......................... 2, 261
Astronomy Courses .......................................................... 233
Astronomy, Minor ........................................................... 101
Astronomy, Physics and, Department of ............................... 100
Astrophysics programme .................................................. 100
Athletic Bursaries ............................................................. 271
Athletics and Recreation ..................................................... 262
Audio Visual Services (see McMaster Media Production Services) .......................................................... 17
Auditing Courses ............................................................. 17
Autobiographical submission (Medicine) ............................. 52
Awards (see Undergraduate Academic Awards and Community Contribution Awards) .................................................. 15
B.A. programmes, Faculty of Humanities ............................. 68-78
B.A. programmes, Faculty of Social Sciences ....................... 109-127
B.A. (Honours) programmes, Faculty of Humanities .............. 67-78
B.A. (Honours) programmes, Faculty of Social Sciences ........ 108-127
B.A./B.S.W. programme ................................................... 124, 128
B.ArtsSci. programmes ...................................................... 27-33
B.Com. programme .......................................................... 37
B.Com. (Honours) programme ........................................... 37
B.Eng. programmes .......................................................... 39-48
B.Eng Mgt programmes .................................................... 39-47
B.Eng. Society programmes .............................................. 40-47
B.H.Sc. programmes ........................................................ 54-66, 61-64
B.Kin. programmes .......................................................... 118
B.Mus. programmes ........................................................ 69
B.Sc. (Honours Co-op) programmes .................................. 84, 86, 89, 93, 101
B.Sc. (Honours) programmes ........................................... 83-102
B.Sc.N. programmes ........................................................ 56-61
B.Sc. Three-Level programmes ......................................... 80, 103-105
B.S.W. programme ........................................................... 125, 128
B.Tech. Degree ............................................................... 47
Baccalaureate degree (defined) .......................................... 267
Basic Cardiac Life Support Training (Medicine) .................... 52
Bertrand Russell Archives ................................................ 32, 59
Biochemistry and Molecular Biology programme .................. 85
Biochemistry Co-op programme ....................................... 84
Biochemistry courses ....................................................... 141
Biochemistry programmes (Department of) ......................... 83
Biological Chemistry programme ...................................... 89
Biology courses .............................................................. 143
Biology and Mathematics programme ................................ 88
Biology and Pharmacology Co-op programme ...................... 84, 85
Biology programmes (Department of) ................................ 85
Biology and Psychology programme .................................. 87
Biology, Philosophy and (B.A.), programme ......................... 77
Biotechnology and Genetic Engineering Option (Biochemistry) programmes .......................... 84
INDEX
### Board of Governors, members of .......................................................... 313
### Bock Prizes (see Undergraduate Academic Awards) ......................... 262
### Bookstore ............................................................................................ 262
### Bursaries (defined) ................................................................................ 8
### Bursaries (see Bursary Index) ................................................................. 8
### Business Bursaries .................................................................................. 273
### Business courses (see Commerce courses) ........................................ 34
### Business, School of .............................................................................. 34
### CA (Cumulative Average), After Reinstatement .................................. 18
### CA (Cumulative Average), defined ....................................................... 8
### CAAT (Ontario College of Applied Arts and Technology), applications from ...................................................................................................................... 13
### CIS (Computing and Information Services) ......................................... 259
### CPEC (Career Planning and Employment Centre) ............................. 263
### CSD (Centre for Student Development) .............................................. 261
### Calculation of Cumulative Average Following Reinstatement ..............
### After Poor Academic Performance .................................................... 18
### Campus Map .......................................................................................... 322
### Campus Names ...................................................................................... 266
### Canada Student Loans Plan .................................................................. 261
### Canadian Citizens and Landed Immigrant Students’ Fees .................. 24
### Canadian Resident Matching Service (CaRMS) ................................. 52
### Canadian Studies (Thematic Area) ...................................................... 131
### Cancelling (Dropping) a Course ............................................................ 5
### Cardiac Life Support Training, Basic .................................................. 52
### Career Planning and Employment Centre, enquiries, description ....... 2, 263
### Categories of Awards ........................................................................... 268
### Career Development, workshops ........................................................ 136
### Centre for Continuing Education, enquiries, description .................. 2, 133
### Centre for Student Development, enquiries, description ................... 2, 261
### Ceramics Stream (Materials Engineering and Management programme) .................. 45
### Ceramics Stream (Materials Engineering and Society programme) .... 46
### Ceramics Stream (Materials Engineering programme) ....................... 45
### Certificate and Diploma Programmes ................................................... 133
### Certificate Programmes, Graduates of, Admission ........................... 13
### Challenge Examinations ........................................................................ 12
### Changes to Registration ........................................................................ 17
### Chaplains .............................................................................................. 265
### Chemical Engineering and Management programme .......................... 39
### Chemical Engineering and Society programme ................................... 40
### Chemical Engineering (B. Eng. programme) ........................................ 39
### Chemistry .............................................................................................. 14
### Chemistry, Biological, programme ..................................................... 88
### Chemistry Co-op programme ................................................................ 89
### Chemistry courses ................................................................................ 149
### Chemistry programmes (Department of) .......................................... 86
### Child Life Studies, Diploma programme in ......................................... 49
### Civil Engineering and Management programme ................................ 40
### Civil Engineering and Society programme ......................................... 41
### Civil Engineering (B. Eng.) programme ............................................ 40
### Civil Engineering courses .................................................................... 151
### Classical Languages and Literature (Classics) .................................... 70, 71
### Classics courses .................................................................................... 153
### Classics programmes (Department of) ................................................. 70
### Clinical Behavioural Sciences, Diploma programme in .................... 49
### Clinical Course Requirements (Health Sciences) ............................... 49, 59, 63
### Clinical Education (OT/PT) ................................................................. 63
### Clinical Science Laboratories (OT/PT) ................................................ 63
### Code of Conduct .................................................................................... 23
### College of Midwives, Qualifying for Registration by ......................... 56
### Colleges of Applied Arts and Technology, admission from ............... 13
### Combined B.A./B.S.W. programme ...................................................... 124, 126
### Combined Honours (see programme descriptions and regulations under Faculty sections) ................................................................. 6
### Combined programmes, Information ................................................... 6
### Commerce .............................................................................................. 156
### Commerce electives (Engineering) ...................................................... 38
### Commerce Internship Programme ....................................................... 36
### Commerce programmes ......................................................................... 34
### Community Contribution Awards ......................................................... 285
### Community Service Bursaries ............................................................. 272
### Comparative Literature courses ........................................................... 212
### Comparative Literature programme ..................................................... 74
### Complementary Studies Electives (Engineering) ............................... 38
### Complementary Studies Option programs (see Faculty of Science in Faculties, Programmes and Schools Sections) ................................................................. 41
### Computer Engineering and Management programme ......................... 41
### Computer Engineering and Society programme ................................ 42
### Computer Engineering (B. Eng.) programme ..................................... 41
### Computer Engineering courses .............................................................. 170
### Computer Science and Mathematics programme ................................ 91
### Computer Science and Statistics programme .................................... 91
### Computer Science courses ................................................................... 161
### Computing and Software (Department of) ......................................... 90
### Computer Science as an Honours program ....................................... 91
### Computer Science, Economics and, (B.A.) programme .................... 110
### Computer Science programmes ............................................................ 90
### Computing and Information Services (CIS) ........................................ 259
### Conference Office .................................................................................. 265
### Conference Services, Housing, and (Residences)要紧语句的描述 .......................... 2, 264
### Confidentiality of Student Records ..................................................... 23
### Continuation at the University, minimum requirements ..................... 18
### Continuing Students, admission .......................................................... 12, 15, 34
### Continuing Education, Centre for, enquiries, description ................. 2, 133
### Continuing Students (defined) ............................................................. 6, 12
### Convocation dates ................................................................................. 4
### Cooperative Internship Options ............................................................ 106, 108, 110, 114, 116, 118, 121
### Cooperative Internships (Science) ...................................................... 50
### Courses of Co-op (Science) .................................................................. 79
### Courses of Co-op (defined) ................................................................. 25
### Corequisite (defined) ............................................................................ 8
### Counselling, Academic ......................................................................... 16
### Course Enrolment Limits ....................................................................... 4
### Course Groupings (Social Work) ......................................................... 124, 125
### Course Numbers (defined) ................................................................... 8
### Course Listings ....................................................................................... 135
### Courses, Selection of ........................................................................... 17
### Credit at Another University .................................................................. 14
### Credit in Courses by Special Assessment ............................................. 12
### Cross-listed Course (defined) ............................................................... 8
### Cumulative Average (CA), After Reinstatement .................................. 18
### Cumulative Average (CA) (defined) ..................................................... 8
### Curriculum Plan (Medicine) ................................................................. 51
### Curriculum Plan (Midwifery) ............................................................... 54
### Curriculum Plan (Nursing) ................................................................. 60
### Curriculum Plan (OT/PT) ................................................................. 62, 64
### Dates, Sessional .................................................................................... 4, 5
### Deadlines, Application (see also Faculties, Programmes and Schools sections) ................................................................. 16, 48
### Deans (see listings under Faculty sections) ........................................... 20, 56
### Deans’ Honour List ............................................................................... 49
### Deferred Admission (for Ontario Secondary School students) ........... 9
### Deferred of Registration (Health Sciences) ......................................... 53, 55, 59, 63
### Deferred Examinations ......................................................................... 21, 35
### Deferred Examinations, dates (see Sessional Dates) ............................ 8
### Degree (defined) ................................................................................... 8
### Degrees by Programme ......................................................................... 7
### Degrees and Programmes (Summary) .................................................. 6
### DeGroote, Michael G., School of Business ......................................... 34
### Department of Business ........................................................................ 6
### Diploma in Music Performance ............................................................. 70
### Diploma Programme in Child Life Studies .......................................... 49
### Diploma Programme in Clinical Behavioural Sciences ....................... 49
### Diploma Programme in Environmental Health .................................... 49
### Diploma Programme in Occupational Health and Safety ................... 49
### Diploma Programmes, Certificate and ................................................. 133
### Directory for Correspondence and Enquiries ....................................... 2
### Dishonours (Academic) ....................................................................... 23
### Divinity, College of ............................................................................... 2, 3
### Drama and Music, School of Art, programmes ................................... 67
### Drama courses ....................................................................................... 164
### Drama programmes ............................................................................... 68
### Early Admission (from an Ontario Secondary School) ....................... 9
### Earth Science programme (see Geoscience programme) ......................
# GENERAL INDEX

| Health and Society (Interdisciplinary Minor) | 129 |
| Health Physics (Medical) | 101 |
| Health Physics, Medical and | 100 |
| Health Regulations (Health Sciences) | 44 |
| Health Requirements (Nursing) | 41 |
| Health Sciences Bursaries | 226 |
| Health Sciences courses | 190 |
| Health Sciences, Faculty of | 48 |
| Health Service Library | 259 |
| Health Services, Student | 253 |
| Hebrew courses | 245 |
| Hispanic Studies courses | 216 |
| Humanities (General) courses | 195 |
| History programmes (Department of) | 73 |
| History Subfields | 73 |
| Hong Kong, admission from | 12 |
| Honours Programmes (descriptions of regulations) | 259 |
| Hospitality Services, enquires | 225 |
| Housing, Off-campus, enquiries | 225 |
| Housing and Conference Services (Residence) | 225 |
| Human Experience, Theme School on Globalization, Social Change and the | 128 |
| and the | 128 |
| Human Rights, Statement on | 23 |
| Humanities Bursaries | 277 |
| Humanities, Faculty of | 65 |
| Humanities (General) courses | 195 |
| Humanities/Religious Studies Requirement | 107 |
| Humanities Study Abroad | 56 |
| IDC (Instrument Development Centre) | 56 |
| Immersion Programmes French Language | 65 |
| Immunization (Medicine) | 52 |
| In-course Awards (defined) | 287 |
| In-course Students Awards | 292, 301 |
| Index of Academic Awards | 309 |
| Index of Bursaries | 282 |
| Indigenous Studies courses | 195 |
| Indigenous Studies (Interdisciplinary Major) | 129 |
| Industrial Internships (Engineering) | 38 |
| Information Centre, Mohawk/McMaster Education | 132 |
| Information Services, Computing and | 259 |
| Inns, Library | 259 |
| Inquiry Course List (Science) | 82 |
| Inquiry courses | 197 |
| Inquiry Seminars (Arts & Science Programme, OT/PT) | 27, 63 |
| Instructional Development Centre (IDC) | 260 |
| Insurance | 26 |
| Interdisciplinary Minors and Thematic Areas | 129 |
| International Affairs, Office of | 261 |
| International Baccalaureate (IB) Diploma, Admission | 12 |
| International/Cultural/Language Menu | 34 |
| International Students' Advisor, enquiries, description | 225 |
| Internships, Engineering | 38 |
| Internship Options (Social Sciences) | 225 |
| Internship Programme (Commerce) | 36 |
| Internship Programme (Cooperative-Science) | 80 |
| Internship, Research | 63 |
| Interviews (Medicine) | 53 |
| Irregular status | 18, 10 |
| Italian courses | 68 |
| Italian Minor | 76 |
| Japanese courses | 216 |
| Japanese Studies courses | 217 |
| Japanese Studies programme | 74 |
| Jewish Studies (Interdisciplinary Minor) | 130 |
| Kinesiology as a Second Degree Programme | 118, 119 |
| Kinesiology courses | 197 |
| Kinesiology (B. K.) programmes (Department of) | 116 |
| Kinesiology (B. Sc.) programme (Department of) | 95 |
| Labour Studies courses | 201 |
| Labour Studies programmes | 110 |
| Language, Linguistics and Translation (French) programme | 72 |
| Latin courses | 155 |
| Latin Minor | 71 |
| Learning Methods (Medicine) | 50 |
| Letter of Permission (defined) | 8 |
| Letter of Permission | 14, 15, 17, 81, 108 |
| Level (defined) | 8 |
| Level I, admission requirements | 17 |
| Level I Courses, Limit on | 17 |
| Level I Programmes (see Faculties, Programmes and Schools sections) | 17 |
| Level II Registration/Academic Standing Requirements | 18 |
| Level I Science Course Lists | 79 |
| Liability, Release From | 4 |
| Libraries | 259 |
| Licence to Practice (Health Sciences) | 49, 51, 259 |
| Life Science programme | 103 |
| Limit on Level I Courses | 17 |
| Limited Enrolment Courses (Science) | 83 |
| Limited Enrolment Programmes (Science) | 80 |
| Linguistics courses | 217 |
| Linguistics programmes | 75 |
| Library Science | 14 |
| Limited, Fees | 25 |
| Listeners, Fees | 129 |
| Loan Funds (Medicine) | 54 |
| Loans (defined) | 8 |
| Loans (see Student Financial Aid) | 8 |
| M-Of Opportunity Plan (Engineering) | 104 |
| MAPS (McMaster Association of Part-time Students) | 132, 266 |
| M2 programme | 59 |
| M2 Minor (McMaster Student Union) | 82 |
| Mailing Address | 2 |
| Management, Engineering and, courses | 173 |
| Manufacturing and Engineering and Management programme | 44 |
| Manufacturing Engineering and Society programme | 44 |
| Manufacturing Engineering (B. Eng.) programme | 44 |
| Manufacturing Engineering courses | 209 |
| Manufacturing Engineering Technology (B. Eng.) programme | 209 |
| Mathematical and Computational Sciences | 202 |
| Map | 322 |
| March Counselling (Science) | 82 |
| Materials courses | 203 |
| Materials Engineering and Management (Ceramic Stream) | 45 |
| Materials Engineering and Management programme | 45 |
| Materials Engineering and Society (Ceramic Stream) | 46 |
| Materials Engineering and Society programme | 45 |
| Materials Engineering (B. Eng.) programme | 45 |
| Materials Engineering (Ceramic Stream) programme | 45 |
| Materials Processing Minor | 96 |
| Materials Properties Minor | 96 |
| Materials Science (B. Sc.) programme | 95 |
| Materials Science and Engineering courses | 104 |
| Mathematical Science programme | 104 |
| Mathematics courses | 97 |
| Mathematics and Statistics courses | 204 |
| Mathematics and Statistics programmes | 97 |
| Mathematics and Statistics programmes (Department of) | 97 |
| Mathematics, Applied, programme | 97 |
| Mathematics, Biology and, programme | 86 |
| Mathematics, Computer Science and, programme | 91 |
| Mathematics, Economics and, (B. A.) programme | 113 |
| Mathematics programmes | 96 |
| Mathematics, Philosophy and, programme (B. A.) | 77 |
| Mature Student (defined) | 8 |
| Mature Students, admission | 13, 55 |
| McMaster Association of Part-time Students (MAPS) | 132, 266 |
| McMaster Certificate Programmes Graduates, admission from | 13 |
| McMaster International (see Office of International Affairs) | 260 |
| McMaster Media Production Services | 260 |
McMaster Museum of Art ........................................ 261
McMaster Scholars Programme ........................................ 268
McMaster Students Union (MSU) ........................................ 268
McMaster University Alumni Association ......................... 266
McMaster University, Overview ........................................ 3
McMaster Work-Study Programmes .................................... 267
Meal Plan Fees, Residence and ......................................... 25
Mechanical Engineering and Management programme ............. 46
Mechanical Engineering and Society programme ..................... 46
Mechanical Engineering (B.Eng.) programme ......................... 46
Mechanical Engineering courses ........................................ 46
Medals ........................................................................... 305
Media Production Services .............................................. 260
Medical and Health Physics programme ................................ 100
Medical and Health Physics Co-op programme .......................... 101
Medical Curriculum Plan .................................................. 51
Medical Doctor Training Plan ............................................. 53
Medical Programme .......................................................... 49
Merit Awards for Ontario Students ....................................... 286
Michael G. DeGroote School of Business .............................. 34
Midwifery courses ........................................................... 210
Midwifery Curriculum Plan .................................................. 54
Midwifery programme ........................................................ 54
Mills Memorial Library ....................................................... 259
Minimum Final Average ..................................................... 9
Minimum Requirements to Continue at the University .............. 18
Minor (defined) .................................................................. 8
Minor(s) (distinction) (Interdisciplinary) ................................. 19
Minor(s) (see Faculties, Programmes and Schools sections) .......... 26
Miscellaneous Fees ............................................................ 26
Modern Languages courses ................................................. 211, 218
Modern Languages programmes (Department of) ..................... 74
Mohawk (Indigenous Studies) courses ................................... 197
MohawkMcMaster Education Information Centre .................... 192
Molecular Biology, Biochemistry and, programme .................... 85
Molecular Biology courses ................................................... 219
Molecular Biology programme ............................................. 98
Multimedia courses ............................................................ 219
Multimedia Studies programme .......................................... 69, 76
Museum of Art ................................................................ 261
Music courses ................................................................... 221
Music Performance, Diploma in ........................................... 70
Music programmes ............................................................. 69
Music, School of Art, Design and, programmes ....................... 67
National Scholarships ........................................................ 289
Neural Computation courses ............................................... 223
Neural Computation programme ......................................... 99
Non-credit Field Placements (Kinesiology) ............................. 200
Northern Studies Stream (OT/PT) ......................................... 92
Nurse Practitioner courses ................................................... 226
Nurse Practitioner programme (see description in School of Nursing) ......................................................... 224
Nursing courses .................................................................. 60
Nursing Curriculum ............................................................ 60
Nursing Leadership/Management courses .............................. 227
Nursing Leadership/Management programme ........................ 61
Nursing Occasional Category ............................................... 14
Nursing programmes .......................................................... 60-61
Nursing, School of .............................................................. 56
OAC Course Equivalents for Students from Other Canadian Provinces (Chart) ......................................................... 11
OAC Student admission procedures ........................................ 15
OIA (Office of International Affairs) ...................................... 261
OSAP (Ontario Student Assistance Programme) ...................... 267
Occupational Health and Safety, Diploma programme ............... 49
Occupational Therapy and Physiotherapy courses ..................... 227
Occupational Therapy and Physiotherapy Second Degree Programmes ......................................................... 61
Off-Campus Housing, enquires, description ............................ 2, 265
Office of Associate Vice-President (Student Affairs) ................. 2, 261
Office of Gerontological Studies .......................................... 260
Office of International Affairs .............................................. 261
Office of the International Students' Advisor/Student Exchanges/ Work and Study Abroad ........................................... 263
Officers of the University .................................................... 314
Ojibwe (Indigenous Studies) courses ..................................... 197
Ombuds Office, enquiries, description ................................. 2, 266
On-Campus Housing, enquires, description ........................... 2, 264
On-Campus Housing, enquires, description ........................... 264
On-Campus Housing, enquires, description ........................... 61
Ontario Colleges of Applied Arts and Technology, admission from 13
Ontario Primary Care Nurse Practitioner Programme (C) Stream (See description in School of Nursing) ......................... 9
Ontario Secondary Schools, admission from ......................... 9
Ontario Special Bursary Plan .............................................. 267
Ontario Student Assistance Programme (OSAP) ...................... 267
Ontario Student Loans Plan ................................................ 267
Ontario Students' Scholarships ............................................ 289
Organizations, Student Government and ................................ 265
Other Canadian Provinces, Admission from .......................... 11
Other Canadian Provinces, OAC Course Equivalency Chart ........ 11
Other Countries, Admission from ....................................... 11
Other Universities, Transfers from ...................................... 12
Overload Work .................................................................. 17
Overseas and Exchange Students, enquiries, description .......... 2, 263
Paediatric Oncology, courses ............................................. 226
Paediatric Oncology programme ......................................... 61
Part-time Degree Studies .................................................... 132
Part-time Degree Programmes available (Summary) ............... 7
Part-time Student, admission .............................................. 15
Part-time Student, fees ....................................................... 24
Part-time, In-course Students, Academic Awards for .......... 301
Part-time Students, McMaster Associates of, (MAPS) .......... 132, 266
Part-time Studies Awards (defined) ...................................... 287
Parking, services described ................................................ 265
Part-time, In-course Students, Academic Awards for .......... 301
Peace Studies (Interdisciplinary Minor) .................................. 130
Pharmacology courses ....................................................... 230
Pharmacology, Chemistry and, programme ......................... 64, 86
Philosophy courses ........................................................... 230
Philosophy programmes (Department of) ............................ 77
Philosophy and Biology (B.A.) programme ............................ 77
Philosophy and Mathematics (B.A.) programme ..................... 78
Physical Education activities (see Academic Facilities, Student Services and Organizations -- Athletics and Recreation) .......... 12
Physical Education courses (see Department of Kinesiology) .... 12
Physical Education programme (see Kinesiology Programmes, Department of) ......................................................... 12
Physical Education programme .......................................... 104
Physics and Astronomy courses .......................................... 232
Physics and Astronomy programmes (Department of) ............. 99
Physics, Engineering courses .............................................. 174
Physics, Mathematics and, programme ................................ 97
Physics, Medical and Health Option, programme .................... 100
Physics, Medical and Health Option, Co-op programme .......... 101
Physiotherapy courses ...................................................... 228
Physiotherapy, Occupational Therapy and, .......................... 61
Second Degree Programme ................................................ 61
Politics, University ............................................................. 5
Polish courses ................................................................... 216
Political Science courses .................................................... 236
Political Science programmes (Department of) ...................... 121
Portfolio Requirement (Art 1F08) ......................................... 10, 65, 138
Post-Graduate Student, definition ........................................ 65
Post-Graduate Students, admission ...................................... 13, 15
Post Diploma (B) Stream (Nursing) (See description in School of Nursing) ................................................................. 262
Post Office ....................................................................... 262
Post-Professional Health Sciences Education Programmes ....... 49
Prepayment of Fees .......................................................... 26
Prerequisite (defined) ........................................................ 8
Practicing Health Care Nurse Practitioner Programme (see School of Nursing) ......................................................... 65
Printing Services (see McMaster Media Production Services) .... 8
Prizes (see Undergraduate Academic Awards) ......................... 8
Probation, Academic (defined) ............................................ 8
Probation, Programme (defined) .......................................... 8
Professional Certification (see programme descriptions in Business, Engineering, Health Sciences and Science) ......................... 263
GENERAL INDEX 321

Student Financial Aid and Scholarships, enquiries, description 2, 263, 267
Student Government and Organizations .................................................. 265
Student Health Service ........................................................................ 263
Student Health Services Fees .................................................................. 25
Student Liaison, enquiries ...................................................................... 2
Student Records, access to ........................................................................ 23
Student Services ..................................................................................... 261
Student Services and Organizations, Academic Facilities ..................... 259
Study Abroad, (see also Third Year Study Elsewhere) .......................... 18, 263
Subject Requirements for Specific Level I Programmes ........................ 9
Summer Immersion Programmes in French ........................................ 66
Summer Residence .................................................................................. 25
Supplementary Bursary Aid for Award Recipients ................................. 282
Supplementary Fees ................................................................................ 24
Teaching/Learning Methods (OT/PT) ....................................................... 62
Technical Electives (Engineering) ............................................................. 36
Technology, and Public Policy, Theme School on Science ................... 126
Technology, and Public Policy, Science courses ................................... 255
Technology, Engineering (General) courses .......................................... 175
Technology, Manufacturing courses ...................................................... 202
Term (defined) ....................................................................................... 8
Terminology, Academic Awards ............................................................. 287
Test of English as Foreign Language (TOEFL) ...................................... 9
Test of Written English (TWE) ............................................................... 9
Thematic Areas, Interdisciplinary Minors and ...................................... 129, 130
Theme School on Globalization, Social Change and the Human Experience (courses) ......................................................... 254
Theme School on Science, Technology, and Public Policy .................. 128
Theme School on Science, Technology, and Public Policy (courses) .... 255
Theme School Participation (Engineering) .............................................. 35
Theme Schools ...................................................................................... 128
Third Year Study Elsewhere (Humanities, Science) ............................. 66, 80
Thode Library of Science and Engineering .......................................... 259
Three-Level B.Sc. programmes .............................................................. 103-105
Transcript, defined ................................................................................ 8
Transcripts, ordering .............................................................................. 22
Transcripts, costs .................................................................................... 22, 26
Transcripts, where to obtain ................................................................. 2, 22
Transcripts and Records, enquiries ........................................................ 2
Transfer between programmes .............................................................. 19
Transfers from Other Universities, admission ....................................... 12
Transfer of Course Credits, General Policy on .................................... 12
Transfer of Credit Between Faculties ................................................... 17
Transfer of Programme After Admission ............................................. 9
Travel Scholarships ............................................................................... 301
Tuition (defined) ................................................................................... 8
Tuition Fees ........................................................................................... 24, 25
Two-Tier Applications (Social Work) .................................................... 123, 125
Undergraduate Academic Awards ....................................................... 21, 287
Undergraduate Awards Index .............................................................. 309
Undergraduate Fees ............................................................................ 24
Undergraduate Health Professional Education Programmes ............ 48
Undergraduate Medical Programme .................................................... 50
Undergraduate Student (defined) .......................................................... 8
United States, admission from ............................................................. 12
Units (defined) .................................................................................... 265
University Chaplains .......................................................................... 265
University Library .................................................................................. 269
University Policies .................................................................................. 4
University Regulations .......................................................................... 17
Unsuccessful Applicants (Health Sciences) ........................................... 53, 55, 59
User Fees .............................................................................................. 26
Using the Calendar ................................................................................ 1
Vita: Students, fees .............................................................................. 26
Web Address (University) ................................................................. 1, 2
Web Addresses for Faculties and Departments (See Faculties, Programmes and Schools sections) ....................................... 8
Weighted Average (defined) ................................................................. 26
William Ready Division of Archives and Research Collections ......... 19
Winter Session, dates ............................................................................ 5
Withdrawal (defined) .............................................................................. 8
Withdrawal (cancelling, dropping) from a Course ............................... 17
(see also Sessional Dates)
Withdrawal from the University .......................................................... 17, 35, 107
Women's Studies courses ................................................................. 256
Women's Studies programme .............................................................. 78
Workload (Business) ............................................................................ 35
Workload (Science) .............................................................................. 81
Work and Study Abroad/Student Exchanges ....................................... 263
Work-Study Programmes ................................................................. 267
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