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 $79 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 fulfill 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, Latin American Studies, Linguistics, Modern Languages (German, Hispanic Studies, Italian, Russian), Modern Languages and Linguistics, Music, and Philosophy 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, 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 Department of Kinesiology, the B.Kin. degree.

THE UNIVERSITY

Named after Senator William McMaster, who bequeathed funds to endow a Christian school of learning, the University grew out of educational work initiated by Baptists in central Canada as early as the 1830s. After its initial years in Toronto, from 1887 to 1930, the University was moved to Hamilton. It became non-denominational in 1957, although the historic Baptist connection continues through the separate 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 3,200 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.

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'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 include a nuclear reactor and a nuclear accelerator. Computing facilities include mainframes and Unix workstation clusters.

The recreation, fitness and intramural programmes offer more than 30 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 1998-99 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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<tbody>
<tr>
<td>FALL/ WINTER</td>
<td>Term 1</td>
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<td>10</td>
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<td>SESSION</td>
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<tr>
<td>SPRING/ SUMMER</td>
<td>Term 1</td>
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<td>3</td>
<td>21</td>
<td>6</td>
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<td>SESSION</td>
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<td>Term 3</td>
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</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 17, 1998
- Last day to file a Graduation Information Card and declare a minor for Autumn 1998 Convocation.

Thursday, November 5, 1998
- Autumn 1998 Convocation (all Faculties)

Friday, February 5, 1999
- Last day to change Programmes for Spring 1999 Convocations.

Friday, February 5, 1999
- Last day to file a Graduation Information Card and declare a minor for Spring 1999 Convocations.

Friday, May 14, 1999
- Health Sciences Convocation 1999

Tuesday, June 1 to Thursday, June 3, 1999
- Spring Convocations 1999

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)

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.

Note:
- The Fall/Winter timetables and part-time degree studies brochures, which are published periodically by the University, should be used to determine:
  - if a course is to be offered;
  - and
  - the term in which a course will be offered.
## Sessional Dates for 1998-99

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

### Fall/Winter Session 1998-99

<table>
<thead>
<tr>
<th>Event</th>
<th>Term 1</th>
<th>Term 2</th>
<th>Term 3</th>
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</thead>
<tbody>
<tr>
<td>Registration (All Levels)</td>
<td></td>
<td>To Be Announced</td>
<td>Thursday, September 10</td>
</tr>
<tr>
<td>Classes begin</td>
<td>Thursday, September 10</td>
<td>Monday, January 4</td>
<td>Thursday, September 10</td>
</tr>
<tr>
<td>Last day for registration and adding classes</td>
<td>Friday, September 18</td>
<td>Tuesday, January 12</td>
<td>Friday, September 18</td>
</tr>
<tr>
<td>Thanksgiving Day: No classes</td>
<td>Monday, October 12</td>
<td>Monday, October 12</td>
<td>Monday, October 12</td>
</tr>
<tr>
<td>Mid-term recess</td>
<td></td>
<td>Monday, February 15</td>
<td>Monday, February 15</td>
</tr>
<tr>
<td>Last day for withdrawal without failure by default</td>
<td></td>
<td>to Saturday, February 20</td>
<td>to Saturday, February 20</td>
</tr>
<tr>
<td>Good Friday: No classes</td>
<td></td>
<td>Friday, April 2</td>
<td>Friday, April 2</td>
</tr>
<tr>
<td>Test and Examination ban:</td>
<td>Monday, November 30</td>
<td>Monday, April 5</td>
<td>Monday, April 5</td>
</tr>
<tr>
<td>No tests or examination may be held</td>
<td>to Saturday, December 5</td>
<td>to Saturday, April 12</td>
<td>to Saturday, April 12</td>
</tr>
<tr>
<td>Classes end</td>
<td>Friday, December 4</td>
<td>Friday, April 9</td>
<td>Friday, April 9</td>
</tr>
<tr>
<td>Mid-Session Tests (Level I)</td>
<td></td>
<td>Monday, December 7</td>
<td>Monday, December 7</td>
</tr>
<tr>
<td>Final Examinations</td>
<td>Monday, December 7</td>
<td>Monday, April 12</td>
<td>Monday, April 12</td>
</tr>
<tr>
<td>Last day to confirm intent</td>
<td>Friday, February 5</td>
<td>Friday, June 18</td>
<td>Monday, July 19</td>
</tr>
<tr>
<td>to write deferred examinations</td>
<td>Monday, April 12</td>
<td></td>
<td>Monday, July 19</td>
</tr>
<tr>
<td>Deferred Examinations</td>
<td>to Wednesday, April 28</td>
<td></td>
<td>to Thursday, July 22</td>
</tr>
</tbody>
</table>

### Spring/Summer Session 1999

<table>
<thead>
<tr>
<th>Event</th>
<th>Term 1</th>
<th>Term 2</th>
<th>Term 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classes begin</td>
<td>Monday, May 3</td>
<td>Monday, June 21</td>
<td>Monday, May 3</td>
</tr>
<tr>
<td>Last day for registration and changes in registration</td>
<td>Friday, May 7</td>
<td>Friday, June 25</td>
<td>Friday, May 7</td>
</tr>
<tr>
<td>Victoria Day: No classes</td>
<td>Monday, May 24</td>
<td>Monday, May 24</td>
<td>Monday, May 24</td>
</tr>
<tr>
<td>Last day for withdrawal from a course without failure by default</td>
<td>Wednesday, June 2</td>
<td>Wednesday, July 21</td>
<td>Friday, July 2</td>
</tr>
<tr>
<td>Canada Day: No classes</td>
<td></td>
<td>Thursday, July 1</td>
<td>Thursday, July 1</td>
</tr>
<tr>
<td>Civic Holiday: No classes</td>
<td></td>
<td>Monday, August 2</td>
<td>Monday, August 2</td>
</tr>
<tr>
<td>Classes end</td>
<td></td>
<td>Friday, August 6</td>
<td>Friday, August 6</td>
</tr>
<tr>
<td>Examinations</td>
<td></td>
<td>During class time, as arranged by instructor</td>
<td></td>
</tr>
<tr>
<td>Last day to confirm intent</td>
<td>Friday, October 15</td>
<td>Friday, October 15</td>
<td>Friday, October 15</td>
</tr>
<tr>
<td>to write deferred examinations</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deferred Examinations</td>
<td>December '99 Examination period</td>
<td>December '99 Examination period</td>
<td>December '99 Examination period</td>
</tr>
</tbody>
</table>
McMaster University offers the following undergraduate degrees:

**FACULTY AND DEGREE**  
**DURATION IN YEARS**

**ARTS & SCIENCE PROGRAMME**

- B.Ars Sc. ........................................ 3
- B.Ars Sc. (Honours) * ....................... 4
  *(With the exception of the Combined Honours degrees in Biology, Chemistry and Physics which require five years of study.)*

**SCHOOL OF BUSINESS**

- B.Com ........................................... 4
- B.Com. (Honours) ......................... 4

**FACULTY OF ENGINEERING**

- B.Eng .......................................... 4
- B.Eng.Mgt .................................... 5
- B.Eng. Society ................................ 5
- B.Tech ........................................ 1

**FACULTY OF HEALTH SCIENCES**

- B.H.Sc. (Midwifery) ...................... 4
- B.H.Sc. (Occupational Therapy/Physiotherapy) * 2
  *(Follows completion of prior undergraduate degree)*
- B.Sc.N ...................................... 4
- B.Sc.N. (Diploma RN Stream) .......... 2
- B.Sc.N. (Nurse Practitioner Stream) 2
- M.D. (Doctor of Medicine) ............ 3
  *(In these programmes, an academic year extends beyond the regular Fall/Winter session.)*

**FACULTY OF HUMANITIES**

- B.A ........................................................................ 4
- B.A. (Honours) .............................. 4
- B.Mus .......................................... 4
- B.A./B.S.W. .................................... 4

**FACULTY OF SCIENCE**

- B.Sc ............................................. 3
- B.Sc. (Honours) .............................. 4
- B.Sc. (Honours) .............................. 5
  *(These are Co-op programmes.)*

**FACULTY OF SOCIAL SCIENCES**

- B.A ........................................................................ 3
- B.A. (Honours) .............................. 4
- B.Kin ............................................ 4
- B.A./B.S.W. .................................... 4
- B.S.W .......................................... 2
  *(Follows completion of prior undergraduate degree)*

**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).

**ELECTIVE COURSES AVAILABLE TO LEVEL I STUDENTS**

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 ............................................. 1A03, 1Z03
- ART HIST ......................................... 1A06
- ASTRON ........................................... 1F03
- BIOLOGY .......................................... 1A03, 1AA3, 1JC3
- CAYUGA ........................................... 1Z06
- CHEM ............................................. 1A03, 1AA3
- CLASSICS ........................................ 1B06, 1L06
- COMP LIT ......................................... 1A06
- COMP SCI .......................................... 1MC3, 1MD3, 1SA3
- DRAMA ........................................... 1A06
- ECON ............................................. 1A06, 1B03, 1B83
- ENGLISH .......................................... 1D06
- FRENCH .......................................... 1A06, 1N06, 1Z06
- GEO .............................................. 1A03, 1B03, 1G03
- GEO .............................................. 1H86
- GERMAN .......................................... 1B06, 1Z06
- GERONTOL ....................................... 1A06
- GREEK ........................................... 1A06
- HISPANIC ........................................ 1A06, 1Z06
- HISTORY .......................................... 1A06, 1L06
- HUMAN .......................................... 1A03, 2E03
- INDIG ST ......................................... 1A06
- INQUIRY ......................................... 1H03, 1SS3
- INQUIRY ......................................... 1SC3
- ITALIAN .......................................... 1A06, 1Z06, 1Z76
- JAPANESE ....................................... 1Z06
- LABR ST .......................................... 1A03, 1Z03
- LATIN ........................................... 1Z06
- LINGUIST ......................................... 1A06
- MATH .............................................. 1A03, 1AA3, 1B83, 1K03, 1M03
- MATL ............................................. 1A03
- MOHAWK ....................................... 1Z06
- MUSIC ............................................ 1A06
- OJIBWA .......................................... 1B06, 1D06
- PHILOS .......................................... 1B06, 1D06
- PHYSICS .......................................... 1B03, 1BA3, 1B83, 1P03
- POLISH ........................................... 1Z06
- POL SCI ........................................... 1A06, 1G06
- PSYCH ............................................ 1A03, 1AA3
- RELIG ST .......................................... 1B06, 1D06, 1E06, 1H03, 1I03
- RUSSIAN ........................................ 1Z06
- SOC WORK ....................................... 1A06
- SOCIO ............................................ 1A06
- STATS ............................................ 1A03, 1CC3, 1L03
- WOMEN ST ...................................... 1A06

* 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 COMMERC 1503 and ECON 1503 as the six-unit complementary studies elective.

+ These courses may not be taken for credit by students in Natural Sciences I.
## DEGREES BY PROGRAMME

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.

<table>
<thead>
<tr>
<th>SUBJECT</th>
<th>BACHELOR'S DEGREE</th>
<th>HONOURS DEGREE</th>
<th>COMBINED HONOURS</th>
<th>PROFESSIONAL DEGREE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applied Mathematics</td>
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<td>B.Sc.</td>
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<tr>
<td>Art</td>
<td></td>
<td>B.A.</td>
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<tr>
<td>Arts &amp; Science</td>
<td>B.Ars Sc.</td>
<td>B.Ars Sc.</td>
<td>B.Ars Sc.</td>
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<tr>
<td>Astrophysics</td>
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<td>B.Sc.</td>
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<tr>
<td>Biochemistry</td>
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<td>B.Sc.</td>
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<tr>
<td>Biological Chemistry</td>
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<td>B.Sc.</td>
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<tr>
<td>Biology</td>
<td>B.Sc.</td>
<td>B.Sc.</td>
<td>B.Sc.; B.A.</td>
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<tr>
<td>Biology &amp; Pharmacology</td>
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<td>B.Sc.</td>
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<td>Chemical Engineering</td>
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<td>B.Sc.</td>
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<td>Computer Engineering</td>
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<td>Electrical Engineering</td>
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<tr>
<td>Geography &amp; Environmental Studies</td>
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<tr>
<td>Geoscience</td>
<td>B.Sc.</td>
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<tr>
<td>German Area Studies</td>
<td>B.A.</td>
<td>B.A.</td>
<td>B.A.</td>
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<td>Japanese Studies</td>
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<td>Latin American Studies</td>
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<tr>
<td>Mechanical Engineering</td>
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<tr>
<td>Medical &amp; Health Physics</td>
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<tr>
<td>Medicine</td>
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<tr>
<td>Midwifery</td>
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<tr>
<td>Neural Computation</td>
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<td>B.Sc.</td>
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<td>Russian &amp; East European Area Studies</td>
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<tr>
<td>Software Engineering</td>
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</table>

* This degree programme is also available through a combination of evening and summer study.
* A five-year co-op option is available.
* An Honours (Specialist Option) is available for this programme.
* An Honours (Complementary Studies Option) is available for this programme.
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 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 a weighted 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 Kinesiology, Master of Science, Doctor of Philosophy).

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

Elective Courses are those 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 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 graduation 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. Overload units (those above Full Load) and Extra Courses taken during the Fall/Winter session are included in the FA.

Full-time Student for academic purposes is an undergraduate student who is registered in at least 24 units in the Fall/Winter session, including Extra Courses. Full-time status for students in the Faculty of Science Co-op 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 enrols 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 take place in May and August, provided the student has attempted 18 units of work since the last review or is a potential graduate.

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-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 the 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:

i) achieved a score of at least 550 on TOEFL, or the equivalent on other recognized tests, or
ii) achieved a score between 550 and the required minimum of 580 on TOEFL, or the equivalent on other recognized tests and successfully complete McMaster University’s English Qualifying University Intensive Programme (EQUIP)*, or
iii) attended a Canadian educational institution for at least three years, or
iv) 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.

EQUIP - English Qualifying University Intensive Programme (EQUIP) is a six-week intensive summer programme, aimed at university applicants whose TOEFL test scores fall between 550 and the required minimum of 580. EQUIP integrates advanced ESL skills with university readiness. Please contact the Admissions Office for application information. April 3 is the application deadline for the programme beginning May 25, 1998. June 12 is the application deadline for the programme beginning July 13, 1998.

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 Admission is granted annually in mid-June on a date agreed upon by all Ontario universities. Early Admission is based on interim grades, or a combination of interim and final marks, which are supplied by secondary schools in April. Early admission may be granted if you expect to acquire final standing later in the year.

If you are granted Early 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 OUAC 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 May, you may be granted an offer of Final Admission prior to June.

If you do not receive an offer of admission by June 30, 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, 1998, 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 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.

Students 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 applicants with high academic standing are selected. In recent years successful candidates had an admission average in the upper 80s or higher. The following are the minimum requirements:

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

> BUSINESS I

The School of Business introduced revisions to its programmes for students entering Business I in September, 1994. While there were no changes in the admission requirements, the specific percentage required for admission to Business I does vary from year to year. The following are the minimum requirements:

1. One of OAC English I, OAC French I or OAC French II
2. One of OAC Calculus, OAC Finite Mathematics or OAC Algebra and Geometry. (OAC Calculus and OAC Finite Mathematics are recommended.)
3. Completion of six additional OACs to total six credits, with a minimum average in the six required credits of no more than five percent below the minimum average required for admission. 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.
ENGINEERING I (0730)
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 (0700)
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%.
Although the stated minimum is 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.

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 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 allocation has been confirmed in June. Acceptance into ART 1F06 is contingent upon receiving written confirmation from the School of Art, Drama and Music. Please use the MHA OAC Code to ensure proper consideration of your application.

KINESIOLOGY I (0308)
Students must apply for admission to Level I. The following are the minimum requirements:
1. One of OAC English I, OAC Anglais I or OAC Anglais II
2. One of OAC Algebra and Geometry, OAC Calculus or OAC Finite Mathematics
3. Completion of additional OACs to total six credits.
Although the stated minimum is 70%, in recent years, an average in the low 80s has been required for an offer of admission.

NOTE: It is strongly recommended that you include two of Biology, Chemistry, or Physics in your OACs.

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

MIDWIFERY I (6501)
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, 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%.

MUSIC I (0370)
The academic requirements are the same as for Humanities I. In addition, applicants to Music I or to the B.A. in Music must successfully complete a music audition/examination consisting of:
1. Demonstration of technique (approximately Grade 9 level of the Royal Conservatory of Music, Toronto)
2. Performance (approximately 20 minutes duration) of two or three varied pieces of your choice (approximately Grade 9 level), including at least one from the 20th century.
3. Ear test appropriate to the Grade 9 performance level.
4. Written examination on rudiments of theory (Grade 2 level)
5. Interview
You must make arrangements with the School of Art, Drama and Music for your audition.

NURSING I (6390)
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 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.
Although the stated minimum is 70%, 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.

NOTE: You must apply to the programme within two years of completion of the OAC requirements.

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

SCIENCE I Reserve (0710)
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 Algebra and Geometry, or OAC Finite Mathematics
4. Two of OAC Biology, OAC Chemistry or OAC Physics
5. Completion of one additional OAC to total six credits.
6. An average acceptable to the Faculty in the four credits specified in points 2, 3, and 4 above.
7. An average acceptable to the Faculty in the best six OAC credits (which must include the four OACs specified in points 2, 3, and 4 above).
In recent years, an average in the low 80s 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.

NOTE: OAC Finite Mathematics is recommended for students interested in the Life Sciences. OAC Algebra and Geometry is recommended for students proceeding to the Mathematical or Physical Sciences.

SOCIAL SCIENCES I (0720)
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.
Although the stated minimum is 70%, in recent years, an average in the mid-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.
You are strongly advised to complete an OAC in Mathematics, even though it is not a requirement for most Social Science degree programmes. If you are interested in entering any of the Psychology and Economics degree programmes or any Honours Geography programme, you should complete OAC Calculus.

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
Satisfactory completion of the specified subject requirements for the programme to which you applied is also required. Please refer to the OAC Course Equivalents Chart in this section for more details.
## OAC Course Equivalents for Students from Other Canadian Provinces

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</thead>
<tbody>
<tr>
<td><strong>ENGLISH</strong></td>
<td>English 12, Writing 12 or English Lit 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 3100s</td>
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<tr>
<td><strong>CALCULUS (LDE)</strong></td>
<td>Calculus 12 (Locally Developed)</td>
<td>Math 31</td>
<td>Calculus 30</td>
<td>Introduction to Calculus 305, Math 385 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 3105</td>
</tr>
<tr>
<td><strong>ALGEBRA AND GEOMETRY</strong></td>
<td>Math 12</td>
<td>Math 30</td>
<td>Geom-Trig 30, Algebra 30 or Math 30</td>
<td>Math 300 or 405</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><strong>FINITE MATH</strong></td>
<td>Survey Math 12</td>
<td>Not available*</td>
<td>Finite Math 30L</td>
<td>Advanced Math 305 (Topics in Math), Stats and Probability 305 or 405</td>
<td>Not available*</td>
<td>Math 442</td>
<td>Math 121 or 122</td>
<td>Not available*</td>
<td>Not available*</td>
</tr>
<tr>
<td><strong>CHEMISTRY</strong></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 12IB (previously Chemistry 441 or 541)</td>
<td>Chemistry 121 or 122</td>
<td>Chemistry 621</td>
<td>Chemistry 3202</td>
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<tr>
<td><strong>PHYSICS</strong></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 12IB (previously Physics 441 or 541)</td>
<td>Physics 121 or 122</td>
<td>Physics 621</td>
<td>Physics 3204</td>
</tr>
<tr>
<td><strong>BIOLOGY</strong></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>
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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.
** Mathematics or International Baccalaureate Calculus are also acceptable.
++ Six Grade 12 credits numbered 60-65 may be substituted

### 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 programmes (refer to Subject Requirements for Specific Level Programmes in this section). For Science and Engineering, Mathematics and one of Physics or Chemistry must be offered at the Advanced Level;
3. Grades of at least C (B for Engineering) must be presented in each of the Advanced Level subjects.
Students may now view on the web current new courses at McMaster University produced by another.

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 within the Faculty of Science, please note the additional regulations for such a programme in the Faculty of Science section of 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 but not proceed to an advanced degree, you may apply to McMaster as a post-degree student. To enrol 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. Re-admission

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 Re-admission through the Admissions Office. Students from the School of Nursing must apply for Re-admission 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 Reinstatement. 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 Science Students 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 session on 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:

- A summary of the relevant circumstances surrounding your academic situation during the last session attended.
- Reasons for re-instatement at this time.
- Reasons for selection of courses/programme indicated.
- 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.
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:

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

To be eligible to apply for full-time study in Nursing at McMaster, you must achieve a cumulative average of at least 3.0 in all university degree credit courses taken (minimum of 12 units or equivalent required). Generally speaking, advanced credit could be up to 30 units if you are 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 Redeemer College
Redeemer College applicants must present, with an appropriate average, six Year 1 courses which are appropriate for the McMaster programme. Redeemer College courses in the 110-119 series are treated as equivalent to OACs for purposes of admission. To obtain advanced credit for work completed at Redeemer College, you are required to write an examination set by McMaster for each course in which credit is sought. (See Section E, Credit in Courses by Special Assessment.)

N. 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.

O. 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.

P. 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:

I. You are at least 21 years old, or will be, prior to the first day of classes for the session to which you apply.
II. You have not attended secondary school for at least two years.
III. 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.
IV. You have never attended university.

The Faculty of Engineering does not admit 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:

a) 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.
b) 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).
c) If you have failed more than six units, you may not continue at the University.
d) If your CA is less than 3.0, you may not continue at the University.

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.
Q. 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.

R. 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.

S. 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.

T. 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.

U. 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.

New category - Free tuition
Supplementary fee of $50.00
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 program 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 a Level I degree program as a full-time student.
  Please obtain the OUAC 105D form from the Admissions Office of any Ontario university or from the Ontario Universities’ Application Centre, 650 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 counselor 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 program 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 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 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 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 a second undergraduate degree in the same field.
- 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 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 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 (excluding CEGEP) ............. July 15
  - Domestic Documentation (excluding CEGEP) ............. July 15
  - CEGEP Applications (unless stated below) ............. March 1
  - Optional Supplementary Application Deadline for Level I Programmes ........................................... April 30
- Arts & Science Applications ........................................ February 28
- Supplementary Applications for those applying to the McMaster Scholars Programme ..................... March 1
- Supplementary Applications for all others .................. April 1
  - Biochemistry (Co-op) ...................................... February 1
  - Biology and Pharmacology (Co-op) ......................... February 1
  - Gerontology Applications .................................. March 31
  - Supplementary Applications** ............................ May 15
  - Kinesiology ................................................. May 15
  - Labour Studies ............................................. March 31
  - Medicine ................................................... October 15
  - (for September 1999 entry)
- 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 university transfer and Second Degree applicants need to complete the supplementary application forms.
- Please contact the Ontario Universities’ Application Centre for a supplementary application.
  - Only non-OAC students need to complete the mandatory supplementary applications. 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

Application deadlines are as indicated above for the corresponding desired academic session. The Nursing deadline is February 15 for September entry.

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) 525-4600
E-mail: macadmit@mcmaster.ca
GENERAL ACADEMIC REGULATIONS

The regulations which follow are the general regulations of the University. You should read both the 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.

Faculties are authorized to use discretion in special situations by taking into account past practice, the spirit of the regulations, and extraordinary circumstances. Students who believe their 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 GPA 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.

1. UNIVERSITY REGULATIONS

Residence Requirements

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

To obtain a three-level, first undergraduate degree, you may satisfy the residence requirements either:
1. by completing the final level and at least one other level (a minimum of approximately 60 units of work) at McMaster University; 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 programme 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 requisites. 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 for 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. (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 identity 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 5.5 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 be on academic probation only once. (Potential graduates may not continue at the University.)

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

**SCHOOL OF BUSINESS**

**Level II**
To be considered for entry into Commerce II a Business I student must meet all of the following requirements. You must achieve a CA of at least 5.0 on the 30 units of course work for Business I (on first attempts only); you must successfully complete all Business I required courses (ECON 1A06, COMMERCE 1S03, COMP SCI 1B13, MATH 1M03 or MATH 1A03; MATH 1K03 for students without OAC Calculus or whose credit in same is older than five years; STATS 1L03 for students without OAC Finite Mathematics or whose credit in same is older than five years); and you must have no more than six units of failure in the elective component of Business I courses.

If you are not admitted to Commerce II at the end of Business I, you have the following options available to you.

If your CA is 3.5 or greater, although you may not continue in Commerce, you are still in good standing at the University. You may continue at the University in a programme outside the School of Business or as an irregular student in Business. To continue in a programme outside the School of Business you must apply for admission to that programme through the Office of the Associate Dean (Studies) appropriate for that programme. You should consult that office for more details. If you are not admitted to another Faculty you may register in the School of Business as an irregular student for one reviewing period. During that period you cannot take Commerce courses and at the end of it you will not be eligible for consideration for admittance to Commerce II or readmittance to Business I. The purpose of your registration as an irregular student is to make yourself eligible for admission to a programme outside the School of Business.

If you have a CA of at least 3.0 but less than 3.5, you will be on academic probation and may continue at the University for one reviewing period. While on academic probation, you will be registered at the School of Business as an irregular student but cannot take Commerce courses. At the end of your probation period you will not be eligible for consideration for admittance to Commerce II or readmittance to Business I. The purpose of the probation period is to make you eligible for a programme outside the School of Business.

If you have a CA which is less than 3.0 at the end of Business I you may not continue at the University.

**Levels III and IV**

At the end of Level II, your CA determines in which programme you may continue. In Levels III and IV, Commerce students register in either the Commerce programme or the Honours Commerce programme. A higher CA is required to register in the Honours programme.

To enter Level III or continue in Level IV of the Honours Commerce programme, you must have a CA of at least 6.0. Those who complete Level III of the Honours programme with a CA of at least 5.5 but less than 6.0 may continue in the Honours programme in Level IV on programme probation. If your CA is less than 5.5, you may transfer to the Commerce programme. You must have a CA of at least 4.0 to continue in the Commerce programme. If your CA is at least 3.5 (with no more than six units of failure), you are permitted to continue in Commerce on programme probation for one reviewing period. If your CA is less than 3.5, 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.

If you did not qualify for the Honours programme at the end of Level II, and your CA is at least 6.0 at the end of Level III (with no more than six units of failure), you may enter Level IV of the Honours programme. Check with the Academic Programmes Office in the School of Business for information.

**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.

In Level II and above, you must maintain a CA of at least 4.0, with no failures, to continue in an Engineering programme. If your CA is at least 4.0 and includes one failure since your last review, and you were not placed on probation at the last review, you will be placed on programme probation. If your CA is at least 5.0 and includes two failures since your last review, and you were not placed on probation at the last review, you will be placed on programme probation. Your probation will be lifted if you complete the year with a Sessional Average of 4.0 with no failures. 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 HEALTH SCIENCES**

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

**FACULTIES OF HUMANITIES AND SOCIAL SCIENCES**

**Honours Programmes; B.A./B.S.W.; B.S.W.:** You must have a CA of at least 6.0 to continue in an Honours programme. If your CA is 5.5 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 5.0 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.

**B.Kin. Programme:** You must have a CA of at least 4.0 to continue in the 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 must transfer to another programme for which you qualify, and be placed on academic probation. If your CA is less than 3.0, you may not continue at the University.

**B.A. Programmes:** You must have a CA of at least 3.5 to continue in, or graduate from, a three-level B.A. programme. If your CA is 3.0 to 3.4, you may remain in the programme, but will be placed on academic probation. You may be on academic probation only once. 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 6.0 to continue in an Honours B.Sc. programme. If your CA is 5.5 to 5.9, you may remain in the Honours B.Sc. programme, but will be placed on programme probation. You may be on programme probation for only one reviewing period. If your CA is 3.0 to 3.4, you must transfer to another programme for which you qualify. If your CA falls below 3.0, you may not continue at the University.

**B.Sc. Programmes:** You must have a CA of at least 3.5 to continue in a three-level B.Sc. programme. If your CA is 3.0 to 3.4, you may continue on academic probation for one reviewing period. You may be on academic probation only once. If your CA is less than 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 statement for your programme in the case of Science programmes, or with your Faculty in the case of other programmes, for subject areas that are excluded from consideration as a Minor in your programme.

If you wish to receive a Minor, you should check the information under the heading Minor in the appropriate department’s listing. McMaster also offers Interdisciplinary Minors in Health and Society, Indigenous Studies, Jewish Studies, and Peace Studies, which are not connected to a specific Faculty or Department. (See Interdisciplinary Minors and Thematic Areas section.) The University also has three Theme Schools—Globalization, Social Change and the Human Experience, International Justice and Human Rights, and Science, Technology, and Public Policy—which give you, upon successful completion of one of the programmes, a Minor in that area of study. (See Theme Schools section.) You will be responsible for ensuring that you register in the required Minor courses. Normally, you must complete a minimum of 24 units in the Minor subject. No more than six of these units can be at Level 1, unless otherwise stated in the specific requirements of the Minor. At least 18 units must be completed at McMaster in the final year of your programme, when you file your Graduation Information Card, you must indicate your desire to receive a Minor in the chosen subject. The Faculty Reviewing Committee will verify that the requirements have been met. If you are successful, your transcript will contain a designation for Minor in that area. See Sessional Dates section for deadlines. You may apply for only one Minor. Minors cannot be revoked once approved, nor applied for retroactively. (See Note 4 under Second Bachelor’s Degree Programmes.)

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.

1. 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.

2. 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 programme requirements. In some Faculties, this includes a minimum number of units of work in the discipline.

3. 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 6.0. If admitted, you must complete at least 60 units beyond the first degree, including all Honours requirements specified for the programme.

4. 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 including all programme requirements. (Admission to a second B.Eng. degree is not possible if your first degree is in Engineering.)

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 return 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 30 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 reviewing periods where 30, 60, 90 and 120 units have been completed (based on the units completed since your last assessment).

3. EXAMINATIONS

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

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

a) be a part of a process of continuous or periodic assessment through the term; and
b) be held in the normally scheduled class or lab slot; and
c) be worth no more than ten percent of the final course grade.

See the Sessional Dates section of this Calendar.

Examinations Conducted by the Office of the Registrar

1. 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.

2. You may only use books, papers or instruments during an examination if they are specifically prescribed on the examination paper.

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

4. If you become ill during an examination, you may be excused by a presider.
GENERAL ACADEMIC REGULATIONS

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>B+</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>C+</td>
<td>7</td>
<td>67-69</td>
</tr>
<tr>
<td>C</td>
<td>6</td>
<td>62-66</td>
</tr>
<tr>
<td>C-</td>
<td>5</td>
<td>57-59</td>
</tr>
<tr>
<td>D</td>
<td>4</td>
<td>52-56</td>
</tr>
<tr>
<td>D-</td>
<td>3</td>
<td>47-49</td>
</tr>
<tr>
<td>F</td>
<td>0</td>
<td>0-49</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>Grade Points</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>A-</td>
<td>10</td>
<td>6</td>
</tr>
<tr>
<td>C+</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>B</td>
<td>8</td>
<td>6</td>
</tr>
<tr>
<td>B+</td>
<td>9</td>
<td>3</td>
</tr>
</tbody>
</table>

Total: 18/15 = 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 9.5 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.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 106, 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 1997-98 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).
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. The University publishes the document Senate Policy Statements which outlines the policies pertinent to students. It is available from the Office of the Registrar, Gilmour Hall, Room 108. An electronic version is also 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
- 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 Student Data)

The following provides a summary of the major policies contained in the Senate Policy Statements. 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) 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 Resolution on Academic Dishonesty defines academic dishonesty and specifies the procedures to be followed in the event that a student is charged with academic dishonesty. Penalties include expulsion from the University. A copy of the Senate Resolution may be obtained from the Senate Secretariat, Gilmour Hall, Room 104.

**Appeal Procedures**

The University has a responsibility to provide fair and equitable procedures for the lodging and hearing of student complaints arising from University 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 community implies acceptance of the principles of mutual respect for the rights of others and a readiness to support actively an environment conducive to intellectual growth, both for individuals and for the whole University.

The Student Code of Conduct contains regulations which outline the limits of conduct considered to be consonant with the goals and the well-being of the University community, and defines the procedures to be followed in cases of violation of the accepted standards.

**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:

1. Every person has the right to equal treatment with respect to services, facilities and advantages provided by or accessible to an institution of higher learning.
2. The 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.

**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 and the University's anti-harassment policy.

**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 and to provide a mechanism for the resolution of complaints in a fair and timely manner.

Information about applicants for admission who do not gain admission may be released except under the conditions described in the next paragraph. Additional information may be used by the various offices and officials of the University where a need to know has been established.

Applicants who have been refused admission 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 Records**

The University has developed operating procedures which are designed to protect the confidentiality of undergraduate student records. The full text of the Policy Statement on the Security of Student Data is found in the Senate Policy Statements, available at the Office of the Registrar.

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 Nursing, M.D., 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 normally placed in the student's file. But, in those cases where they have been made, they will not be disclosed.

The operating procedures also define the circumstances under which 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 must 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, diplomas, campus health services, student organizations, and athletics, and are payable by all students.

No caution deposits are required, but students must keep a balance of $25 in their McMaster Student Union's University Centre Bank account at all times.

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

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

Fees shown below are for 1997-98. The fee schedules for 1998-99 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/bms/finance/feesched.htm as of May 1998.

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>Base Per Unit</th>
<th>Visa Status</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Canadian/Permanent</td>
<td>$37.50 per unit</td>
</tr>
<tr>
<td>Arts &amp; Science</td>
<td>107.60 per unit</td>
<td>400.00 per unit</td>
</tr>
<tr>
<td>Business and</td>
<td>107.60 per unit</td>
<td>395.00 per unit</td>
</tr>
<tr>
<td>Commerce</td>
<td>107.60 per unit</td>
<td>364.00 per unit</td>
</tr>
<tr>
<td>Engineering</td>
<td>107.60 per unit</td>
<td>400.40 per unit</td>
</tr>
<tr>
<td>Eng. Mgt. II, IV</td>
<td>107.60 per unit</td>
<td>364.00 per unit</td>
</tr>
<tr>
<td>Eng. Mgt. III, V</td>
<td>107.60 per unit</td>
<td>375.00 per unit</td>
</tr>
<tr>
<td>Humanities</td>
<td>107.60 per unit</td>
<td>364.00 per unit</td>
</tr>
<tr>
<td>Kinesiology and</td>
<td>107.60 per unit</td>
<td>375.00 per unit</td>
</tr>
<tr>
<td>Social Sciences</td>
<td>107.60 per unit</td>
<td>375.00 per unit</td>
</tr>
<tr>
<td>Nursing</td>
<td>107.60 per unit</td>
<td>400.00 per unit</td>
</tr>
<tr>
<td>Occupational Therapy</td>
<td>114.45 per unit</td>
<td>431.60 per unit</td>
</tr>
<tr>
<td>Physiotherapy</td>
<td>114.45 per unit</td>
<td>431.60 per unit</td>
</tr>
<tr>
<td>Science</td>
<td>107.60 per unit</td>
<td>400.00 per unit</td>
</tr>
</tbody>
</table>

Supplementary Fees

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

McMaster Association of Part-Time Students Fees:

<table>
<thead>
<tr>
<th>Fee</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organization Fee</td>
<td>$17.50</td>
</tr>
<tr>
<td>University Centre Fee</td>
<td>2.00</td>
</tr>
<tr>
<td>Athletics and Recreation Activity Fee</td>
<td>4.20</td>
</tr>
<tr>
<td>Total Charge per unit</td>
<td>$23.70</td>
</tr>
</tbody>
</table>

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: 30.00
Canadian Federation of Students: 7.00
Ontario Public Interest Research Group (OPIRG): 5.50

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

McMaster Student Union Fees:

<table>
<thead>
<tr>
<th>Fee</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student Organization Fee</td>
<td>$86.84</td>
</tr>
<tr>
<td>Health Plan Premium</td>
<td>37.00</td>
</tr>
<tr>
<td>H.S.R. Bus Pass</td>
<td>56.00</td>
</tr>
<tr>
<td>WUSC Student Refugee Fee</td>
<td>1.00</td>
</tr>
<tr>
<td>Ancillary Fee for CFMU-FM</td>
<td>12.75</td>
</tr>
<tr>
<td>Ancillary Fee for MARMOR Yearbook</td>
<td>6.65</td>
</tr>
<tr>
<td>Sub Total</td>
<td>$324.46</td>
</tr>
</tbody>
</table>

Plus:
- McMaster Student Union's University Student Centre Building fee ($2.36 per unit), to a maximum of $70.80.
- Student Services Fee ($2.56 per unit), to a maximum of $76.80.

And Student Society Fees According to Faculty:

<table>
<thead>
<tr>
<th>Faculty</th>
<th>Fee Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arts &amp; Science</td>
<td>21.00</td>
</tr>
<tr>
<td>Bachelor of Kinesiology Society</td>
<td>15.00</td>
</tr>
<tr>
<td>Commerce Society</td>
<td>82.00</td>
</tr>
<tr>
<td>Engineering Society</td>
<td>73.00</td>
</tr>
<tr>
<td>Engineering Endowment</td>
<td>50.00</td>
</tr>
<tr>
<td>Humanities Society</td>
<td>15.00</td>
</tr>
<tr>
<td>Nursing</td>
<td>30.50</td>
</tr>
<tr>
<td>Nursing Learning Resource Fee</td>
<td>110.00</td>
</tr>
<tr>
<td>Occupational Therapy Learning Resource Fee</td>
<td>65.00</td>
</tr>
<tr>
<td>Physical Therapy Learning Resource Fee</td>
<td>110.00</td>
</tr>
<tr>
<td>Science Society</td>
<td>10.00</td>
</tr>
<tr>
<td>Social Science Society</td>
<td>15.00</td>
</tr>
</tbody>
</table>

Canadian Citizens and Landed Immigrant Students

(Examples of fees for full academic load.)

<table>
<thead>
<tr>
<th>Faculty</th>
<th>Fee Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arts &amp; Science</td>
<td>3,228.00</td>
</tr>
<tr>
<td>Business and</td>
<td>3,228.00</td>
</tr>
<tr>
<td>Commerce</td>
<td>3,228.00</td>
</tr>
<tr>
<td>Engineering and</td>
<td>3,505.59</td>
</tr>
<tr>
<td>Eng. Mgt. III, IV</td>
<td>3,228.00</td>
</tr>
<tr>
<td>Eng. Mgt. III, V</td>
<td>3,228.00</td>
</tr>
<tr>
<td>Humanities and</td>
<td>3,228.00</td>
</tr>
<tr>
<td>Social Sciences</td>
<td>3,228.00</td>
</tr>
<tr>
<td>Kinesiology</td>
<td>3,228.00</td>
</tr>
<tr>
<td>Medicine I, II</td>
<td>6,720.00</td>
</tr>
<tr>
<td>Medicine III</td>
<td>4,480.00</td>
</tr>
<tr>
<td>Midwifery I</td>
<td>3,227.40</td>
</tr>
<tr>
<td>Midwifery II</td>
<td>4,841.10</td>
</tr>
<tr>
<td>Nursing</td>
<td>3,228.00</td>
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<tr>
<td>Occupational Therapy</td>
<td>3,433.50</td>
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<tr>
<td>Physiotherapy</td>
<td>3,433.50</td>
</tr>
<tr>
<td>Science</td>
<td>3,228.00</td>
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</tbody>
</table>

Supplementary Fees

<table>
<thead>
<tr>
<th>Fee</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuition Fee</td>
<td>493.05</td>
</tr>
<tr>
<td>Fees</td>
<td>3,721.05</td>
</tr>
<tr>
<td>Total Fees</td>
<td>3,712.05</td>
</tr>
</tbody>
</table>

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

Nursing Students Add:

<table>
<thead>
<tr>
<th>Fee</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning Resource Fee</td>
<td>6.00</td>
</tr>
<tr>
<td>Nursing Total Per Unit</td>
<td>15.95</td>
</tr>
</tbody>
</table>
**Visa Students**
(Examples of fees for full academic load.)

<table>
<thead>
<tr>
<th>Subject</th>
<th>Tuition Fee</th>
<th>Supplementary Fees</th>
<th>Total Fees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arts &amp; Science</td>
<td>12,000.00</td>
<td>493.05</td>
<td>12,493.05</td>
</tr>
<tr>
<td>Business and Commerce</td>
<td>11,850.00</td>
<td>554.05</td>
<td>12,404.05</td>
</tr>
<tr>
<td>Engineering and Eng. Mgt. II, IV</td>
<td>12,012.00</td>
<td>595.05</td>
<td>12,607.05</td>
</tr>
<tr>
<td>Engineering, and Eng. &amp; Mgt. III, V</td>
<td>12,012.00</td>
<td>595.05</td>
<td>12,607.05</td>
</tr>
<tr>
<td>Humanities and Social Sciences</td>
<td>11,250.00</td>
<td>487.05</td>
<td>11,737.05</td>
</tr>
<tr>
<td>Kinesiology</td>
<td>11,250.00</td>
<td>487.05</td>
<td>11,737.05</td>
</tr>
<tr>
<td>Medicine I, II</td>
<td>32,475.00</td>
<td>479.00</td>
<td>32,954.00</td>
</tr>
<tr>
<td>Medicine III</td>
<td>21,650.00</td>
<td>479.00</td>
<td>22,129.00</td>
</tr>
<tr>
<td>Nursing</td>
<td>12,000.00</td>
<td>612.55</td>
<td>12,612.55</td>
</tr>
<tr>
<td>Occupational Therapy</td>
<td>12,948.00</td>
<td>582.05</td>
<td>13,530.05</td>
</tr>
<tr>
<td>Physiotherapy</td>
<td>12,948.00</td>
<td>527.05</td>
<td>13,475.05</td>
</tr>
<tr>
<td>Science</td>
<td>12,000.00</td>
<td>482.05</td>
<td>12,482.05</td>
</tr>
</tbody>
</table>

*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.

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### 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 1997-98.

<table>
<thead>
<tr>
<th>Traditional Residences</th>
<th>Full Payment</th>
<th>Minimum Payment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Double/Triple/Quad</td>
<td>2,825.00</td>
<td>1,550.00</td>
</tr>
<tr>
<td>Single</td>
<td>2,900.00</td>
<td>1,550.00</td>
</tr>
<tr>
<td>Bates Residence</td>
<td>3,025.00</td>
<td>1,613.00</td>
</tr>
</tbody>
</table>

**Meal Plans**

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

<table>
<thead>
<tr>
<th>Meal Plan</th>
<th>Full Payment</th>
<th>Minimum Payment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Light</td>
<td>2,225.00</td>
<td>1,113.00</td>
</tr>
<tr>
<td>Small</td>
<td>2,425.00</td>
<td>1,313.00</td>
</tr>
<tr>
<td>Regular</td>
<td>2,625.00</td>
<td>1,513.00</td>
</tr>
<tr>
<td>Large</td>
<td>2,825.00</td>
<td>1,713.00</td>
</tr>
</tbody>
</table>

If you wish to change your selection of meal plans, you may do so up to September 16, 1998. 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 will 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. The balance must be paid no later than January 16. Failure to make payment by January 16 will result in a late payment fee. Interest is added monthly to the unpaid balance. (Current rate is 1.2% per month.)

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 $25 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 $75 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.
**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. 24476, 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 and add period.

**Miscellaneous Fees**

The following fees were in effect for the 1997-98 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 ............................................. 50.00
  - Full-time Students ................................................ 50.00
  - Part-time Students ................................................. 50.00
  - Late Payment Fee .................................................. 32.00
  - Deferrment Fee ..................................................... 32.00
  - Reinstatement Fee ................................................ 75.00
  - 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 examination administered by the College of Nurses of Ontario.

**Insurance of Personal Property on University Premises**

The University considers that the purchase of insurance cover of any employees, faculty members, or students, nor does the University carry any insurance that would cover their personal property.

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

**Death and Dismemberment Insurance**

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

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

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

For information on student awards and financial aid, please refer to Undergraduate Academic Awards and Student Financial Aid sections of this Calendar.
The Arts & Science Programme has been designed for students who wish to use their university years to further their intellectual growth through study of significant achievements in both arts and sciences and in practice of methods of inquiry. The programme also allows for substantial specialization in a discipline or area through the use of electives. The philosophy of the Arts & Science Programme can be expressed by quoting A.N. Whitehead: “What education has to impart is an intimate sense for the power of ideas, for the beauty of ideas, and for the structure of ideas, together with a particular body of knowledge which has peculiar reference to the life of the being possessing it.”

— The Aims of Education and Other Essays, 1929

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

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

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

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

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

**INQUIRY SEMINAR REQUIREMENTS**

Inquiry seminars are comprised of Arts & Science 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 prescribed in the course listing as upper-level inquiry. See the course listing for topic designations. Arts & Science 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 STUDY/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 January, 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.

**Canadian 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 & Science 1A06, 1B06, 1C06, 1D06 |
| 6 units  | Biology 1A03, 1A3 (Biology requirement must be completed by the end of Level II) |

**LEVEL II: 30 UNITS**

| 18 units | Arts & Science 2A06, 2B06, 2R06 |
| 6 units  | Electives or Upper-level Inquiry (Art or Science 1C06) |

**LEVEL III: 30 UNITS**

| 6 units | Arts & Science 3B03, 3BB3 |
| 6 units | Arts & Science 3A06, 3L03, 3S03 |
| 6 units | Electives, or Upper-level Inquiry if this requirement has not already been completed |

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

ARTS & SCIENCE PROGRAMME

Established Combined Honours programmes are described below. Students are encouraged to consult the Director of the Arts & Science Programme by September of Level II for consideration of other possible combinations.

Honours Arts & Science and Anthropology (2027010)

ADMISSION
Completion of Arts & Science I with a Cumulative Average of at least 6.0 including an average of at least 7.0 in ANTHROP 1A03 and 1203.

NOTE:
Students who have taken ANTHROP 2103 are not allowed to take ANTHROP 3L03.

REQUIREMENTS
LEVEL I: 30 UNITS
24 units ARTS & SCI 1A06, 1B06, 1C06, 1D06
6 units ANTHROP 1A03, 1Z03

LEVEL II: 30 UNITS
12 units ARTS & SCI 2A06, 2R06
6 units BIOLOGY 1A03, 1A04
9 units ANTHROP 2E03, 2F03, 2PA3
3 units Anthropology

LEVEL III: 30 UNITS
12 units ARTS & SCI 2D06, 3A06
6 units Upper-level Inquiry
3 units from ANTHROP 2P03, 2S03, 2V03, 3A03, 3B03, 3D03, 3F03
3 units from ANTHROP 2DD, 2FF, 2Z03, 3H03, 3K03, 3P03
3 units ANTHROP 3L03
3 units Anthropology

LEVEL IV: 30 UNITS
12 units ARTS & SCI 3B03, 3BB3, 3L03, 3S03
6 units ANTHROP 4I03; three units Level IV Anthropology
6 units Anthropology
6 units Electives

Honours Arts & Science and Biochemistry (2027040)

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.

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, 2D06, 2F06
6 units BIOLOGY 1A03, 1AA3
6 units CHEM 2A03 and 2B03 or 2006

LEVEL III: 30 UNITS
6 units ARTS & SCI 3B03, 3BB3
6 units Upper-level Inquiry
12 units from BIOLOGY 2B03, 2C03, 2D03, 2E03, 2F03
6 units BIOCHEM 2EE3, 3G03

LEVEL IV: 30 UNITS
6 units ARTS & SCI 3A06 or 3L03, 3S03
19-21 units from Course List
3-6 units Electives

LEVEL V: 30 UNITS
6 units ARTS & SCI 3A06 or 3L03, 3S03 (whichever not completed)
6 units ARTS & SCI 4C06
9 units from Course List
9 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 2006 (or CHEM 20A3 and 20B3) may substitute this for CHEM 2B03 (or 2B03 and 2B33) and students who have completed ARTS & SCI 2D06 may substitute this for PHYSICS 1A06 or PHYSICS 1B06, or 1B03 (or 1C03) and 1BA3 (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, 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
12 units ARTS & SCI 2A06, 2R06
6 units PHYSICS 1A03, 1BA3 (or 1BB3)
6 units BIOLOGY 1A03, 1AA3
6 units CHEM 2B03, 2BB3
3 units MATH 1B03

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. Continuation in the programme beyond Level II requires a grade of at least 6- in BIOLOGY 1A06 or an average of at least 7.0 in BIOLOGY 1A05, 1AA3.
2. Students are advised to note carefully the prerequisites for all Level III and IV courses listed in the programme, particularly BIOCHEM 3A03, 3AA3.

COURSE LIST
All Level III and IV Biology courses except BIOLOGY 4C09, 4L09; BIOCHEM 2E03, 3B03, 3BB3, 3C03, 3G03, 3H03, 3N03, 4D03, 4E03, 4F03, 4G03, 4H03, 4M03; ENGINEER 4X03; GEO 2P03, 3B03, 3C03, 3F03, 4B03, 4P03; MOL BIOL 4F03, 4H03, 4J03; PHARMAC 4B03; PSYCH 2F03, 3FA3, 3RA3, 3R03, 3S03, 3T03

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, 2D06, 2R06
6 units BIOLOGY 1A03, 1AA3
6 units CHEM 2A03 and 2B03 or 2006

LEVEL III: 30 UNITS
6 units ARTS & SCI 3B03, 3BB3
6 units Upper-level Inquiry
12 units from BIOLOGY 2B03, 2C03, 2D03, 2E03, 2F03
6 units BIOCHEM 2EE3, 3G03

LEVEL IV: 30 UNITS
6 units ARTS & SCI 3A06 or 3L03, 3S03
19-21 units from Course List
3-6 units Electives

LEVEL V: 30 UNITS
6 units ARTS & SCI 3A06 or 3L03, 3S03 (whichever not completed)
6 units ARTS & SCI 4C06
9 units from Course List
9 units Electives
LEVEL II: 30 UNITS
12 units ARTS & SCI 2A06, 2D06
6 units BIOLOGY 1A03, 1A03
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, 3B3B
6 units Upper-level Inquiry
3 units COMP SCI 2ML3
9 units COMP SCI 3MG3, 3MH3, 3M3B
3 units from COMP SCI 3CB3, 3EAO3, 3A3A
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 (2027143)

ADMISSION
Completion of Arts & Science I with a Cumulative Average of at least 7.0 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, 2B06, BIOLOGY 1A03, 1A03
6 units Upper-level Inquiry
9 units COMP SCI 2A03, 2A03
6 units Language Requirement (See Note 1 above.)
LEVEL III: 30 UNITS
12 units ARTS & SCI 2D06, 3B03, 3B3B
6 units Upper-level Inquiry
9 units Upper-level Inquiry
6 units Language Requirement
LEVEL IV: 30 UNITS
12 units ARTS & SCI 3L03, 3S03
6 units Upper-level Inquiry
9 units Upper-level Inquiry
6 units Level III or IV Drama
6 units Level IV Drama approved as the Arts & Science Programme Individual Study/Thesis requirement

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.

NOTES:
1. COMP SCI 1MA3 can be used as a substitute for COMP SCI 1MC3. COMP SCI 1MB3 can be used as a substitute for COMP SCI 1MD3, and COMP SCI 2MC3 can be used as a substitute for COMP SCI 2SC3.
2. 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 Upper-level Inquiry
6 units Electives
LEVEL II: 30 UNITS
24 units ARTS & SCI 1A06, 1B06, 1C06, 1D06
6 units ECON 1A06
LEVEL III: 30 UNITS
12 units ARTS & SCI 2A06, 2D06
6 units Upper-level Inquiry
6 units ECON 2B03, 2G03, 2H03, 2HH3
LEVEL IV: 30 UNITS
12 units ARTS & SCI 3A06, 3B03, 3B3B
6 units ECON 2B03 and 3L03 or 3O06 or ARTS & SCI 2R06
3 units from ECON 2K03, 3I03
9 units Electives
LEVEL IV: 30 UNITS
6 units ARTS&SCI 1A06, 1B06, 1C06, 1D06
6 units ENGLISH 1D06
18 units ARTS&SCI 2A06, 2R06; BIOLOGY 1A03, 1A06
d and 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 1 (SIX UNITS REQUIRED)
FRENCH 4F03, 4I03, 4L03, 4MM3, 4N03, 4O03, 4Q03, 4S03, 4U03, 4X03, 4Y03

COURSE LIST 2 (THREE UNITS REQUIRED)
FRENCH 2G03, 3C03, 3F03, 4B03

REQUIREMENTS
LEVEL I: 30 UNITS
24 units ARTS&SCI 1A06, 1B06, 1C06, 1D06
6 units FRENCH 1A06 or 2M06, 1N06, or 1N6

LEVEL II: 30 UNITS
12 units ARTS&SCI 2A06, 2R06
6 units FRENCH 2M06, 1N06, or 1N6
6 units Upper-level Inquiry
3 units Economics
d 12 units French courses from Lists 2; two three-unit Level IV French courses from Course List 1
3 units from FRENCH 3A03, 3S03, 4J03
9 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 weighted average of at least 7.0 in six units of Level I Geo (formerly Geography).

NOTES
1. Students interested in Human Geography should choose GEO 1H06 in Level I. Students interested in Physical Geography or Environmental Science, should choose two courses from GEO 1A03, 1B03, 1G03.
2. All combined honours students should see the School of Geography and Geology academic advisor regarding the range (12-18 units) of required courses in Level IV.

COURSE LIST 1:
GEO 4A03, 4B03, 4C03, 4D03, 4F03, 4G03, 4H03, 4I03, 4J03, 4K03, 4L03, 4M03, 4N03, 4O03, 4P03, 4Q03, 4R03, 4S03, 4T03, 4U03

COURSE LIST 2:
GEO 3A03, 3B03, 3C03, 3D03, 3E03, 3F03, 3G03, 3H03, 3I03, 3J03, 3K03, 3L03, 3M03, 3N03, 3O03, 3P03, 3Q03, 3R03

COURSE LIST 3:
GEO 2B03, 2C03, 2G03, 2H03, 2I03, 2J03, 2K03, 2L03, 2M03, 2N03, 2O03, 2P03, 2Q03, 2R03, 2S03, 2T03, 2U03, 2V03, 2W03

REQUIREMENTS
LEVEL I: 30 UNITS
24 units ARTS&SCI 1A06, 1B06, 1C06, 1D06
6 units from GEO 1A03, 1B03, 1G03, 1H06

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 2M06 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 1 (SIX UNITS REQUIRED)
FRENCH 4F03, 4I03, 4L03, 4MM3, 4N03, 4O03, 4Q03, 4S03, 4U03, 4X03, 4Y03

COURSE LIST 2 (THREE UNITS REQUIRED)
FRENCH 2G03, 3C03, 3F03, 4B03

REQUIREMENTS
LEVEL I: 30 UNITS
24 units ARTS&SCI 1A06, 1B06, 1C06, 1D06
6 units FRENCH 1A06 or 2M06, 1N06, or 1N6

LEVEL II: 30 UNITS
12 units ARTS&SCI 2A06, 2R06
6 units FRENCH 2M06, 1N06, or 1N6
6 units Upper-level Inquiry
3 units Economics
d 12 units French courses from Lists 2; two three-unit Level IV French courses from Course List 1
3 units from FRENCH 3A03, 3S03, 4J03
9 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 2M06 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 1 (SIX UNITS REQUIRED)
FRENCH 4F03, 4I03, 4L03, 4MM3, 4N03, 4O03, 4Q03, 4S03, 4U03, 4X03, 4Y03

COURSE LIST 2 (THREE UNITS REQUIRED)
FRENCH 2G03, 3C03, 3F03, 4B03

REQUIREMENTS
LEVEL I: 30 UNITS
24 units ARTS&SCI 1A06, 1B06, 1C06, 1D06
6 units FRENCH 1A06 or 2M06, 1N06, or 1N6

LEVEL II: 30 UNITS
12 units ARTS&SCI 2A06, 2R06
6 units FRENCH 2M06, 1N06, or 1N6
6 units Upper-level Inquiry
3 units Economics
d 12 units French courses from Lists 2; two three-unit Level IV French courses from Course List 1
3 units from FRENCH 3A03, 3S03, 4J03
9 units Electives
LEVEL II: 30 UNITS
12 units ARTS & SCI 1A06, 2D06
6 units Biology 1A03, 1A03
6 units from ARTS & SCI 2R06, GEO 2I03, 2S03, STATS 1C03
6 units Course List 3

LEVEL III: 30 UNITS
12 units ARTS & SCI 3A06, 3B03, 3B03
6 units Upper-level Inquiry
6 units GEO 3R03 and either GEO 3FE3 or 3HF3
6 units Course List 2

LEVEL IV: 30 UNITS
6 units ARTS & SCI 3L03, 3S03
12-18 units Course Lists 1 and 2, including one of GEO 4CC3, 4R06
6-12 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-plus 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, 1A03
6 units Level II History, HUMAN 2F03
LEVEL III: 30 UNITS
12 units ARTS & SCI 3A06, 3B03, 3B03
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 an average of at least 6.0, including a weighted average of 7.0 in ARTS & SCI 1A06 or MATH 1A03 or 1AA3, and MATH 1B03.

REQUIREMENTS
LEVEL I: 33 UNITS
27 units ARTS & SCI 1A06, 1B06, 1C06, 1D06; MATH 1B03
6 units BIOLOGY 1A03, 1A03
LEVEL II: 33 UNITS
18 units ARTS & SCI 2A06, 2D06, 2R06
15 units MATH 2A03, 2A03, 2C03, 2R03, 2S03
LEVEL III: 33 UNITS
12 units ARTS & SCI 3A06, 3B03, 3B03
6 units Upper-level Inquiry
15 units MATH 3A03, 3A03, 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-plus 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.
4. Arts & Science students may not take PHILOS 2R03.

REQUIREMENTS
LEVEL I: 30 UNITS
24 units ARTS & SCI 1A06, 1B06, 1C06, 1D06
6 units BIOLOGY 1A03, 1A03
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, 3B03
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 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 six units from PHYSICS 1B03, 1B03 (or 1BB3),
2. PHYSICS 1A03 and 1AA3 may be replaced by PHYSICS 1A06. PHYSICS 1B03 and 1B03 (or 1BB3) may be replaced by PHYSICS 1A06 or 1B03.
3. PHYSICS 1A03, 1AA3, PHYSICS 1B03, 1B03 (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, Fortran or Pascal should elect COMP SCI 1S03 (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, 1B03 (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, 1A03, PHYSICS 1B03, 1B03 (or 1B33)
6 units from CHEM 1A06, 1A03, 1AA3
3 units MATH 2A03
3 units MATH 2G03

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, 3M33 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 Level III or IV Physics, excluding PHYSICS 4C04
3 units Electives

Honours Arts & Science (2027450)
and Political Science (2027460)

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. Level II courses may be fulfilled by either ARTS&SCI 2R06 (taken in Level II) or POL SCI 3N06 (taken in Level III).

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 3N06 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 (2027460)
and Psychology (2027460)

ADMISSION
Enrollment in this programme is limited. An application is required for admission. 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 PSYCH 1A06 (or an average of at least 7.0 in PSYCH 1A03, 1AA3) and at least B- in six additional units, and credit 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 2RR3 and STATS 1CC3 must be completed before entrance into Level III.
3. BIOLOGY 1A06, 1A03, 1AA3 is a prerequisite for PSYCH 2F03.
4. At some time during the programme, the student must meet a laboratory requirement by completing one of PSYCH 3E03, 3L03, 3LL0, 3QQ3, 3S03, 3V03, 4C03, 4QQQ. 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, 4C03, 4QQQ

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 1CC3 and PSYCH 2RR3 (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 (2027520)
and Sociology (2027530)

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

NOTES
1. A student may take a maximum of six units of SOCIOI 4M03/4M04 or 4MM6.
2. Students should check both this Calendar and the Departmental Handbook for prerequisites and course descriptions.

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

LEVEL II: 30 UNITS
12 units ARTS&SCI 2A06, 2D06
6 units BIOLOGY 1A03, 1AA3
12 units SOCIOI 2S06, 2Z03; three units Sociology

LEVEL III: 30 UNITS
6 units ARTS&SCI 3L03, 3S03
15 units SOCIOI 3H06, nine units Sociology
3 units from SOCIOI 3A03, 3P03, 3P03
3 units from SOCIOI 3L03, 3Q03, 3W03
3 units Electives

LEVEL IV: 30 UNITS
12 units ARTS&SCI 3A06, 3L03, 3S03
6 units Upper-Level Inquiry
6 units Level IV Sociology
6 units SOCIOI 4M03 and 4N03 or 4MM6 to replace ARTS&SCI 4A06 or 4C06
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 sound understanding of business functions and their relationships. They also obtain exposure to international and cross-cultural issues. This will provide them with the knowledge needed for the world of global organizations. Prior to graduation, students are required to complete successfully two courses from an International/Cross-Cultural/Language menu. The menu for 1998-99 is as follows:

- Designates a limited enrolment course

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<td>ITALIAN 2206</td>
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### FULL-TIME/PART-TIME STUDIES

Students can take Business I and the Commerce programs 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 programs or one of the Engineering and Management programs may take, as part-time students, Level III and IV Commerce courses (not previously taken, to a maximum of 18 units), excluding COMMERCES. 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.

### SECOND UNDERGRADUATE DEGREE

A student with an undergraduate degree will not be admitted or re-admitted to either of the Commerce programs. Such a student may wish to apply for admission in the M.B.A. program.

### CREDIT TOWARDS PROFESSIONAL DESIGNATIONS

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

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

### MINOR

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

### ACADEMIC REGULATIONS

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

#### CHANGE OF PROGRAMME

A student may transfer between Commerce programs 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 program 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.

### SCHOOL OF BUSINESS

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<tr>
<td>LINGUIST 1A06</td>
<td>The Study of Language</td>
</tr>
<tr>
<td>LINGUIST 2A03</td>
<td>The Making of the European Linguistic Landscape</td>
</tr>
<tr>
<td>LINGUIST 2A3</td>
<td>The Origin and Development of the European Language</td>
</tr>
<tr>
<td>LINGUIST 2L3</td>
<td>Languages of the World</td>
</tr>
<tr>
<td>LINGUIST 3K3</td>
<td>Sociolinguistics I</td>
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<tr>
<td>MOD LANG 2A03</td>
<td>Introduction to Literary Studies</td>
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<tr>
<td>MOD LANG 2B03</td>
<td>Survey of Italian Literature (in English)</td>
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<tr>
<td>MOD LANG 2H03</td>
<td>Masterworks of German Literature (in English)</td>
</tr>
<tr>
<td>MOD LANG 3A03</td>
<td>Literature and Politics in Germany 1914-45 (in English)</td>
</tr>
<tr>
<td>MOD LANG 3B03</td>
<td>Trento (in English)</td>
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<tr>
<td>MOD LANG 3C03</td>
<td>German Women Writers (in English)</td>
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<tr>
<td>MUSIC 1A05</td>
<td>Introduction to Music</td>
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<tr>
<td>MUSIC 2A03</td>
<td>Popular Music</td>
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<td>MUSIC 3L03</td>
<td>Jazz</td>
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<tr>
<td>MUSIC 4X03</td>
<td>Music of the World’s Cultures</td>
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<td>POLISH 1Z06</td>
<td>Beginner’s Polish</td>
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<td>POLISH 2Z06</td>
<td>Intermediate Polish</td>
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<tr>
<td>POL SCI 2A06</td>
<td>Comparative Politics</td>
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<tr>
<td>POL SCI 2E06</td>
<td>International Politics</td>
</tr>
<tr>
<td>POL SCI 3A03</td>
<td>International Politics in the Post-war Period*</td>
</tr>
<tr>
<td>POL SCI 3E03</td>
<td>The Politics of International Organizations*</td>
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<tr>
<td>POL SCI 3E03</td>
<td>International Relations: North-South*</td>
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<tr>
<td>POL SCI 3X03</td>
<td>Politics of the Third World*</td>
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<tr>
<td>RELIG 1B06</td>
<td>World Religions</td>
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<tr>
<td>RELIG 1H03</td>
<td>Religious Dissent and Revitalization</td>
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<tr>
<td>RELIG 2A06</td>
<td>Mysticism in Hindu and Christian Traditions</td>
</tr>
<tr>
<td>RELIG 2B03</td>
<td>Images of the Divine Feminine</td>
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<tr>
<td>RELIG 2H03</td>
<td>Theory and Practice of Non-Violence</td>
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<tr>
<td>RELIG 2J06</td>
<td>India: Its Culture, Social History, Religion and Philosophy</td>
</tr>
<tr>
<td>RELIG 2L03</td>
<td>Life, Work and Teachings of Mahatma Gandhi</td>
</tr>
<tr>
<td>RELIG 2M03</td>
<td>Death and Dying: Comparative Views</td>
</tr>
<tr>
<td>RELIG 2Q03</td>
<td>Cults in North America</td>
</tr>
<tr>
<td>RELIG 2R03</td>
<td>Introduction to Hindu Philosophy</td>
</tr>
<tr>
<td>RELIG 2S03</td>
<td>Women and Religion</td>
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<tr>
<td>RELIG 2T03</td>
<td>Topics in Indian Philosophy</td>
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<td>RELIG 2T03</td>
<td>Taoism and the Search for Immortality in China</td>
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<tr>
<td>RELIG 2V03</td>
<td>Islam and the Modern World</td>
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<tr>
<td>RELIG 2W03</td>
<td>Religion and Ecology</td>
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<tr>
<td>RELIG 3A03</td>
<td>Popular Religion in India</td>
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<tr>
<td>RELIG 3E03</td>
<td>Japanese Religion</td>
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<tr>
<td>RELIG 3H03</td>
<td>Storytelling in East Asian Religions</td>
</tr>
<tr>
<td>RELIG 3I03</td>
<td>Storytelling in Indian Religion</td>
</tr>
<tr>
<td>RELIG 3J03</td>
<td>The Buddhist Tradition in India</td>
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<tr>
<td>RELIG 3K03</td>
<td>C’han and Zen Buddhism</td>
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<tr>
<td>RUSSIAN 1Z06</td>
<td>Beginner’s Intensive Russian</td>
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<tr>
<td>RUSSIAN 2C06</td>
<td>Intermediate Language Study</td>
</tr>
<tr>
<td>SANSKRT 3A06</td>
<td>Introduction to Sanskrit Grammar</td>
</tr>
<tr>
<td>SANSKRT 4B06</td>
<td>Readings in Sanskrit Texts</td>
</tr>
<tr>
<td>SOCIOLE 2E06</td>
<td>Racial and Ethnic Group Relations</td>
</tr>
<tr>
<td>SOCIOLE 3Z03</td>
<td>Ethnic Relations*</td>
</tr>
</tbody>
</table>
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 36 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.

**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 repetition or replacement, as appropriate, will be included in the calculation of a student’s CA. Voluntary repetitions of non-Course 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 the Drop and Add period 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.

**READMISION**

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 July 15 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.

Other applicants seeking reinstatement may apply through the Office of the Registrar. Such applicants must complete a *Returning Student Application* form together with a supplementary information form. Both forms may be obtained from the Office of the Registrar. The completed forms and the $50 application fee must be submitted to the Office of the Registrar by July 15 for entry in September.

**COMMERCe INTERNETSHIP PROGRAMME**

This is a programme designed to provide students with an opportunity to participate in career oriented work terms. Positions begin after the successful completion of Level III and may continue for periods of eight, twelve or sixteen months. Students compete for opportunities with participating companies through an application and interview process. Upon completion of the internship, students return to campus to complete their degree programme. Students securing positions will be required to register in COMMERCE 310, 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 310, 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, South Africa and Singapore. Official exchange programmes offer students the most inexpensive means of studying abroad as students participating in these exchanges avoid 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 the Academic Programmes Office, in the M.G. DeGroote Building, Room 104.

Additional information may be found [under international study](#) in the [General Academic Regulations](#) section of this Calendar.

Information concerning [GOTSEP](#) (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) 525-5140, EXTENSION 24748

**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 Application Procedures-Readmission 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 may 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.

PROGRAMMES

THE SCHOOL OF BUSINESS HAS INTRODUCED REVISIONS TO THE HONSOURS COMMERCE AND COMMERCE PROGRAMMES. THE REVISED PROGRAMMES ARE SET OUT BELOW. STUDENTS WHO ENTERED LEVEL II COMMERCE PRIOR TO SEPTEMBER 1995 SHOULD CONSULT THE ACADEMIC PROGRAMMES OFFICE FOR INFORMATION ABOUT THEIR PROGRAMME REQUIREMENTS.

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 all Business I required courses (ECON 1A06, COMMERCE 1S03, COMP SCI 1BA3, MATH 1M03 or MATH 1A03; MATH 1K03 for students without OAC Calculus or whose credit in same is older than five years; STAT 1L03 for students without OAC Finite or whose credit in same is older than five years);
   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 seeking this minor or 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 MG. DeGroote Building, Room 104, for information.

6. Admission to either of the Commerce programmes beyond Commerce Level II is not possible.

**Business I**

REQUIREMENTS

15-21 units COMMERCE 1S03; COMP SCI 1BA3; ECON 1A06; MATH 1M03 or 1A03 (see Note 4 above); MATH 1K03 for those without OAC Calculus or whose credit in same is older than five years; STAT 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 (B.Com.)**

REQUIREMENTS

LEVEL II: 30 UNITS

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

3 units ECON 2K03

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 for continuation in the Honours B.Com. programme are specified in the General Academic Regulations section of this Calendar.

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 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.

**Minor in Business**

REQUIREMENTS

6 units ECON 1A06 or 1B03 and 1BB3

18 units COMMERCE 2AA3, 2AB3, 2BA3, 2FA3, 2MA3, 2QA3, 2QB3, 3BC3, 3FA3, 3MC3

NOTE:

Effective September 1998, 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 3BA3 and 3SC3), 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.

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.

Complete or Econ 1A06 or 1B03 with minimum grade of B-
Dean of Engineering
M. Shoukri/B.Sc., M.Sc., Ph.D., P.Eng.
Associate Dean of Engineering
Director of Engineering I
Undergraduate Student Advisors
S.D. Verhage
J. Zywna

An engineer, as originally defined, is an ingénieur. The engineer today is concerned with the creation of devices, systems, and structures for human use. In this role of creator and innovator, the engineer finds resourcefulness and capacity for invention at the heart of the practice of engineering. Modern society is challenged to advance from heedless exploitation of our world to an era of exercising responsible stewardship of resources, and the useful management of both the products and wastes of our industries. Engineering education at McMaster provides a host of choices which lead to this creative and fulfilling role in society.

For information concerning the Bachelor of Technology programme, please see the Programme for B. Tech. Degree section of this Calendar.

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

- Chemical Engineering
- Civil Engineering
- Computer Engineering
- Electrical Engineering
- Engineering Physics
- Manufacturing Engineering
- Materials Engineering
- Mechanical Engineering
- Software Engineering

A five-year programme, leading to the Bachelor of Engineering and Society Degree, is offered in:

- Chemical Engineering and Society
- Civil Engineering and Society
- Computer Engineering and Society
- Engineering Physics and Society
- Electrical Engineering and Society
- Manufacturing Engineering and Society
- Materials Engineering and Society
- Mechanical Engineering and Society
- Software Engineering and Society

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

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

Both five-year programmes have limitations on enrolment. Students are admitted to the programme following successful completion of Level I. Admission procedures and criteria can be obtained from the Office of the Associate Dean of Engineering.

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 1603 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.
- Technical Electives are Engineering or Applied Science courses in subjects relevant to the particular B.Eng. programme.
- Commerce 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. Both the appropriate Department Chair and the Associate Dean of Engineering must approve each student's Technical, Commerce and Engineering 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 18-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 a Summer of Engineer, 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 in order to accept an Internship. An assessment is made 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. For further information please see International Study in the General
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 is required to register in the lowest level for which more than six units of work are completed. 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.

RESTATEMENT TO ENGINEERING

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

Students seeking reinstatement must complete the 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 July 15. Applications must be accompanied by a letter of explanation 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 deadline dates established by the University (see Sessional Dates section of this Calendar).
Civil Engineering (B. Eng.)

 LEVEL III: 36 UNITS
21 units CHEM ENG 3D03, 3E04, 3K04, 3L02, 3M04, 3O04
3 units CHEM 2E03
12 units COMMERCE 2AB3, 2FA3, 3MC3
3 units ENGINEER 2MM3

LEVEL IV: 37 UNITS
11 units CHEM ENG 3G03, 3P03, 4L02, 4M03
12 units COMMERCE 2BA3, 2QA3 5FA3, 3GC3
2 units ENGN MGT 3AA1, 4A01
3 units Commerce electives selected from Level III or IV Commerce courses or COMMERCE 2QB3
3 units approved complementary studies electives (above Level I)
6 units from BIOCHEM 2EE3, CHEM ENG 3Q03, CHEM 2A03, 3I03, ENGINEER 2E03

LEVEL V: 35 UNITS
8 units CHEM ENG 4N04; one of CHEM ENG 4W04 or 4Y04
3 units COMMERCE 4PA3
3 units ENGN MGT 5B03
9 units from CHEM ENG 4B03, 4C03, 4E03, 4K03, 4T03, 4X03, 4Z03, ELEC ENG 4C03, ENGINEER 4U03
3 units ENGINEER 4A03 or 4H03 or equivalent
6 units Commerce electives selected from Level III or IV Commerce courses or COMMERCE 2QB3
3 units approved Level III or IV technical electives

Chemical 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
16 units CHEM ENG 2A04, 2C02, 2D04, 2F04, 2G02
3 units CHEM 1A03
6 units ENGN MGT 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
3 units ENGINEER 2MM3
3 units ENGN MGT 3Y03
3-6 units Engineering and Society focus electives

LEVEL IV: 33-36 UNITS
15 units CHEM ENG 3E04, 3G03, 3P03, 4L02, 4M03
6 units ENGN MGT 3X03, 3Z03
3 units STAT 3N03
6 units from BIOCHEM 2EE3, CHEM ENG 3Q03, CHEM 3I03, ENGINEER 2003
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, 4X03, 4Z03, ELECT ENG 4C03, ENGINEER 4U03
6 units ENGN MGT 4X03, 4Z03
3 units approved Level III or IV technical electives
6 units Engineering and Society focus electives

Civil Engineering (B.Eng.)

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 IV, students must complete a Civil Engineering electives form, and ensure that it has been approved by the Department before completing a Level IV Registration Form.

LEVEL II: 35 UNITS
21 units CIV ENG 2A02, 2C04, 2D03, 2E03, 2J03, 2K03
6 units MATH 2M06

LEVEL III: 36 UNITS
26 units CIV ENG 3A03, 3B03, 3G03, 3J04, 3K03, 3M04, 3Q03, 3S03
3 units ENGINEER 5P03
4 units ENGINEER 3J04
3 units approved complementary studies electives

LEVEL IV: 34-36 UNITS
3 units CIV ENG 4B03
6 units ENGINEER 4B03; and ENGINEER 4A03, 4H03 or equivalent
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.)

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 18 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 II: 37 UNITS
15 units CIV ENG 2A02, 2C04, 2J03, 2K03
6 units COMMERCE 2AA3, 2MA3
6 units ECON 1BB3, 2X03
4 units ENGINEER 2P04
6 units MATH 2M06

LEVEL III: 39 UNITS
15 units CIV ENG 2D03, 2E03, 3M04, 3C03
9 units COMMERCE 2AB3, 2BA3, 2FA3
7 units ENGINEER 2C03, 2Q04
4 units MATH 3J04
3 units STAT 3Y03
3 units approved complementary studies electives (above Level I)

LEVEL IV: 38 UNITS
19 units CIV ENG 3A03, 3B03, 3G03, 3J04, 3K03, 3S03
12 units COMMERCE 3BC3, 3FA3, 3MC3, 3QC3
3 units Commerce electives selected from Level III and IV Commerce courses or COMMERCE 2QB3
3 units ENGINEER 3P03
1 unit ENGN MGT 3AA1

LEVEL V: 37-38 UNITS
3 units CIV ENG 4B03
21-22 units from Level IV Civil Engineering technical electives or ENGINEER 4U03
3 units COMMERCE 4PA3
4 units ENGN MGT 4A01, 5B03
3 units Commerce electives selected from Level III and IV Commerce courses or COMMERCE 2QB3
3 units from ENGINEER 4A03, 4H03 or equivalent

Civil Engineering and Society (B.Eng. Society)

ADMISSION
See Admission to Level II Engineering Programmes.

NOTE
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: 34-37 UNITS
15 units CIV ENG 2A02, 2C04, 2I03, 2J03, 2K03
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 2D03, 2E03, 3M04, 3Q03
7 units ENGINEER 2C03, 2Q04
4 units MATH 3J04
3 units ENGSOCTY 3Y03
3-6 units Engineering and Society focus electives

LEVEL IV: 34-37 UNITS
19 units CIV ENG 3A03, 3B03, 3G03, 3J04, 3K03, 3S03
3 units ENGINEER 3P03
6 units ENGSOCTY 3X03, 3Z03
6-9 units Engineering and Society focus electives

LEVEL V: 36-40 UNITS
3 units CIV ENG 4B03
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.) [4144]

ADMISSION
See Admission to Level II Engineering Programmes.

NOTE
Notice of Revised Course Structure: Beginning in September 1997 those students entering any Computer Engineering programme will follow a revised course structure. The Level IV and V (where applicable) requirements for these revised programmes will appear in the 1999-2000 Calendar.

LEVEL II: 38 UNITS
8 units COMP ENG 2D14, 2S14
12 units ELEC ENG 2C14, 2CJ4, 2E14
7 units ENGINEER 2B03, 2Q04
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 3C4K, 3E14, 3F14, 3T14, 3TJ4
3 units MATH 3K03

LEVEL IV: 34 UNITS (1998-99 ONLY)
12 units COMP ENG 4H03, 4K13, 4MA3, 4WA3
4 units ELEC ENG 4A01, 4QA3
6 units ENGINEER 4B03 and 4A03 or 4H03 or equivalent
12 units from COMP SCI 3D03, 4CB3, Level III or IV Electrical Engineering or Engineering Physics or Level IV Computer Engineering

Computer Engineering and Management (B.Eng. Mgt.) [4144325]

ADMISSION
See Admission to Level II Engineering Programmes.

NOTE
See Notice of Revised Course Structure above.

LEVEL II: 37 UNITS
6 units COMMERCE 2AA3, 2BA3
4 units COMP ENG 2D14
6 units ECON 1B03, 2X03
8 units ELEC ENG 2C14, 2CJ4
2 units ENGN MGT 2A2A
8 units MATH 2P04, 2Q04
3 units Science technical elective approved by the department

LEVEL III: 37 UNITS
9 units COMMERCE 2AB3, 2FA3, 2MA3
8 units COMP ENG 2S14, 3S14
12 units ELEC ENG 2E14, 3T14, 3TJ4
4 units ENGINEER 2004
1 unit ENGN MGT 3A01
3 units MATH 3K03

LEVEL IV: 36 UNITS (1998-99 ONLY)
9 units COMMERCE 3B03, 3F03, 3M03
10 units COMP ENG 3K04, 4H03, 4WA3
16 units ELEC ENG 3C14, 3E14, 3T14, 3TJ4
1 unit ENGN MGT 4A01
3 units approved complementary studies electives (above Level I)

LEVEL V: 34 UNITS (1998-99 ONLY)
6 units COMP ENG 4H03, 4MA3
6 units COMP ENG 4HE3, 4MA3
1 unit ELEC ENG 4A01
3 units from ENGINEER 4A03 or 4H03 or equivalent
3 units ENGN MGT 5H03
6 units Commerce electives selected from Level III and IV Commerce courses or COMMERCE 2Q03
9 units from COMP SCI 3D03, 4CB3, Level III or IV Electrical Engineering or Engineering Physics or Level IV Computer Engineering (not ELEC ENG 4QA3)

Computer Engineering and Society (B.Eng. Society) [4144535]

ADMISSION
See Admission to Level II Engineering Programmes.

NOTES
1. See Notice of Revised Course Structure above.
2. A minimum of 18 units of focus elective courses is required for the programme.

LEVEL II: 36-39 UNITS
4 units COMP ENG 2D14
8 units ELEC ENG 2C14, 2CJ4
7 units ENGINEER 2B03, 2Q04
6 units ENGSOCTY 2X03, 2Y03
8 units MATH 2P04, 2Q04
3-6 units Engineering and Society focus electives

LEVEL III: 33-36 UNITS
8 units COMP ENG 2S14, 3S14
16 units ELEC ENG 2E14, 3K13, 3T14, 3TJ4
3 units ENGSOCTY 3Y03
3 units MATH 3K03
3 units Engineering and Society focus electives

LEVEL IV: 35-38 UNITS (1998-99 ONLY)
10 units COMP ENG 3K04, 4H03, 4WA3
16 units ELEC ENG 3C14, 3E14, 3T14, 3TJ4
6 units ENGSOCTY 3X03, 3Z03
3-6 units Engineering and Society focus electives

LEVEL V: 34 UNITS (1998-99 ONLY)
6 units COMP ENG 4HE3, 4MA3
1 unit ELEC ENG 4A01
6 units ENGSOCTY 4X03, 4Z03
3 units ENGINEER 4B03
6 units Engineering and Society focus electives
12 units from COMP SCI 3D03, 4CB3, Level III or IV Electrical Engineering or Engineering Physics or Level IV Computer Engineering (not ELEC ENG 4QA3)

Electrical Engineering (B.Eng.) [4170]

ADMISSION
See Admission to Level II Engineering Programmes.

NOTE
Notice of Revised Course Structure: Beginning in September 1997 those students entering any Electrical Engineering programme will follow a revised course structure leading to two options in the final level: communications and power. The Level IV and V (where applicable) requirements for these revised programmes will appear in the 1999-2000 Calendar.
LEVEL II: 38 UNITS
8 units COMP ENG 2S14, 2D14
12 units ELEC ENG 2C14, 2C14, 2E14
7 units ENGINEER 2B03, 2D04
8 units MATH 2P04, 2Q04
3 units approved complementary studies electives (above Level I)

LEVEL III: 39 UNITS
12 units COMP ENG 3D14, 3S14, 3SK4
24 units ELEC ENG 3C14, 3E14, 3F14, 3P14, 3T14, 3T14
3 units MATH 3K03

LEVEL IV: 34 UNITS (1998-99 ONLY)
4 units ELEC ENG 4A01, 4Q03
6 units ENGINEER 4B03 and 4A03 or 4H03 or equivalent
12 units Electrical Engineering Level IV or Computer Engineering Level III or IV courses
12 units Level III or IV approved technical electives

Electrical Engineering and Management (B.Eng.Mgt.) [4170325]

ADMISSION
See Admission to Level II Engineering Programmes.

NOTE
See Notice of Revised Course Structure above.

LEVEL II: 37 UNITS
6 units COMMERCE 2A1A, 2B1A
4 units COMP ENG 2D14
6 units ECON 1B03, 2X03
8 units ELEC ENG 2C14, 2C14
2 units ENGN MGT 2A2A
8 units MATH 2P04, 2Q04
3 units Science technical elective approved by the department

LEVEL III: 37 UNITS
9 units COMMERCE 2A1A, 2B1A, 2C1A
9 units COMP ENG 2D14
12 units ELEC ENG 2C14, 2E14, 2T14
4 units ENGINEER 2O04
1 unit ENGN MGT 3A1A
3 units MATH 3K03

LEVEL IV: 35 UNITS (1998-99 ONLY)
9 units COMMERCE 3C1A, 3F1A, 3MC8 (Term 2)
4 units COMP ENG 3S14
12 units ELEC ENG 3C14, 3P14, 3T14
3 units from ENGINEER 4A03 or 4H03 or equivalent
1 unit ENGN MGT 4A01
3 units STAT 3X03
3 units approved complementary studies electives (above Level I)

LEVEL V: 34 UNITS (1998-99 ONLY)
6 units COMMERCE 3C1A, 3F1A
1 unit ELEC ENG 4A01
3 units ENGN MGT 5B03
6 units Commerce electives selected from Level III and IV Commerce courses or COMMERCE 2Q13
18 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)

Electrical Engineering and Society (B.Eng. Society) [4170535]

ADMISSION
See Admission to Level II Engineering Programmes.

NOTE
1. See Notice of Revised Course Structure above.
2. A minimum of 18 units of focus elective courses is required for the programme.

LEVEL II: 36-39 UNITS
4 units COMP ENG 2D14
8 units ELEC ENG 2C14, 2C14
7 units ENGINEER 2B03, 2D04
6 units ENGS0CTY 2X03, 2Y03
8 units MATH 2P04, 2Q04
3-6 units Engineering and Society focus electives

LEVEL III: 33-36 UNITS
8 units COMP ENG 2S14, 3S14
16 units ELEC ENG 2E14, 3C14, 3T14, 3T14
3 units ENGS0CTY 3Y03
3 units MATH 3K03
3-6 units Engineering and Society focus electives

LEVEL IV: 38-41 UNITS (1998-99 ONLY)
8 units COMP ENG 3D14, 3SK4
12 units ELEC ENG 3F14, 3P14, 3T14
6 units ENGS0CTY 3X03, 3Z03
3-6 units Engineering and Society focus electives
9 units approved Level III or IV technical electives

LEVEL V: 31 UNITS (1998-99 ONLY)
1 unit ELEC ENG 4A01
6 units ENGS0CTY 4X03, 4Z03
3 units ENGINEER 4B03
6 units Engineering and Society focus electives
15 units Electrical Engineering Level IV or Computer Engineering Level III or IV courses (not ELEC ENG 4QA3)

Engineering Physics (B.Eng.) [4190]

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 Electro-Optics ENG PHYS 4G03, 4K03, 4S04
- Nuclear Engineering ENG PHYS 4D03, 4L03, 4N03
- Solid State Electronics ENG PHYS 4E03, 4F03

LEVEL II: 38 UNITS
4 units COMP ENG 2D14
7 units ENGINEER 2O03, 2P04
11 units ENG PHYS 2A03, 2E04, 2H04
8 units MATH 2P04, 2Q04
3 units PHYSICS 2D03
6 units approved English literature

LEVEL III: 37 UNITS
16 units ENG PHYS 3D03, 3E03, 3F03, 3O03, 3W04
9 units MATH 3C03, 3D03, 4Q03
9 units PHYSICS 3B06, 3M03
3 units Complementary studies electives (above Level I)

LEVEL IV: 38-39 UNITS
3 units ENGINEER 4B03
11 units ENG PHYS 4A04, 4C03, 4J04
4 units PHYSICS 4B04
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, 4H03, 4S04, PHYSICS 4D06

Engineering Physics and Management (B.Eng.Mgt.) [4190325]

ADMISSION
See Admission to Level II Engineering Programmes.

LEVEL II: 38 UNITS
6 units COMMERCE 2A1A, 2B1A
4 units COMP ENG 2D14
2 units ENGN MGT 2A2A
7 units ENGINEER 2O03, 2P04
11 units ENG PHYS 2A03, 2E04, 2H04
8 units MATH 2P04, 2Q04

LEVEL III: 40 UNITS
9 units COMMERCE 2A1A, 2B1A, 2C1A
6 units ECON 1B03, 2X03
10 units ENG PHYS 3E03, 3F03, 3L04
6 units MATH 3C03, 3D03
9 units PHYSICS 2D03, 3B06
LEVEL IV: 39 UNITS

12 units COMMERCESBC3, 3FA3, 3MC3, 3QC3
1 unit ENGNMGT3AA1
13 units ENGPHYS3D03, 3O03, 4C03, 4U04
3 units MATH4Q03
7 units PHYSICS3M03, 4B04
3 units approved complementary studies elective (above Level I)

LEVEL V: 38-40 UNITS (1999-99 ONLY)

3 units COMMERCES4PA3
3 units ENGNMGT5B03
7 units ENGPHYS4A04, 4C03
16-18 units approved Level III or IV technical electives, of which 10 units must be selected from the following courses:
ENGPHYS4D03, 4E03, 4F03, 4G03, 4N03, 4S04, PHYSICS4D06
6 units Commerce electives selected from Level III and IV Commerce courses or COMMERCES2QB3
3 units approved complementary studies elective (above Level I)

LEVEL V: 35-37 UNITS (EFFECTIVE 1999-2000)

3 units COMMERCES4PA3
4 units ENGNMGT4A01, 5B03
4 units ENGPHYS4A04
18-20 units approved Level III or IV technical electives, of which 10 units must be selected from the following courses:
ENGPHYS4D03, 4E03, 4F03, 4G03, 4N03, 4S04, PHYSICS4D06
6 units Commerce electives selected from Level III and IV Commerce courses or COMMERCES2QB3

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 ENGINEER2003, 2P04
11 units ENGPHYS2A03, 2E04, 2H04
6 units ENGSOCTY2X03, 2Y03
8 units MATH2P04, 2Q04
3-6 units Engineering and Society focus electives

LEVEL III: 35-38 UNITS

4 units COMPENG2D14
10 units ENGPHYS3E03, 3F03, 3W04
3 units ENGSOCTY3Y03
6 units MATH3C03, 3D03
9 units PHYSICS3P03, 3B06
3-6 units Engineering and Society focus electives

LEVEL IV: 36-39 UNITS (1999-99 ONLY)

14 units ENGPHYS3D03, 3O03, 3W04, 4U04
6 units ENGSOCTY3X03, 3Z03
3 units MATH4Q03
7 units PHYSICS3M03, 4B04
6-9 units Engineering and Society focus electives


13 units ENGPHYS3D03, 3O03, 4C03, 4U04
6 units ENGSOCTY3X03, 3Z03
3 units MATH4Q03
7 units PHYSICS3M03, 4B04
3-6 units Engineering and Society focus electives


3 units ENGINEER4B03
7 units ENGPHYS4A04, 4C03
6 units ENGSOCTY4X03, 4Z03
13-15 units approved Level III or IV technical electives, of which 10 units must be selected from the following courses:
ENGPHYS4D03, 4E03, 4F03, 4G03, 4N03, 4S04, PHYSICS4D06
6-9 units Engineering and Society focus electives

LEVEL V: 34-39 UNITS (EFFECTIVE 2000-2001)

3 units ENGINEER4B03
4 units ENGPHYS4A04
6 units ENGSOCTY4X03, 4Z03
18-20 units approved Level III or IV technical electives, of which 10 must be selected from the following courses:
ENGPHYS4D03, 4E03, 4F03, 4G03, 4N03, 4S04, PHYSICS4D06
3-6 units Engineering and Society focus electives

Manufacturing Engineering (B.Eng) 4314

ADMISSION
See Admission to Level II Engineering Programmes.

LEVEL II: 36 UNITS

14 units ENGINEER2MM3, 2P04, 2Q04
3 units MANUFACT2C03
6 units MATH2M06
10 units MECHENG2A03, 2W04, 3C03
3 units approved English literature (Term I)

LEVEL III: 35 UNITS

3 units ENGINEER3N03
2 units MANUFACT3M02
3 units MATLS3P03
21 units MECHENG3A03, 3E04, 3F04, 3O04, 3R03, 4D03
3 units STATS3Y03
3 units complementary studies electives (above Level I)

LEVEL IV: 39 UNITS

9 units COMMERCES3QC3
9 units ENGINEER4A03 or 4H03 or equivalent, and 4B03, 4J03
9 units MANUFACT4A03, 4M04, 4P02
15 units MECHENG4M03, 4K03, 4R03, 4Z03
3 units approved technical electives (See Level IV Mechanical Engineering)

Manufacturing Engineering and Management (B.Eng.Mgt.) 4314325

ADMISSION
See Admission to Level II Engineering Programmes.

LEVEL II: 37 UNITS

9 units COMMERCES2AA3, 2BA3, 2MA3
6 units ECON1BB3, 2X03
4 units ENGINEER2P04
2 units ENGINEER2A02
3 units MANUFACT2C03
6 units MATH2M06
7 units MECHENG2A03, 2W04

LEVEL III: 38 UNITS

6 units COMMERCES2AB3, 2FA3
13 units ENGINEER2C03, 2MM3 (Term 1), 2Q04, 3N03
2 units MANUFACT3M02
14 units MECHENG3C03, 3F04, 3O04, 3R03
3 units STATS3Y03

LEVEL IV: 35 UNITS

9 units COMMERCES3BC3, 3FA3, 3MC3
2 units ENGNMGT3AA1, 4A01
5 units MANUFACT4A03, 4P02
3 units MATLS3P03
13 units MECHENG3A03, 3E04, 4D03, 4K03
3 units complementary studies electives (above Level I)

LEVEL V: 37 UNITS

6 units COMMERCES3QC3, 4PA3
6 units from ENGINEER4A03 or 4H03 or equivalent, and ENGINEER4J03
3 units ENGINEER5B03
4 units MANUFACT4M04
12 units from MECHENG4H03 or 4K03, and 4Q03, 4R03, 4Z03
6 units Commerce electives selected from Level III and IV Commerce courses or COMMERCES2QB3
Materials Engineering and Society (B.Eng. Society)  

ADMISSION  
See Admission to Level II Engineering Programmes.  

NOTE  
A minimum of 16 units focus elective courses is required for the programme.  

LEVEL II: 32-35 UNITS  
7 units ENGINEER 2003, 2P04  
6 units ENGSOCTY 2X03, 2Y03  
3 units MANUFACT 2003  
6 units MATH 2M06  
7 units CHEM ENG 2A03, 2W04  
3-6 units Engineering and Society focus electives  

LEVEL III: 35-38 UNITS  
10 units ENGINEER 2MM3 (Term 1), 2Q04, 3N03  
3 units ENGSOCTY 3Y03  
2 units MANUFACT 3M02  
14 units CHEM ENG 3C03, 3E04, 3O04, 3R03  
3 units STATS 3Y03  
3-6 units Engineering and Society focus electives  

LEVEL IV: 33-36 UNITS  
3 units ENGINEER 4J03  
6 units ENGSOCTY 3X03, 3Z03  
2 units MANUFACT 4P02  
3 units MATLS 3P03  
16 units CHEM ENG 3A03, 3F04, 4D03, 4H03, 4R03  
3-6 units Engineering and Society focus electives  

LEVEL V: 34-37 UNITS  
3 units COMMERCE 3Q03  
3 units ENGINEER 4B03  
6 units ENGSOCTY 4A03, 4Z03  
7 units MANUFACT 4A03, 4M04  
9 units from CHEM ENG 4H03 or 4K03, and 4Q03, 4Z03  
3-6 units Engineering and Society focus electives  
3 units approved Level III or Level IV technical electives (See Level IV Mechanical Engineering.)  

Materials Engineering (B.Eng.)  

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, 2O03, 2P04  
11 units MATLS 2B03, 2D03, 2H03, 2X02  
6 units MATH 2M06  
6 units approved complementary studies electives  

LEVEL III (MATERIALS ENGINEERING STREAM): 35-37 UNITS  
4 units CHEM ENG 2A04  
19 units MATLS 3B03, 3E04, 3I05, 3P03, 3T04  
3 units MATH 3I05  
3 units from STATS 3N03 or 3Y03  
6-8 units from CHEM ENG 3O04, 3Q03, GEO 2M04 (formerly GEOLOGY 2B04), ENG PHYS 3F03, MATLS 4P03, 4R04, 4S04, CHEM ENG 3C04  

LEVEL IV (MATERIALS ENGINEERING STREAM): 36-37 UNITS  
9 units from ENGINEER 4A03 or 4H03 or equivalent, and ENGINEER 4B03, 4J03  
12 units MATLS 4A02, 4B04, 4L02; and one of MATLS 4K04 or 4Z04  
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 3O04 or CHEM ENG 3Q04, if not completed  

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 ENGN MGT 2AA2  
6 units ENGINEER 2MM3, 2D03  
6 units MATH 2M06  
9 units MATLS 2B03, 2D03, 2H03  

LEVEL III: 35-38 UNITS  
4 units CHEM 2A04  
6 units COMMERCE 2B03  
1 unit ENGN MGT 3AA1  
4 units ENGINEER 2P04  
3 units ENG PHYS 3F03  
11 units MATLS 3X02, 3E04, 3I05  
3 units MATH 3I03  
3 units from STATS 3N03 or 3Y03  
3 units COMMERCE 2AA3, if not completed  

LEVEL IV (MATERIALS ENGINEERING STREAM): 36-37 UNITS  
4 units from CHEM ENG 3O04 or MECH ENG 3O04  
12 units COMMERCE 2AB3, 3BC3, 3FA3, 3MC3  
1 unit ENGN MGT 3AA1  
10 units MATLS 3B03, 3P03, 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 COMMERCE 3Q03, 4P03  
6 units from ENGINEER 4A03 or 4H03 or equivalent; ENGINEER 4J03  
3 units ENGN MGT 5B03  
12 units MATLS 4A02, 4B04, 4L02; one of MATLS 4K04 or 4Z04  
6 units Commerce selected from Level III and IV Commerce courses or COMMERCE 2Q03  
3-4 units approved technical electives  

LEVEL IV (CERAMIC ENGINEERING STREAM): 36-37 UNITS  
4 units from CHEM ENG 3O04 or MECH ENG 3O04  
1 unit ENGN MGT 4AA1  
4 units GEO 2M04 (formerly GEOLOGY 2B04)  
14 units MATLS 3B03, 3P03, 3T04, 4R04 or 4S04  
3 units approved complementary studies electives (above Level I)
Materials Engineering and Society (B.Eng. Society)  

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

LEVEL II: 34-37 UNITS
4 units CHEM 2W04
6 units ENGINEER 2MM3, 2003
6 units ENGSOCT 2X03, 2Y03
9 units MATLS 2B03, 2D03, 2H03
6 units MATH 2M06
3-6 units Engineering and Society focus electives

LEVEL III: 34-37 UNITS
4 units CHEM ENG 2A04
4 units ENGINEER 2P04
3 units ENG PHYS 3F03
3 units ENGSOCT 3Y03
11 units MATLS 2X02, 3E04, 3I05
3 units MATH 3I03
3-6 units Engineering and Society focus electives

LEVEL IV (MATERIALS ENGINEERING STREAM): 32-36 UNITS
4 units from CHEM ENG 3004 or MECH ENG 3004
6 units ENGSOCT 3X03, 3Z03
10 units MATLS 3B03, 3P03, 3T04
9-10 units approved technical electives

LEVEL V (ENGINEERING STREAM): 30-34 UNITS
6 units ENGINEER 4B03, 4J03
6 units ENGSOCT 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): 34-37 UNITS
4 units from CHEM ENG 3004 or MECH ENG 3004
6 units ENGSOCT 3X03, 3Z03
4 units GEO 2M04 (formerly GEOLOGY 2B04)
14 units MATLS 3B03, 3P03, 3T04 and 4R04 or 4S04
3-6 units Engineering and Society focus electives
3 units approved technical electives

LEVEL V (CERAMIC ENGINEERING STREAM): 31-34 UNITS
6 units ENGINEER 4B03, 4J03
6 units ENGSOCT 4X03, 4Z03
16 units MATLS 4A02, 4B04, 4L02; MATLS 4K04 or 4Z04; MATLS 4R04 or 4S04
3-6 units Engineering and Society focus electives

Mechanical Engineering (B.Eng.)  

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

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 1)

LEVEL III: 35-38 UNITS
6 units ENGINEER 2MM3 (Term 1), 3N03
3 units MATH 3I03
3 units MATLS 3P03 (may be deferred to Level IV)
23 units MECH ENG 3A03, 3D03, 3E04, 3F04, 3M02, 3Q04, 3R03
3 units STATS 3Y03

LEVEL IV: 33 UNITS
18 units MECH ENG 3D03, 4M04, 4P02, 4Q03, 4R03, 4S03
6 units from ENGINEER 4A03 or 4H03 or equivalent, and 4B03
3 units complementary studies electives (above Level I)
6 units from CHEM ENG 4T03, CIV ENG 3K03, COMMERCE 3Q03, ELEC ENG 3P14, ENGINEER 4J03, 4X03, ENG PHYS 3F03, 3X03, 4D03, 4L03, MECH ENG 4D03, 4H03, 4K03, 4L03, 4T03, 4U03, 4V03, 4X03, 4Z03, MANUFACT 4A03

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

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

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

LEVEL II: 37 UNITS
9 units COMMERCE 2AA3, 2BA3, 2MA3
6 units ECON 1BB3, 2X03
7 units ENGINEER 2MM3, 2P04
6 units MATH 2M06
7 units MECH ENG 2A03, 2W04
2 units ENGN MGT 2AA2

LEVEL III: 36 UNITS
3 units COMMERCE 2FA3
7 units ENGINEER 2O03, 2Q04
1 unit ENGN MGT 3AA1
3 units MATH 3I03
19 units MECH ENG 2C03, 3A03, 3C03, 3F04, 3M02, 3Q04
3 units STATS 3Y03

LEVEL IV: 34 UNITS
12 units COMMERCE 2AB3, 2BC3, 2FA3, 3MC3
12 units
1 unit ENGN MGT 4A01
18 units MECH ENG 3D03, 3E04, 3R03, 4P02, 4R03, 4S03
3 units Level III or IV approved technical electives

LEVEL V: 34-37 UNITS (1998-1999 ONLY)
6 units COMMERCE 3QC3, 4PA3
3 units ENGN MGT 5B03
10 units MECH ENG 3D03, 4M04, 4Q03
3 units from ENGINEER 4A03 or 4H03 or equivalent
6 units Commerce electives selected from Level III and IV Commerce courses or COMMERCE 2Q03
6 units from CHEM ENG 4T03, CIV ENG 3K03, ELEC ENG 3P14, ENGINEER 3N03, 4J03, 4X03, ENG PHYS 3F03, 3X03, 4D03, 4L03, MECH ENG 4D03, 4H03, 4K03, 4L03, 4T03, 4U03, 4V03, 4X03, 4Z03, MANUFACT 4A03, MATLS 3P03
3 units approved complementary studies elective (if not taken in Level IV)

Mechanical Engineering and Society (B.Eng. Society)
Software Engineering (B.Eng.)

ADMISSION
See Admission to Level II Engineering Programmes.

LEVEL II: 37 UNITS
3 units ENGINEER 2003
6 units MATH 2M06
22 units SFWR ENG 2A04, 2B04, 2C04, 2D04, 2E03, 2F03
6 units approved complementary studies elective
LEVEL III: 37 UNITS (EFFECTIVE 1999-2000)
3 units COMP SCI 2SB3
6 units ENGINEER 3K03, 3L03
25 units SFWR ENG 3B04, 3C03, 3E03, 3F03, 3G03, 3H03, 3J03
3 units STATS 3N03
LEVEL IV: 36 UNITS (EFFECTIVE 2000-2001)
3 units ENGINEER 4E03
27 units SFWR ENG 4A03, 4C03, 4D03, 4E03, 4F03, 4G03, 4H03, 4I03, 4J03
6 units approved technical electives

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

ADMISSION
See Admission to Level II Engineering Programmes.

LEVEL II: 37 UNITS
6 units COMMERCE 2AA3, 2MA3
3 units ECON 1B03
6 units MATH 2M06
22 units SFWR ENG 2A04, 2B04, 2C04, 2D04, 2E03, 2F03
LEVEL III: 37 UNITS (EFFECTIVE 1999-2000)
6 units COMMERCE 2B03, 2F03
3 units COMP SCI 2SB3
3 units ECON 2X03
22 units SFWR ENG 3B04, 3C03, 3E03, 3F03, 3G03, 3H03, 3J03
3 units STATS 3Y03
LEVEL IV: 38 UNITS (EFFECTIVE 2000-2001)
12 units COMMERCE 2A03, 3B03, 3F03, 3M03
9 units ENGINEER 2003, 3K03, 3L03
2 units ENGN MGT 3A01, 4A01
12 units SFWR ENG 3J03, 4E03, 4I03, 4J03
3 units approved complementary studies elective (above Level II)

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 of Instruction 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 Technologist 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 1: 18 UNITS
3 units ENG TECH 1MA3
3 units ENG TECH 1ML3
3 units ENG TECH 1PG3
3 units MAN TECH 1CD3
3 units MAN TECH 1ID3
3 units MAN TECH 1TF3

LEVEL 2: 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 3: 15 UNITS
3 units MAN TECH 3FB3
3 units MAN TECH 3FM3
3 units MAN TECH 3FT3
3 units MAN TECH 3MT3
3 units MAN TECH 3ST3
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 community 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 (Chedoke, General, Henderson), Hamilton Psychiatric Hospital, St. Joseph's Hospital, St. Peter's Hospital, Hamilton Regional Cancer Centre and the Health Sciences Education Centre, Mohawk College. Extensive use is made of a variety of community agencies. A satellite 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.

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.

<table>
<thead>
<tr>
<th>Programme</th>
<th>Deadline</th>
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<tbody>
<tr>
<td>Medicine (M.D.)</td>
<td>October 15</td>
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<tr>
<td>Midwifery (B.H.Sc.)</td>
<td>February 1</td>
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<tr>
<td>Nursing (B.Sc.N.)</td>
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<tr>
<td>Applicants directly from Ontario Secondary</td>
<td>May 1</td>
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<td>Schools ..................................................</td>
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<tr>
<td>Diploma Registered Nurses</td>
<td>February 15</td>
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<tr>
<td>Nurse Practitioner</td>
<td>February 1</td>
</tr>
<tr>
<td>Applicants with Other Qualifications</td>
<td>February 15</td>
</tr>
<tr>
<td>Transfers from other degree Nursing programmes</td>
<td>June 30</td>
</tr>
<tr>
<td>Occupational Therapy and Physiotherapy:</td>
<td></td>
</tr>
<tr>
<td>(Second Degree Programme) (B.H.Sc.) .............</td>
<td>December 1</td>
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</tbody>
</table>

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 admission 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 COUNSELING

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 Coordinator of Studies (Nursing). Students are also encouraged to consult individual faculty members regarding career planning.

TRANSPORTATION

Students are responsible for expenses involved in transporting themselves to community agencies, making home visits, or in connection with clinical study.

LICENCE TO PRACTISE

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

The programme is offered through Continuing Health Sciences Education in the Faculty of Health Sciences. The programme is of eight months duration, admitting approximately eight students per academic year.

This applied professional programme is designed to enhance the knowledge and skills of individuals working with children, adolescents and families in health care settings. Courses examine a range of issues related to Child Life practice through case studies, small group and self-directed learning. Two eight-week 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 interview format, as well as the availability of space in the programme.

Applications must be submitted by mid-April for the study period beginning in September of the same year. A letter of intent, resume, official academic transcript, two written references and identification of a referee are required components of the application process. A select number of applicants will be invited for personal and group interviews in May, based upon the strength of the written information identified above. Application information outlining specific dates and application requirements can be obtained by contacting the Child Life Studies programme office at (905) 525-9140, ext. 27795. This programme will be offered subject to availability of funding.

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.

Applications must have basic 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 Environmental Health Programme. The programme is of eight months duration, admitting up to 15 students per academic year. 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.

Applications must be submitted by the end of March for the study period starting in September. Applications can be obtained by contacting the Environmental Health Programme 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. Relevant university degree or equivalent is generally 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 extensive ambulatory care and research facilities at the McMaster University Medical Centre division of Chedoke-McMaster Hospitals, but also the clinical teaching units at each of the major Hamilton hospitals and community health-care centres.
The Undergraduate Medical Programme for the M.D. 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 postgraduate 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 experience 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. and M.R.C.P. 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 provide effective, efficient and humane patient care. While most graduates will proceed to further postgraduate training. While most graduates will be involved directly with the care of individual patients, it is expected that some will pursue 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 preventative, therapeutic, rehabilitative and supportive management.

- **SKILLS**
  - To acquire and use the following skills:
    1. **Critical Thinking Skills:** The application of a 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 performance, find 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 act responsibly:
    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.

The students are presented with a series of health-care problems, requiring for their solution the understanding of underlying physiological, psychological and social mechanisms. The programme is interprofessional in nature and is for experienced health professionals who wish advanced preparation as clinicians.

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 at tutorials 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 education programme. Through representation on policy-making and implementing committees, students can influence decisions in such areas as education, research, 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. Continual evaluation of the student occurs within the tutorial setting with input from their peers, faculty preceptors, and the tutor.

Two problem-solving exercises are required in each unit. At the completion of the unit, the tutor is responsible for the final summation 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 given to the students for self-evaluation and, in 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 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

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<tr>
<th>JAN</th>
<th>FEB</th>
<th>MAR</th>
<th>APR</th>
<th>MAY</th>
<th>JUN</th>
<th>JUL</th>
<th>AUG</th>
<th>SEP</th>
<th>OCT</th>
<th>NOV</th>
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<tbody>
<tr>
<td>UNIT 1</td>
<td>UNIT 2</td>
<td>UNIT 3</td>
<td>ELECTIVE</td>
<td>HOLIDAYS</td>
<td>UNIT 4</td>
<td>ELECTIVE</td>
<td>CHRISTMAS BREAK</td>
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<tr>
<td>UNIT 5</td>
<td>THE CLERKSHIP (UNIT 6)</td>
<td>Unit 6 includes 2 - 8 week blocks (16 weeks) of elective time</td>
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<tr>
<td>UNIT 5</td>
<td>THE CLERKSHIP</td>
<td>(CONTINUED)</td>
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<td>REVISION</td>
<td>GRADUATION</td>
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The curriculum of the Undergraduate Medical Programme comprises six units, an elective programme and revision time. There is less of a division between the preclinical parts and the clinical parts of the MD Programme than in more traditional schools. Patient contact and clinical skills development start in Unit 1 and increase throughout the programme. The scientific background for understanding patients' problems, while more intensively studied in earlier units, continues to be applied as it is relevant to the care of patients in clinical situations.

PROGRAMME OUTLINE FOR UNIT 1

The objectives include the determinants of health and illness. Factors from the molecular to the global environment will be considered. Concepts and information from three knowledge perspectives will be studied: the population perspective, the behavioural perspective and the biological perspective. Students will begin to acquire basic skills of critical appraisal, clinical skills and, in particular, learning skills. During this unit, students will become familiar with the health care system in the Hamilton region and the opportunities for learning which it offers. The three subunits are: Hurting and Healing; Growing, Growing Gene; and Keeping an Even Keel. This unit is the foundation for all the following units.

PROGRAMME OUTLINE FOR UNITS 2-4

These units are concerned with the systematic study of human structure, function and behaviour and are organized around systems of the body, as follows:

- Unit 2 Cardiovascular, Respiratory and Renal Systems
- Unit 3 Hematologic, Gastroenterologic and Endocrine Systems
- Unit 4 Neurologic, Locomotor and Behavioural Systems

Throughout these body-systems oriented units, students are expected to become self-directed learners capable of critically evaluating newly acquired information.

PROGRAMME OUTLINE FOR UNIT 5

Unit 5 has an emphasis on three major areas: reproduction, development and aging. Health care problems are used as a basis for learning. There is also a strong community focus and students are encouraged to have clinical encounters around these three areas of the life cycle. Clinical preceptors are assigned to aid in obtaining clinical encounters and also in fulfilling the professional skills objectives. Tutorial evaluation is still the mainstay, however reasoning exercises and a written McCot exercise are also included. Elements of critical appraisal are also objectives.

PROGRAMME OUTLINE FOR UNIT 6 - 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 assessment.

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.

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 the 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 (seven weeks), after Unit 4 (four weeks), and during the Clerkship (sixteen weeks).

2. Horizontal Electives: These are undertaken concurrently with other parts of the curriculum. Horizontal electives are entirely voluntary, not being required for completion of the 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. The intent is to encourage students to explore special frontier areas of medicine and health care. Examples include: research training and experience; community health projects; international health opportunities. These experiences are often undertaken following Unit 5 or during the first half of Unit 6. Some experiences may potentially have partial funding (e.g., by student research fellowships).

REGULATIONS FOR LICENCE TO PRACTISE

A degree in medicine does not in itself confer the right to practise 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.

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, MD 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 1999 shall be as published in the 1999 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 select any area 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 review of applications.
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 1998 are for the academic year commencing in the fall of 1999. 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, 1998, 4:30 pm EST. Applicants will be notified of interview dates in Hamilton in March or April.

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 recent 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, 1998; 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 required by McMaster University.
It is not normally possible to notify applicants of any outstanding transcripts before November 16, 1998. Therefore, it is totally the applicant's responsibility to ensure that all transcripts and Registrar statements are received at OMSAS by November 16, 1998. Failure to meet this requirement will result in the disqualification of the application.

ACADEMIC ELIGIBILITY
Applicants must report on the Academic Record Form all grades received in the degree credits in which they have ever registered. Failure to report courses, programmes or grades on the Academic Record Form will result in the disqualification of the application. All grades are converted by the applicant on the Academic Record Form to a 4.0 scale according to the OMSAS Undergraduate Grading System Conversion Table. (The Conversion Table is provided with the OMSAS Application.)

All applicants must fulfill the requirements described below in both (a) and (b).

a) By September 1, 1999, 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 by September 1, 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.
Applicants who have satisfactorily completed the requirements for a baccalaureate degree in less than three years by October 15, 1998, are also eligible.

b) By October 15, 1998, applicants must have achieved an overall simple 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.
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 Instruction Booklet.

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 for the Autobiographical Submission which is a description about their preparedness for medicine and suitability 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 Autobiographic Sketch. Applicants may be asked to provide evidence of geographical status. In selecting applicants for interview, the bona fide place of residence will be used in the following order of priority:
1. Hamilton Health Region and Northwestern Ontario (defined as west of Wawa to the Manitoba Boundary);
2. the rest of Ontario;
3. the rest of Canada; and
4. other countries.
To qualify for 1 or 2 above, an applicant must:
a) be a Canadian citizen or permanent resident by October 15, 1998, and
b) have resided for at least three years in the area since the age of 14. Attendance at a university in the area 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 3.
All other applicants qualify for 4. While all applicants from this Geographic Category are considered, they may be selected for interview only 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 McMaster Undergraduate Medical Programme and the score 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 attend 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 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 given the candidate's Autobiographical Sketch.

This Autobiographical Sketch is not assessed but serves as a background on the applicant's current and previous education and experience. 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.

Successful applicants will be notified the last working day in May of each year.

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 instruments 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 1B7, by June 30 of the year of application, after which time feedback will be provided.

APPLICATION FOR DEFERRAL OF 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 by deadlines, determined from year-to-year (normally within two weeks of the offer of admission).

SPECIAL APPLICANTS
Candidates who wish to apply as Special Applicants must first be assessed for eligibility. Those who believe they are eligible for this category, must contact, in writing, the Chair of the Admissions Committee, McMaster Undergraduate Medical Programme, HSC Room 1B7, 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. have not 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, at least four but not more than ten full degree credit courses, obtaining an overall average of at least B on the McMaster grading scale. 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, and
5. must be assessed as having made an exceptional contribution to society. In this, candidates must have shown creativity, initiative and leadership. 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 I. There is no provision for advanced standing or transfer into the programme.

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 as well as by the relative scarcity of financial assistance funds.

In this situation, it is incumbent on students admitted to the M.D. 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 1997-98, the academic fees (tuition and student supplementary fees) for a student in the McMaster Undergraduate Medical Programme were:

CANADIAN CITIZENS AND LANDED IMMIGRANTS

<table>
<thead>
<tr>
<th>Year</th>
<th>Fee</th>
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<tbody>
<tr>
<td>I &amp; II</td>
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<td>III</td>
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VISA STUDENTS

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</thead>
<tbody>
<tr>
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<td>$32,954</td>
</tr>
<tr>
<td>III</td>
<td>$22,129</td>
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</table>

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 programmes about eligibility for support. In addition, the following sources of funding are available to undergraduate medical students:

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 intern. 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 acceptable 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. Telephone (905) 572-4000.

LOAN FUNDS
The Undergraduate Medical Programme administers a small loans and bursaries 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 Bursaries and Loan Fund, the William Andrew Vanderburgh St. Memorial Fund, the Ripley Estate Bursary and Loan Fund.

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

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 never compromise the spirit of cooperative scholarship which characterizes its M.D. programme 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, within the spirit of cooperative scholarship, these funds are available to support individual students in their 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.

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 joint 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. Full-time students will complete 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 1996, 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 experience is obtained 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 advisory 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
Students who enter the programme as of September 1998 will follow the four-year timetable. Students who entered the programme prior to September 1997 will follow the three-year timetable. The two full-time sequences, below, set out the programme for both the four-year and three-year timetable of full-time study. 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 converge 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 to meet together. The week-long 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>
<th>Description</th>
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<tbody>
<tr>
<td>6 units</td>
<td>HTH SCI 1D06</td>
</tr>
<tr>
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<td>6 units</td>
<td>WOMEN ST 1A06</td>
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<tr>
<td>3 units</td>
<td>HTH SCI 3A03 (Term II)</td>
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<tr>
<td>6 units</td>
<td>MIDWIF 1A06</td>
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LEVEL II: 30 UNITS

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<tr>
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<td>6 units</td>
<td>from HTH SCI 3503, 3LL3, MIDWIF 3D03</td>
</tr>
<tr>
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<td>MIDWIF 2F03</td>
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<td>9 units</td>
<td>MIDWIF 3A09</td>
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<tr>
<td>15 units</td>
<td>MIDWIF 2C15</td>
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<td>3 units</td>
<td>MIDWIF 3F03</td>
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LEVEL IV: 30 UNITS

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<th>Units</th>
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<tbody>
<tr>
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<td>MIDWIF 3C12</td>
</tr>
<tr>
<td>3 units</td>
<td>MIDWIF 3E03</td>
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FACULTY OF HEALTH SCIENCES 53
**Curriculum Plan For Students Who Entered Prior to September 1997**

**LEVEL II: 45 UNITS**
- 12 units MIDWIF 3B12
- 3 units HTH SCI 3L13
- 9 units MIDWIF 3A09
- 3 units MIDWIF 3P09
- 12 units MIDWIF 3C12
- 3 units MIDWIF 3E03
- 3 units MIDWIF 3F03

1. Transfer/challenge credit may be available.
2. Clinical course consists of a placement in a practice and concurrent problem-based tutorials that span antenatal, intrapartum, postnatal and newborn care.
3. Includes a week when all students are brought together at one site.

**Admission Process and Criteria**

The following are the requirements for admission in the academic year 1999-99. 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 5 OAC (Ontario Academic Credit) courses including the following three prerequisites:
1. One of OAC English I or OAC Anglais I or OAC anglais 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, 1997 and final grades made available immediately thereafter.

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

Applicants with studies completed at an accredited community college 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 equivalency chart found in the Admission Requirements section 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: Social and Cultural Dimensions of Health (HTH SCI 1D06), Topics in Biological Science (HTH SCI 1D06), 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 be qualified 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, counselling 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 submit 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 Interview:** Selected candidates will be invited for a personal interview. Interviews will be conducted by teams of three, consisting of a consumer, faculty member, midwife or 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. Unsuccessful applicants may request feedback about their application for the current year.
Applications 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 University’s 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 1997-98 the tuition fees for a student in the Midwifery Education Programme were $3,328.40. Supplementary fees are estimated at $403.00 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.

Students should expect to cover their own travel and accommodation costs for the clinical components of the programme. Students are expected to cover a portion of costs for accommodation and meals when students meet together at one site three different times during the programme.

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 programme is reviewed.

CONTINUATION IN THE PROGRAMME
All required (clinical and non-clinical) Midwifery and Health Science courses and WCMEN 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 required to repeat the course or 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 reviewing 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 at:
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, 1991 and the Regulated Health Professions Act, 1991. The College of Midwives has approved a set of core competencies for entry to practice which guide the Midwifery programme’s curriculum.

Registrations 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 1987, the Post Diploma Stream of the B.Sc.N. 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 is currently funded for a five year period by the Ontario Ministry of Health.

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 hosted 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. To fulfill 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 collective action.

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 choices 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 producing 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 human 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 healthcare system.
6. Demonstrate nursing practice that reflects knowledge of the processes of change, caring, coping, valuing, learning and critical appraisal.
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 selection. 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; 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, while Degree prepared nurses require 12 months on a full-time basis or 24 months on a part-time basis to complete the programme.

The selection process is based on an application review, interview, and 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 programme change. Applicants should refer to the School of Nursing Admissions Procedure and Guidelines for Applicants with Disability available from the School of Nursing Admissions Office (905) 525-9140, ext. 22232 and consult the Centre for University Development (905) 521-8709.

Applicants Directly from Ontario Secondary Schools

The selection method for Ontario secondary school applicants is by academic qualifications. Offers of admission are made in early June and may be based on interim and final grades at that time. Offers based on interim grades will be conditional upon maintaining satisfactory performance on final grades.

Applicants With Other Qualifications

For 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 an autobiographical questionnaire and a personal interview. The response to the Biographical 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 in early May. 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 an autobiographical questionnaire and a personal interview. 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 in early May. 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. 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 midterm 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 1, to be considered for admission. (See address below.) 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 (A and B Stream)

Applicants should contact the Ontario Universities' Application Center (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 3Z5

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. (Please 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.

I. BASIC (A) STREAM

Applicants directly from Ontario Secondary Schools

Requirements
1. One of OAC English I, OAC anglais I 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.

NOTE: Application to the programme must be made within two years of completion of the OAC requirements. The admission average will be calculated on the best six OAC subjects, including the four required subjects.

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
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 $75 fee by February 15;
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.

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) no later than June 30.

Applicants must:
1. contact the Admissions Coordinator (Nursing) to discuss placement in the programme;
2. submit Form 105D to OUAC along with the $75 fee by June 30;
3. submit a completed original and three copies of the response to the questionnaire provided in the transfer application package along with the $75 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 payment card or be eligible for reciprocity, or be eligible to write the Regulation for Nurses (Ontario) and subsequently pass the Registration examinations.
2. achieve a cumulative average of at least B- in all university degree credit courses taken. A minimum of 6 units or equivalent is required. University correspondence degree courses are acceptable.
3. submit Form 105D to OUAC along with the $75 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 $35 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 comprising 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% and provide evidence (transcript) of a final cumulative average of B- in at least six units (or equivalent) of university degree credit work. University correspondence degree courses are acceptable;
2. hold a current College of Nurses of Ontario annual registration payment card;
3. have the equivalent 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 $75 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) and official transcripts of complete university degree course work to McMaster by February 1.

Applicants with a Baccalaureate Degree in Nursing must:
1. possess an Ontario baccalaureate in nursing or the equivalent with a minimum 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 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 $75 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 degree 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.

Overall preference will be given to Ontario residents whose work experience in nursing has been continuous and who have practical experience in one or more of the following areas: primary health care, ambulatory care, public health, community health, long term care, emergency care or outpost nursing.

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), Gilmour 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 to 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 reason 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, 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. The University also reserves the right to cancel the academic privileges of a student at any time should the student’s scholastic record or conduct warrant so doing. Where the performance of the student in clinical nursing 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. The clinical activities associated with any clinical course must be successfully achieved for attainment of a passing grade in the course.

PART-TIME STUDENTS
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 enrolment is limited, places reserved for part-time students at each level will be restricted. Normally, nursing courses are available only during the day. Electives may be taken either in the day or evening. Counselling sessions will be available for part-time students after admission.

B.SCN. 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 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 in only one required Health Sciences course beyond Level I;
3. achieve a Pass designation in all clinical courses and the clinical component of NURSPRAC 4P04 and 104.

The following courses are designated clinical courses:
• Basic (A) Stream: NURSPRAC 4L03, 2P03, 3X04, 3Y04, 4J07, 4K07
• Diploma Registered Nurses (B) Stream: NURSPRAC 4L05, 3M05, 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 course for which approval 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
A student must:
1. achieve a Cumulative Average (CA) of at least 3.5;
2. achieve a grade of at least C- in the graded Nursing and required Health Sciences courses 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;
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 4P04, 4R03.

The following courses are designated clinical courses:
• NURSPRAC 4A10, 4C13, 4T10

Under existing funding, all Nurse Practitioner courses must be successfully completed by August, 1999.

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.

Verification of Employment
For information on how to verify employment form(s), two clinical reference forms, a personal questionnaire response, official transcripts from a degree 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.
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**

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**

<table>
<thead>
<tr>
<th>Units graded: 33</th>
</tr>
</thead>
<tbody>
<tr>
<td>13 units HTH SCI 1A06, 1B07</td>
</tr>
<tr>
<td>8 units NURSING 1F04, 1G04</td>
</tr>
<tr>
<td>6 units PSYCH 1A03 and 1AA3 and (or 1A06)</td>
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<td>6 units Electives</td>
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**LEVEL II: 31 UNITS**

<table>
<thead>
<tr>
<th>Units graded: 25; Units pass/fail: 6</th>
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<tbody>
<tr>
<td>8 units HTH SCI 2B08</td>
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<tr>
<td>14 units NURSING 2L03, 2M03, 2N03, 2P03, 2Q02</td>
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<td>9 units Electives</td>
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**LEVEL III: 32 UNITS**

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<th>Units graded: 24; Units pass/fail: 8</th>
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<tbody>
<tr>
<td>7 units HTH SCI 3B03, 3C04</td>
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<tr>
<td>16 units NURSING 3S03, 3T03, 3U02, 3X04, 3Y04</td>
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<td>9 units Electives</td>
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**LEVEL IV: 30 UNITS**

<table>
<thead>
<tr>
<th>Units graded: 16; Units pass/fail: 14</th>
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<tbody>
<tr>
<td>2 units HTH SCI 4L02</td>
</tr>
<tr>
<td>22 units NURSING 4A02, 4E03, 4F03, 4J07, 4K07</td>
</tr>
<tr>
<td>6 units Electives</td>
</tr>
</tbody>
</table>

**TOTAL UNITS: 127**

**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**

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**

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<tr>
<th>Units graded: 40; Units pass/fail: 5</th>
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<tbody>
<tr>
<td>17 units HTH SCI 1A06, 1ZZ4, 3B03, 3C04</td>
</tr>
<tr>
<td>16 units NURSING 3S05, 3M05, 3N03, 3T03</td>
</tr>
</tbody>
</table>

**SPRING TERM: 6 UNITS**

| Units | Electives |
|-----------------|
| 6 units Electives |

**SUMMER TERM: 6 UNITS**

| Units | Electives |
|-----------------|
| 6 units Electives |

**LEVEL IV: 48 UNITS**

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<th>Units graded: 34; Units pass/fail: 14</th>
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<td>10 units HTH SCI 2B06, 4L02</td>
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<tr>
<td>20 units NURSING 4A02, 4E03, 4F03, 4S06, 4T06</td>
</tr>
</tbody>
</table>

**SPRING TERM: 6 UNITS**

| Units | Electives |
|-----------------|
| 6 units Electives |

**SUMMER TERM: 6 UNITS**

| Units | Electives |
|-----------------|
| 6 units Electives |

**ADDITIONAL ELECTIVES (ANY TERM): 6 UNITS**

| Units | Electives |
|-----------------|
| 6 units Electives |

**TOTAL UNITS: 127**

**DIPLOMA RN/NURSE PRACTITIONER (C) STREAM**

This programme has been developed by a provincial consortium with ten Ontario universities offering the same core nurse practitioner courses since 1995.

This programme provides registered nurses with baccalaureate education and advanced preparation to provide individuals, families and communities, with the five basic components of comprehensive health services (promotion, prevention, cure, rehabilitation, and support) within the scope of nursing. At time of writing, legislation has not been finalized regarding certain controlled acts, therefore there is the possibility that graduates of the programme will practice as nurse practitioners do now, through delegation or protocol. With existing funding, all Nurse Practitioner courses must be completed by August 1999.

**ADVANCED CREDIT: 29 UNITS**

**LEVEL III: 50 UNITS**

<table>
<thead>
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<th>Units graded: 50</th>
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<tbody>
<tr>
<td>21 units HTH SCI 1C07, 2C07, 3B03, 3C04</td>
</tr>
<tr>
<td>8 units NURSING 3S03, 3T03, 4A02</td>
</tr>
<tr>
<td>6 units Electives</td>
</tr>
</tbody>
</table>

**SUMMER TERM: 15 UNITS**

| Units | Electives |
|-----------------|
| 15 units Electives |

**LEVEL IV: 47 UNITS**

<table>
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<th>Units graded: 47</th>
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<tbody>
<tr>
<td>2 units HTH SCI 4L02</td>
</tr>
<tr>
<td>26 units NURSPRAC 4A10, 4P03, 4R03, 4T10</td>
</tr>
<tr>
<td>6 units Electives</td>
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**SUMMER TERM: 13 UNITS**

<table>
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<tr>
<th>Units graded: 3; Units pass/fail: 10</th>
</tr>
</thead>
<tbody>
<tr>
<td>13 units NURSPRAC 4C13</td>
</tr>
</tbody>
</table>

**TOTAL UNITS: 127**
Students who are subsequently admitted to the Post Diploma (B) Stream of the B.Sc.N. programme will be granted credit for the equivalent courses in the B.Sc.N. programme.

**Northern Community Nursing Programme (6392)**

The programme focuses on the principles and practice of Primary Care Nursing. Students develop strategies designed to prevent disease and to promote health within the aboriginal and Northern communities.

Over two terms, students come to McMaster to participate in four courses each of which comprises sixty hours of intensive classroom and group work focused on relevant community health issues. Each course is followed by a work-study practicum conducted in the student's home community. The work study practicum is linked to the course content and to each other as they build on progressively more challenging skills and concepts. This programme is currently under review and admission has been suspended for the 1998-99 session.

**CURRICULUM**

(Units graded: 20)

- 3 units NURSING 3E03
- 3 units NURSING 3F03
- 3 units NURSING 3G03
- 8 units NURSING 3K08

**Oncology Programmes**

**ADMISSION POLICY**

All candidates must reside in Ontario and be registered to practice nursing by the College of Nurses of Ontario. Selection criteria for admission to the Adult Oncology programme is based on relevant formal oncology education and recent oncology nursing experience, and demonstrated commitment to oncology nursing practice. Selection criteria for admission to the Paediatric Oncology programme is based on recent, relevant paediatric oncology nursing experience and demonstrated commitment to paediatric oncology nursing practice. Further information may be obtained through the Oncology Programme Office in the Health Sciences Centre, room 2J32.

**ACADEMIC REGULATIONS**

Students in the Oncology Programmes shall be subject to the General Academic Regulations of the University and the regulations of the B.Sc.N. programme.

**Adult Oncology Programme (6398)**

This programme has been established to provide registered nurses working with adult cancer patients the opportunity to develop enhanced knowledge and skills required for the evolving challenges of their roles across the cancer consortium.

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, course and development of assessment, communication, support 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**

(Units graded: 10; Units pass/fail: 10)

- 3 units NURSING 3C03
- 3 units NURSING 3D03
- 5 units NURSING 3G03
- 5 units NURSING 3H03
- 4 units NURSING 3K08

**Northern Clinical Programme (6393)**

The Northern Clinical Programme has been designed as a thirteen week programme to provide educational opportunities for the integration of advanced clinical assessment, skills and decision-making skills and relevant knowledge in the physical, biological and behavioural sciences necessary for delivery of nursing care in aboriginal communities in Northern Canada. These skills not only include the advanced physical assessment necessary to intervene in acute, chronic and emergency situations, but also the decision-making and problem-solving skills necessary in rapidly changing situations.

This programme is currently under review and admission has been suspended for the 1998-99 session.

**CURRICULUM**

(Units graded: 7; Units pass/fail: 10)

- 8 units NURSING 3A01, 3B07 (taken concurrently)
- 3 units NURSING 3C03
- 6 units NURSING 3D06

**Nurse Practitioner (Primary Health Care) Certificate Students are required to take only the Nurse Practitioner (NURSPAC) courses: NURSPAC 4A10, 4C13, 4P03, 4R03, 4T10 of the above curriculum.**

**Nursing Leadership/ Management Programme**

The Nursing Leadership/Management Programme, which was previously administered and is currently endorsed by the Canadian Nurses Association, was transferred to McMaster in 1993. The Programme is offered to Registered Nurses located throughout Canada and internationally by means of distance education. It is also offered locally through individual self-directed study and tutorial.

The course work is designed to familiarize Registered Nurses with the theory and clinical application necessary to function effectively in a formal or informal leadership position. Content includes theory and techniques of management, leadership, organizational development and change, motivation, labour relations, legal implications, ethics, finance and the Canadian Health Care System. Separate modules are available in budgeting and total quality management.

Enrolment is by approval of the Coordinator. Further information may be obtained through the Programme Office.

**CURRICULUM**

(Units graded: 6; Units pass/fail: 2)

- 6 units NURSING 4B06
- 1 unit NURSING 4C01
- 1 unit NURSING 4D01

**The Northern Nursing Programmes**

Offered by McMaster University, School of Nursing in conjunction with Health Canada, Medical Services Branch, the Northern Clinical Programme and the Northern Community Nursing Programme are designed to meet the educational needs of nurses who provide primary health care services within aboriginal communities in Canada. These programmes are currently under review and admission to them has been suspended for the 1998-99 session.

**ADMISSION POLICY**

Nurses for the Northern Nursing Programmes will be selected by Health Canada, Medical Services Branch and McMaster University based on the criteria of experience, education, initiative and personal suitability. Geographic diversity among participants is actively sought. All candidates must be currently registered as a registered nurse (RN) in a province or territory in Canada and be employed by Health Canada, Medical Services Branch or a Band Council.

**ACADEMIC REGULATIONS**

Students in the Northern Nursing Programmes shall be subject to the General Academic Regulations of the University and the regulations of the B.Sc.N. programme.

**Northern Clinical Programme (6393)**

The Northern Clinical Programme has been designed as a thirteen week programme to provide educational opportunities for the integration of advanced clinical assessment, skills and decision-making skills and relevant knowledge in the physical, biological and behavioural sciences necessary for delivery of nursing care in aboriginal communities in Northern Canada. These skills not only include the advanced physical assessment necessary to intervene in acute, chronic and emergency situations, but also the decision-making and problem-solving skills necessary in rapidly changing situations.

This programme is currently under review and admission has been suspended for the 1998-99 session.

**CURRICULUM**

(Units graded: 7; Units pass/fail: 10)

- 8 units NURSING 3A01, 3B07 (taken concurrently)
- 3 units NURSING 3C03
- 6 units NURSING 3D06

Students who are subsequently admitted to the Post Diploma (B) Stream of the B.Sc.N. programme will be granted credit for the equivalent courses in the B.Sc.N. programme.

Students who are subsequently admitted to the Post Diploma (B) Stream of the B.Sc.N. programme will be granted credit for the equivalent courses in the B.Sc.N. programme.
Paediatric Oncology Programme (6394)

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-centred, 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
(Units graded: 10; Units pass/fail: 10)
3 units NURSING 3P03
3 units NURSING 3G03
5 units NURSING 3V05
5 units NURSING 3W05
4 units HTH SCI 5C04
TOTAL UNITS: 20

Students who are subsequently admitted to the Post Diploma (5) 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 the 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 goals:

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

<table>
<thead>
<tr>
<th>UNIT</th>
<th>OCCUPATIONAL THERAPY</th>
<th>PHYSIOTHERAPY</th>
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<tbody>
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<td>I</td>
<td>INTRO TO HEALTH CARE AND PROFESSIONAL PRACTICE</td>
<td>MUSCULOSKELETAL I</td>
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<td>II</td>
<td>CHILD HEALTH</td>
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<td>III</td>
<td>ADULT PHYSICAL HEALTH</td>
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<td>ADULT MENTAL HEALTH</td>
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<td>V</td>
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<td>VI</td>
<td>ADVANCED INTEGRATION OF SKILLS AND KNOWLEDGE IN PREPARATION FOR ENTRY INTO PRACTICE</td>
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</tbody>
</table>

Problem-based Tutorials, Inquiry Seminars, Clinical Skill Labs, Independent Study (Unit VI only)

Six-week blocks of full-time clinical fieldwork

Unit Content
Curriculum
The time is divided into seven units of full-time study over a period of 24 months. The content of each unit is profession specific; however, there are occasions when Occupational Therapy and Physiotherapy students study together. The total programme consists of 100 units of credit; 70 units of academic study and 30 units (30 weeks) of clinical practice. One of the unique features of the programme is the integration of clinical education/fieldwork experiences with academic study. Within each of the specialty units, a six-week clinical placement follows eight weeks of academic study.

NORTHERN STUDIES STREAM
Both programmes, Occupational Therapy and Physiotherapy, offer a Northern Studies Stream option. The goal of the NSS is for students to develop an awareness and appreciation of Northern health issues. Half of the students in each programme will participate. Interested students apply for this option during the first term of the programme. Final selection of students for the Northern Studies Stream remains with the University.

The Northern Studies Stream encompasses either one six-week specialty unit or one six-week clinical fieldwork placement. The eight weeks of academic study occurs at Health Sciences North on the Lakehead University Campus in Thunder Bay and the clinical fieldwork placements occur in various Northwestern Ontario communities.

Currently, the 14-week units offered in the NSS are Units II and III (Physiotherapy) and Unit IV (Occupational Therapy). Limited numbers of the other six-week clinical fieldwork placements are also offered in the Northern Studies Stream.

Funded by the Ministry of Health, travel to and from McMaster and accommodation in Northwestern Ontario is provided for the Northern Studies Stream students.

NOTE: In 1999, Occupational Therapy Unit IV will be offered as a six-week fieldwork placement only; the 14-week academic unit will not be offered in the NSS.

TEACHING/LEARNING METHODS
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 University Coordinator of Clinical Education (PT), 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.

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.

Independent Study
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, 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.
2. By June 30 in the year of admission, have completed an undergraduate baccalaureate 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 obtained.

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
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 9.5, 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). Students 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 grade below C-, is required to successfully complete remedial work in order to remain in the programme. Successful completion of the remedial work, the new grade assigned for the course is C- in all cases. 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.

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. 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 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) {6405}

YEAR I: 47 UNITS

Unit I ALLOC TH 1T15, 1L17, 1S13
Unit II OCCUP TH 1T23, 1L24, 1S23, 1C26
Unit III OCCUP TH 1T33, 1L34, 1S33, 1C36

YEAR II: 53 UNITS

Unit IV OCCUP TH 2T43, 2L44, 2S43, 2C46
Unit V OCCUP TH 2T53, 2L54, 2S53, 2C56
Unit VI OCCUP TH 2T64, 2M63, 2E65, 2S63, 2C66

B.H.Sc.(PT) {6444}

YEAR I: 47 UNITS

Unit I PHYSIOTH 1T15, 1L17, 1S13
Unit II PHYSIOTH 1T23, 1L24, 1S23, 1C26
Unit III PHYSIOTH 1T33, 1L34, 1S33, 1C36

YEAR II: 53 UNITS

Unit IV OCCUP TH 2T43, 2L44, 2S43, 2C46
Unit V OCCUP TH 2T53, 2L54, 2S53, 2C56
Unit VI OCCUP TH 2T64, 2M63, 2E65, 2S63, 2C66

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.
Dean of Humanities  
E. Simpson/A.B., Ph.D.

Associate Dean of Humanities (Studies)  
F. Minelli/B.A., M.A., Ph.D.

Director of Academic and Administrative Services  
P.A. Kalnins/B.A.

Academic Advisors  
S.A. Richard/B.A.  
C. Schlechte/B.A.  
K. Singer

Programme information Assistant  
P. Goodall

Business Manager  
S. Mercer

Faculty Advancement Officer  
N. Alexander/B.A.

The Humanities at McMaster partake in a distinguished tradition. Our subjects—languages and literatures, history and philosophy, art, drama and music—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 are interested in the application of computers to their subjects, 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 Classics (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 German Area Studies  
- Combined Honours in Latin American Studies  
- Honours Linguistics  
- Honours Modern Languages  
- Honours Modern Languages and Linguistics  
- Honours Russian and East European Studies

PROGRAMMES AND DEGREES

A. Level I Programmes

HUMANITIES I

PROGRAMME NOTES

1. Humanities I students are restricted to taking no more than six units of work in any single subject, except in the case of CLASSICS 1800 and 1L00.

2. Students with an OAC in Greek or Latin will register for six units of Level II Greek or Latin in lieu of the 1Z00 course.

3. Humanities I students are restricted to taking no more than 12 units of introductory (1Z00) language courses.

4. Portfolio Required: ART I F06: The prerequisite for ART I F06 requires permission of the School of Art, Drama and Music based on a required portfolio interview. If you intend to take ART I F06 which is required for entrance into any Honours Art programme, you must make an appointment with the School for a portfolio interview in 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 derived from both firsthand 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 I F06 is contingent upon receiving a written confirmation from the School of Art, Drama and Music.

5. Students wishing to take Music courses other than MUSIC I A06 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 I F06, ART I HIST I A06, CAYUGA I Z06, CLASSICS I E06, I L00, COMP I LIT I A05, DRAMA I A06, ENGLISH I D06, FRENCH I A06, I N06, I Z06, GERMAN I A06, I Z06, GREEK I Z06, HISPANIC I A06, I Z06, HISTORY I A06, I L06, ITALIAN I A06, I Z06, I Z26, JAPANESE I 1206, LATIN I Z06, LINGUIST I A06, MOHAWK I Z06, MUSIC I A06, I B06, I C03, I D03, (See Note 5 above.) OJIBWE I D06, PHILOS I B06, I D06, POLISH I Z06, RUSSIAN I Z06

12 units Electives, which may include more Humanities courses  
[Please note that HUMAN I A03 (Writing in the Electronic Age) and HUMAN 2E03 (Introduction to Computers in the Humanities) are open to Humanities I students.]

MUSIC I

REQUIREMENTS  
Students admitted to Music I (0370) must complete 33 units of work as follows:

21 units MUSIC I B06, I C03, I D03, I E06, I G03.

12 units Electives [Please note that HUMAN I A03 (Writing in the Electronic Age) and HUMAN 2E03 (Introduction to Computers in the Humanities) are open to Music I students.]

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 Philosophy). 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 Women’s Studies or Japanese Studies.

MINOR

A minor is an option available to a 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 pro-
gramme 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 II, 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 prerequisites 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 at least one, and frequently two, languages other than English. In this Faculty, proficiency in at least one language other than English is regarded as an essential tool for students interested in Comparative Literature and Linguistics. Generally, proficiency in more than one language is a hallmark of most highly-qualified Humanities’ graduates seeking the widest range of post-graduation academic and employment opportunities.

**PART-TIME STUDY**

Students wishing to enter any programme offered by the Faculty of Humanities and pursue a programme on a part-time basis should consult the appropriate Departmental Counsellor(s) before making their plans.

**ACADEMIC REGULATIONS**

Students enrolled in Humanities programmes, in addition to meeting the general Academic Regulations of the University, shall be subject to the following Faculty Regulations and Policies.

**TRANSFER TO THE FACULTY OF HUMANITIES**

Students from other Faculties are able to transfer to degree programmes offered by the Faculty of Humanities provided that they have obtained a Cumulative Average of at least 3.5 and have completed the necessary requirements for admission to a programme.

**REINSTATEMENT TO THE FACULTY OF HUMANITIES**

Students seeking reinstatement must complete the Returning Student Application form available at the Office of the Registrar (Gilmour Hall, Room 108) and the Faculty of Humanities (Chester New Hall, Room 112). The completed application and the $50.00 fee must be submitted to the Office of the Registrar by July 15 for September entry and by November 30 for January entry.

Applications should explain the reasons for the student’s inadequate performance, corroborated by two Letters of Reference, and should include relevant documentary evidence, for example a letter from a physician outlining any medical condition that might have affected the student’s academic performance or final grades. Reinstatement cases will be carefully screened and the evidence considered will include the student’s academic performance before and after admission to McMaster, as well as the nature of the reasons cited in the application letter, the Letters of Reference, and the accompanying documentation. 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.

**ACADEMIC REGULATIONS PERTAINING TO MUSIC PROGRAMMES**

Normally, students with an undergraduate degree in Music will not be admitted to a B.Mus. degree programme as a second undergraduate degree.

**EXCHANGE PROGRAMMES WITHIN CANADA**

For information on the Group of Ten Student Exchange Programme (GOTSEP), please refer to the Academic Faculties, Student Services and Organizations section of this Calendar under the heading Student Exchanges.

**THIRD YEAR STUDY ELSEWHERE/HUMANITIES STUDY ABROAD**

Humanities Study Abroad During Level III of Honours Programmes

There are two ways to undertake international studies during Level III of an Honours programme: (i) a Formal Exchange Programme or (ii) 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 undertaken 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 Saimon Hall, Room 607, and the students' department(s) or School approximately one year before planning to begin their study abroad (i.e., during the fall term of the year in which they enter Level II). A plan for the completion of the academic programme, approved by the programme counsellor(s), must be submitted together with the application to the Coordinator no later than the end of January. However, application for some exchanges may be due as early as December.

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 Chester New Hall, Room 112;
3. Students in Levels II, III, 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 will be posted on campus, outlined in the campus newspaper, and will be announced in some classes. 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

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) an average of at least 7.0 in ART 1F06 and ART HIST 1A06, and (c) a grade of at least B- in ART 1F06.

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 1A06.

Notes

1. Students in Honours Art must complete ART 2A06, 2B06, 2C03, and 2F06 before registering in Level III or IV Art courses.
2. Students must achieve a minimum grade of B- in ART 3G06 before registering in ART 4B12.
3. A Minor in Art History is not permitted in the Honours Art programme.
4. When selecting courses from Course List I, students are advised to take note of prerequisites for upper level offerings.
5. Students should note the availability of SADM 3A03 and SADM 4A03 which may be taken for programme credit.

Course List 1

ART HIST 2B03, 2E03, 2G03, 2H03, 2M03, 2N03, 2X06, ANTHROP 2H03, HUMAN 2C03, 2E03, SADM 3A03

Course List 2

ART HIST 3BB3, 3CC3, 3E03, 3F03, 3FF3, 3G03, 3H03, 3L03, 3S03, 3T03, 3TT3, 3V03, 4AA3, 4BB3, 4C03, 4CC3, 4D03, 4F03, 4M03, 4N03, 4Q03, 4R03, 4V03, 4X03, ENGLISH 3F03, HUMAN 3G03

Requirements

120 units total (Levels I-IV)
30 units from the Level I programme completed prior to admission into the programme
27 units ART 2A06, 2B06, 2C03, 2F06, 3G06
12 units ART 4B12
12 units Level III or IV Art courses or SADM 4A03
9 units from Course List 1
6 units ART HIST 2D03, 3AA3
6 units from Course List 2
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 1A06.

Notes

1. Students in Combined Honours Art must complete ART 2A06, 2B06, 2C03 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. A Minor in Art History is not permitted in the Combined Honours Art programme.
4. Students must achieve a grade of at least B- in ART 3G06 before registering in ART 4C06.

Requirements

120 units total (Levels I-IV)
30 units from the Level I programme completed prior to admission into the programme
33 units ART 2A06, 2B06, 2C03, 2F06, 3G06, 4C06
9 units Level III or IV Art, which may include SADM 4A03
36 units Courses specified for the other subject. (Combinations with Social Sciences may require more than 36 units.)
12 units Electives to total 120 units
NOTES
1. Students should study the prerequisites for Level III and IV Art History courses before selecting Art History courses for Level II to ensure that they will be eligible for enrolment in the Level III and IV courses.
2. Students who wish to take film courses are advised to take ART HIST 2X06 as an elective since it is the prerequisite for upper-level film courses.

REQUIREMENTS
120 units total (Levels I-IV)
30 units from the Level I programme completed prior to admission into the programme
12 units from ART HIST 2B03, 2C03, 2D03, 2G03, 2M03, 2N03
3 units ART HIST 2E03
15 units from ART HIST 3AA3, 3B03, 3B3, 3E03, 3G03, 3H03, 3L03, 3S03, 3V03
6 units from ART HIST 4AA3, 4BB3, 4C03, 4D03, 4F03, 4N03, 4V03, 4X03
9 units from Level IV Art History
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 1A06.

NOTE
Students who wish to take film courses are advised to take ART HIST 2X06 as an elective since it is the prerequisite for upper-level film courses.

COURSE LIST 1
ART HIST 3AA3, 3B03, 3B3, 3E03, 3G03, 3H03, 3L03, 3S03, 3V03, 4AA3, 4BB3, 4C03, 4D03, 4F03, 4M03, 4N03, 4Q03, 4V03, 4X03

COURSE LIST 2
ART HIST 4AA3, 4BB3, 4C03, 4D03, 4F03, 4N03, 4V03, 4X03

REQUIREMENTS
120 units total (Levels I-IV)
30 units from the Level I programme completed prior to admission into the programme
12 units from ART HIST 2B03, 2C03, 2D03, 2E03, 2G03, 2M03, 2N03
3 units Level III or IV Art History
15 units from Course List 1
6 units from Course List 2
36 units Courses specified for the other subject. (Combinations with Social Sciences may require more than 36 units.)
18 units Electives to total units 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 1A06.

REQUIREMENTS
90 units total (Levels I-III)
30 units from the Level I programme completed prior to admission into the programme
18 units from ART HIST 2B03, 2C03, 2D03, 2E03, 2G03, 2M03, 2N03
12 units Level III or 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 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
12 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

12 units Level II Drama

18 units Level III or IV Drama

6 units Level IV Drama including at least three units from DRAMA 4C03, 4CC3, 4E03, 4EE3, 4FF5

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 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

12 units Level II Drama

12 units Level III or IV Drama

36 units Electives

**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, 3R33, 3T03, 3TT3

**Programmes in Music**

Completion of a Music degree requires considerable daytime attendance.

**MUSIC I**

<table>
<thead>
<tr>
<th>REQUIREMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students admitted to Music I must complete 33 units of work as follows:</td>
</tr>
<tr>
<td>21 units MUSIC 1B06, 1CC3, 1D03, 1E06, 1G03</td>
</tr>
<tr>
<td>12 units Electives</td>
</tr>
</tbody>
</table>

STUDENTS WHO ENTERED A MUSIC PROGRAMME PRIOR TO SEPTEMBER 1997 SHOULD CONTACT THE MUSIC COUNSELLOR FOR WAYS OF MEETING THEIR PROGRAMME REQUIREMENTS.

**Honours B.Mus. Degree**

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.

**REQUIREMENTS**

120 units total (Levels I to IV)

33 units Music I programme

27 units MUSIC 2B06, 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

**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 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.

**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.

**REQUIREMENTS**

123 units total (Levels I-IV)

33 units Music I programme

27 units MUSIC 2B06, 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

**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:

- 12 units from MUSIC 3E06, 3G03, 4E06, 4G03
- 18 units from MUSIC 1E06, 1G03, 2E06, 2G03

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 III 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 one-hour recital presentation.

GROUP 1 - McMaster B.Mus. Students

Students who wish to receive a Diploma in Music Performance should request consideration, in writing, from the School of Art, Drama and Music at the end of their second year in the programme, or for transfer students, at the time of enrolment in the Honours Music programme.

GROUP 2 - Others

ADMISSION:

Completion of a music audition/examination consisting of:

1. Demonstration of technique (approximately Grade 9 level of the Royal Conservatory of Music, Toronto);
2. Performance (approximately 20 minutes duration) of two or three varied pieces of your choice (approximately Grade 9 level), including at least one from the 20th century;
3. Ear test appropriate to the Grade 9 performance level;
4. Written examination of rudiments of music (Grade 2 level); and
5. Interview.

Applicants must contact the School of Art, Drama and Music in April 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/cls@home.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 of 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 a thesis course (CLASSICS 4T06) 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 III 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 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)

- 30 units from the Level I programme completed prior to admission into the programme
- 30 units from CLASSICS 2A03, 2B03, 2C03, 2G06, 2K03, 2L03, 2LL3, 2Z03, 3G03, 3H03, 3LL3, 3MM3, 3P03, 3S03, 3U03, 3VV3
- 6 units from CLASSICS 4B03, 4BB3, 4D06, 4E03, 4I06, 4LL6, 4T06
- 18 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 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)

- 30 units from the Level I programme completed prior to admission into the programme
- 9 units from CLASSICS 2D03, 2H03, 3I03, 3I13, 3T03
- 24 units Greek (including GREEK 1206, if not completed in the Level I programme)
- 24 units Latin (including LATIN 1206, if not completed in the Level I programme)
- 9 units Levels II, III and IV Classics, Greek, Latin
- 24 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 III 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 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)

- 30 units from the Level I programme completed prior to admission into the programme
- 21 units from CLASSICS 2A03, 2B03, 2C03, 2G06, 2K03, 2L03, 2LL3, 2Z03, 3G03, 3H03, 3LL3, 3MM3, 3P03, 3S03, 3U03, 3VV3
FACULTY OF HUMANITIES

6 units from CLASSICS 4B03, 4BB3, 4D06, 4E03, 4I06, 4LL6, 4T06
9 units Levels II, III and IV Classics, Greek, Latin
36 units Courses specified for the other subject. (Combinations with Social Sciences may require more than 36 units.)
18 units Electives to total 120 units

Combined Honours in Classics and Another Subject

(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 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
6 units from CLASSICS 2D03, 2H03, 3I03, 3I13, 3T03
24 units Greek or 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.)
18 units Electives to total 120 units

B.A. in Classics (1130)

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 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.)

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, 2L13 in their Level II programme.
2. Students are encouraged to include at least six units of Greek or Latin in their programme. GREEK 1Z06 and LATIN 1Z06, if not completed in the Level I programme, may be taken as elective courses.

REQUIREMENTS
90 units total (Levels I-III)
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
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.Arts 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>
</thead>
<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>2L06, 3G06, 3M03, 3MM3</td>
</tr>
<tr>
<td>AREA 3</td>
<td>Canadian, American and Post-Colonial</td>
</tr>
<tr>
<td>2G06, 2H06, 3R06</td>
<td></td>
</tr>
<tr>
<td>AREA 4</td>
<td>Theory and Genre</td>
</tr>
<tr>
<td>2B06, 2K06, 3J06, 3Q03, 3QQ3, 3N06</td>
<td></td>
</tr>
</tbody>
</table>

Honours English (2200)

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.

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 English courses
6 units from Area 2 English courses
6 units from Area 3 English courses
12 units from Area 4 English courses
6 units from Areas 1-4 and ENGLISH 3B03, 3CC3, 3F03, 3HH3, 3I03, 3P03, 3S03, 3W03, 3X03, 3XX3, 3Z03
12 units Level IV English seminars
36 units Electives
Combined Honours in English 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 ENGLISH 1D06.

NOTES

1. When registering, students should distribute their required English courses (see Requirements below) as follows:
   - Level II 12 units of Level II and/or III English
   - Level III 12 units of Level II and/or III English
   - Level IV six units of Level II and/or III English; six units of Level IV English seminars (No student may take more than six units of Level IV seminars.)
   - 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.
   - Most graduate programmes in English require proficiency in a second language. Students who plan to pursue graduate study in English are strongly encouraged to include in their programme a second language beyond the introductory level.

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 English courses
- 6 units from Area 2 English courses
- 6 units from Area 3 English courses
- 6 units from Area 4 English courses
- 6 units from Areas 1-4 and ENGLISH 3B03, 3CC3, 3F03, 3H13, 3I13, 3P03, 3S03, 3W03, 3X03, 3XX3, 3Z03
- 6 units Level IV English seminars
- 36 units Courses specified for the other subject. (Combinations with Social Sciences may require more than 36 units)
- 18 units Electives to total 120 units

B.A. in English (1200)

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 ENGLISH 1D06.

NOTE

When registering, students should distribute their required English courses (see Requirements below) as follows
- Level II 12 units of Level II and/or III English
- Level III 18 units of Level II and/or III English

REQUIREMENTS

90 units total (Levels I-III)

- 30 units from the Level I programme completed prior to admission into the programme
- 6 units from Area 1 English courses
- 6 units from Area 2 English courses
- 6 units from Area 3 English courses
- 6 units from Area 4 English courses
- 6 units from Areas 1-4 and ENGLISH 3B03, 3CC3, 3F03, 3H13, 3I13, 3P03, 3S03, 3W03, 3X03, 3XX3, 3Z03
- 30 units Electives

Minor in English

ENGLISH 1D06 and 18 units of Level II and III English.

DEPARTMENT OF FRENCH

WEB ADDRESS:
http://www.humanities.mcmaster.ca/-french/french.htm

Honours Arts & Science and French

(B.Arts Sc.; See Arts & Science Programme)

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 II of Honours French may be replaced by courses of study at a French-language university.

COURSE LIST 1

FRENCH 4F03, 4I03, 4LL3, 4MM3, 4N03, 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, 3C03, 4A03
- 6 units from FRENCH 2G03, 3CC3, 3F03, 4G03, 4BB3
- 3 units from FRENCH 2J03, 2J3
- 3 units from FRENCH 2W03, 2WW3
- 3 units from FRENCH 2D03, 2E03, 3AA3, 3BB3, 4U03
- 3 units from FRENCH 3K03, 3KK3
- 3 units from FRENCH 3Q03, 3QQ3
- 3 units from FRENCH 3A03, 3SS3, 4J03
- 9 units from Course List 1
- 12 units Levels III and IV French
- 33 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 II of Honours French may be replaced by courses of study at a French-language university.

COURSE LIST 1

FRENCH 3A03, 3AA3, 3BB3, 3K03, 3Q03, 3QQ3, 3SS3, 3Z03, 4F03, 4I03, 4LL3, 4MM3, 4N03, 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, 2G03, 2H03
- 12 units FRENCH 3C03, 3CC3, 3GG3, 3HH3
- 6 units FRENCH 4A03, 4BB3
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, 4L33, 4MM3, 4N03, 4O03, 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, 2B33, 3C03, 4A03

3 units from FRENCH 2G03, 3C03, 3F03, 4BB3

3 units from FRENCH 2J03, 2J33

3 units from FRENCH 2W03, 2WW3

3 units from FRENCH 3K03, 3K33

3 units from FRENCH 3Q03, 3QQ3

3 units from FRENCH 3A03, 3BB3, 4U03

6 units from Course List 1

3 units from FRENCH 3A03, 3SS3, 4J03

36 units Courses specified for the other subject. (Combinations with Social Sciences may require more than 36 units.)

15 units Electives to total 120 units

B.A. in French

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

9 units FRENCH 2B03, 2B33, 3C03

6 units from FRENCH 2G03, 3C03, 3F03

3 units from FRENCH 2J03, 2J33

3 units from FRENCH 2W03, 2WW3

3 units from FRENCH 3K03, 3K33, 3Q03, 3QQ3

3 units from FRENCH 3A03, 3SS3, 4J03

9 units Levels II, III or IV French

24 units Electives

Minor in Francophonie Studies

One of FRENCH 1A06, 1N06, 2M06; FRENCH 2B03, 2B33, 3C03, and nine additional units of Level II or III French other than FRENCH 2J03, 2J33, 2W03, 2WW3, 2Z06.
Students wishing to enter this programme must complete an Application for Admission to Level III 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
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 Electives to total 120 units

B.A. in History

Students wishing to enter this programme must complete an Application for Admission to Level III 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 III 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 1Z06. 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 2Z06, 3Z06, 4L03, 4Z03
6 units JAPAN ST 2P06
12 units from JAPANESE 3B03, JAPAN ST 2C03, 3B03, 3E03, 3H03, 3J03, 3JJ3, 3P03, 3UU3, 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/mlhome.htm

The Department of Modern Languages offers B.A. Honours programmes in:
- Comparative Literature
- German Area Studies
- Latin American Studies
- Linguistics
- Modern Languages and Linguistics
- Modern Languages (German, Italian, Russian, Spanish)
- Russian and East European Studies.

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 Modern Languages (German, Italian, Russian, Spanish) or a subject offered by another department.

Students wishing to enter this programme must complete an Application for Admission to Level III 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.

2. Upon completion of 60 units of work 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.


REQUIREMENTS

120 units total (Levels I-IV)

30 units from the Level I programme completed prior to admission into the programme

15 units COMP LIT 2A03, 2AA3, 3D03, 3DD3, 3QQ3

6 units from COMP LIT 4AA3, 4B03, 4C03, 4E03

15 units from Level II, III and IV Comparative Literature and Modern Languages

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 (See Note 1 above.)

Honours German Area Studies [2263]

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 GERMAN 1B06, or 1Z06

NOTE

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.

COURSE LIST 1

All German courses above Level I; MOD LANG 2H03, 3G03, 3W03; HISTORY 2C06, 3H03; 3I03, POL SCI 2E06, 2O06; SOCIOI. 2S06, 3A03; RELIG ST 2KK3, 3MM3

REQUIREMENTS

120 units total (Levels I-IV)

30 units from the Level I programme completed prior to admission into the programme

9 units GERMAN 2E03, 3Z03, 3Z23

15 units from GERMAN 2A03, 2AA3, 2G03, 2Z06, 3A03, 3B03, 4CC3, 4G03, 4T03, 4TT3

3 units MOD LANG 3A03

3 units from MOD LANG 2H03, 3G03, 3W03

6 units HISTORY 2C06, 3H03, 3I03

6 units POL SCI 2E06, 2O06

12 units from Course List 1

36 units Electives to total 120 units

Combined Honours in Latin American Studies 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 HISPANIC 1Z06 or 1A06. Students with native knowledge of Spanish may with permission of the Department substitute six units of upper level Spanish language and literature courses.

NOTE

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.

COURSE LIST 1

All Hispanic courses beyond Level I; FRENCH 3Z03, HISTORY 3XX3, 3YY3, POL SCI 4Q06

REQUIREMENTS

120 units total (Levels I-IV)

30 units from the Level I programme completed prior to admission into the programme

9 units HISPANIC 3D03, 3DD3, 4G03

12 units HISPANIC 2L03, 2LL3, 4LL3, 4SS3

3 units MOD LANG 3P03

3 units ANTHROP 2V03

9 units from Course List 1

36 units Courses specified for the other subject. (Combinations with Social Sciences may require more than 36 units.)

18 units Elective

Honours Linguistics [2312]

Students who entered this programme prior to September 1997 should contact the Departmental Counsellor for ways of meeting their programme requirements.

This programme is designed for students who wish to explore the theoretical foundations of linguistics while also acquiring practical skills in a number of languages.

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 HUMAN 1A06 and completion of at least six units of language study.

NOTES

1. In this programme students are required to study at least two languages. The department has defined four language groups (see below) for this purpose and students must take at least six units from two of these groups. By graduation, therefore, students will have completed at least six units of one language and 18 units of a second language, including 12 units above Level I.
   a) Modern Indo-European
      French, German, Italian, Russian, Spanish
   b) Classical
      Greek, Hebrew, Latin, Sanskrit
   c) Modern Non-Indo-European
      Japanese
   d) Indigenous Languages
      Cayuga, Mohawk, Ojibwe

2. Students may have to include HUMAN 2E03 in their programme in order to take HUMAN 3F03 and/or 3G03. Students should consult the instructor, Dr. Geoffrey Rockwell, Togo Salmon Hall, Room 312 to discuss their computer background.

3. Students who intend to take Psychology courses from Course List 1 should take PSYCH 1A03 and 1AA3 in their Level I programme.

COURSE LIST 1

All Linguistics courses beyond Level I; all language courses (this includes all courses which study texts in languages other than English, or are taught in languages other than English); ANTHROP 3L03, 4T03, HUMAN 2C03, 2E03, 3F03, 3G03; PHILOS 2B03, 3F03, 4D03; PSYCH 2E03, 2H03, 2003, 3A03, 3B03, 3O03, 3P03, 3U03

REQUIREMENTS

120 units total (Levels I-IV)

30 units from the Level I programme completed prior to admission into the programme

15 units from HUMAN 2C03, 3I03, 3I13, 3M03, 4XX3; ANTHROP 2L03, 2M03

6 units from LINGUIST 2LL3, 3I03, 3I13, 3M03, 4XX3

6 units from LINGUIST 2A03, 2AA3

6 units from LINGUIST 4B03; HUMAN 3F03, 3G03

12 units from one of the languages taken in Note 1 above

21 units from Course List 1

24 units Electives

Honours Modern Languages [2363]

and Linguistics

This programme combines the study of two or more modern languages (French, German, Italian, Japanese, Russian, Spanish) with a concentration in 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. Students must have to include HUMAN 2E03 in their programme in order to take HUMAN 3F03 and/or 3G03. Students should consult the instructor, Dr. Geoffrey Rockwell, Togo Salmon Hall, Room 312 to discuss their computer background.
3. 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 Linguistics and language courses beyond Level I (this includes all courses which study texts in languages other than English, or are taught in languages other than English); ANTHROP 2L03, 2M03, 3LC3, 4T03

REQUIREMENTS
120 units total (Levels I-IV)
30 units from the Level I programme completed prior to admission into the programme
15 units LINGUIST 2A03, 2AA3, 3X03, 4B03, 4X03
3 units from HUMAN 3F03, 3G03
18 units from a language other than English (above Level I)
18 units from a second language other than English (above Level I)
18 units from Course List 1
18 units Electives

Honours Modern Languages

This programme combines the study of two modern languages (German, Italian, Russian, Spanish) and literature in those languages with literary and linguistic theory.

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- in each course chosen: GERMAN 1B06, 1Z06, HISPANIC 1A06, 1Z06, ITALIAN 1A06, 1Z06, 1Z26, RUSSIAN 1Z06. In addition, students must successfully complete at least six units from COMP LIT 1A06 and LINGUIST 1A06, 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, Modern Languages, 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, Modern Languages, German, Spanish, Italian and Russian

REQUIREMENTS
120 units total (Levels I-IV)
30 units from the Level I programme completed prior to admission into the programme
3 units MOD LANG 2A03
6 units LINGUIST 2A03, 2AA3
3 units from COMP LIT 2A03, 2AA3
54 units from courses above Level I in each of two languages and their literatures other than English (excluding literature courses in English translation)
6 units from Course List 1 (excluding the two languages chosen)
18 units Electives to total 120 units

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, Russian 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- in each course chosen: GERMAN 1B06, 1Z06, HISPANIC 1A06, 1Z06, ITALIAN 1A06, 1Z06, 1Z26, RUSSIAN 1Z06. In addition, students must successfully complete at least six units from COMP LIT 1A06 or LINGUIST 1A06.

NOTES
1. When selecting their courses, students must ensure that the overall total includes at least 18 units of Level III and IV Comparative Literature, Modern Languages, 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, Modern Languages, German, Spanish, Italian and Russian

REQUIREMENTS
120 units total (Levels I-IV)
30 units from the Level I programme completed prior to admission into the programme
3 units MOD LANG 2A03
6 units LINGUIST 2A03, 2AA3
3 units from COMP LIT 2A03, 2AA3
54 units from courses above Level I in each of two languages and their literatures other than English (excluding literature courses in English translation)
6 units from Course List 1 (excluding the two languages chosen)
18 units Electives to total 120 units

Honours Russian

This programme is currently under review. No new registrants will be permitted in the programme effective September, 1998.

NOTE
Upon completion of 60 units of work 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 may be replaced by courses of study at a university under the Humanities Study Elsewhere Programme.
2. Students are advised to note carefully work acceptable to 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.

DEPARTMENT OF PHILOSOPHY

WEB ADDRESS:
http://www.humanities.mcmaster.ca/~philos/phihome.htm

Honours Arts & Science and Philosophy

(B.Arts Sc.; See Arts & Science Programme)

Honours 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 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 to the programme
27 units PHILOS 2A06, 2C06, 3A06, 3G03, 3O03, 3H03
3 units from PHILOS 2B03, 2R03
3 units Levels II, III or IV Philosophy
15 units Levels III or IV Philosophy
6 units Level IV Philosophy
36 units Electives

Combined Honours in Philosophy and Another Subject

Students wishing to enter this 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. Students whose combined subject is in the Social Sciences and who choose PHILOS 2R03 for their Philosophy programme are not required to take HUMAN 2C03 as part of their Social Science requirements. The HUMAN 2C03 requirement in these cases will be replaced by three units of elective work.
4. 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 to the programme
12 units PHILOS 2A06, 2C06
3 units from PHILOS 2B03, 2R03
15 units Levels II and IV Philosophy
6 units Level IV Philosophy
36 units Courses specified by 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.) [2420050]

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 a grade of at least B- in BIOLOGY 1A06 (or an average of at least 7.0 in BIOLOGY 1A03 and 1A06) with a grade of at least B- and six units of Level I Mathematics. Students are cautioned to observe that CHEM 1A03 or 1A06 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 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

30 units from the Level I programme completed prior to admission into the programme
12 units from the Level II programme completed prior to admission into the programme

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 3.5 including a grade of at least C- in any Level I Philosophy course.

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.
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.

**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:**

**COURSE LIST 1: (SCIENCE CORE)**

**BIOLOGY 1A03**

**CHEM 1A03**

**COMP SCI 1MC3** (or 1SA3)

**GEO 1G03** (or 1A03 or 1B03)

**MATH 1B03**

**PHYSICS 1B03**

**PSYCH 1A03**

*Students with little or no previous computer experience may substitute COMP SCI 1SA3 for COMP SCI 1MC3; however, students must achieve a grade of at least B+ in COMP SCI 1SA3 to satisfy the prerequisite for COMP SCI 1MC3.*

**COURSE LIST 2:**

**ASTRON 1F03**

Introduction to Astronomy and Astrophysics

**BIOLOGY 1A03**

Structural and Functional Relations in Living Systems

**BIOLOGY 1A03**

Reproduction and Adaptation in Living Systems

**CHEM 1A03**

Introductory Chemistry I

**CHEM 1A03**

Introductory Chemistry II

**COMP SCI 1SA3**

Computing Fundamentals

**COMP SCI 1MD3**

Computer Science II

**GEO 1A03**

Atmosphere and Hydrosphere

**GEO 1B03**

Biosphere

**GEO 1G03**

Geosphere

**MATLS 1A03**

Introduction to Materials

**MATH 1A03**

Calculus II

**MATH 1B03**

Linear Algebra I

**PHYSICS 1B03**

Mechanics and Waves

**PHYSICS 1BA3**

Introduction to Modern Physics A

**PHYSICS 1BB3**

Introduction to Modern Physics B

**PHYSICS 1PD3**

Introductory Physics

**PSYCH 1A03**

The Psychology of Interpersonal Behaviour

**STATS 1CC3**

Introductory Computer-Aided Statistics

**COURSE LIST 3:**

All Level I Humanities Courses
All Level I Social Sciences Courses, excluding Kinesiology

**WOMEN ST 1A06**

With the permission of the Associate Dean of Science (Studies), well-prepared students may be permitted to elect up to six additional units.

Science I students who achieve a grade of at least B+ in the Calculus Placement Examination in September and who successfully complete MATH 1A03 in term one will be exempt from taking MATH 1A03. These students must complete at least one of STATS 1CC3, MATH 1B03 or may complete both MATH 1B03 and MATH 2AB3. MATH 1B03 and MATH 2AB3 are recommended. Please note that a student who is exempt from taking MATH 1A03 is not given 3 units of advanced credit for this course.

It is possible to complete Science I through evening/summer studies. Students wishing this option should consult the Office of Part-Time Degree Studies for timetable information.

B. Degree Programmes

**HONOURS PROGRAMMES**

The programme requirements for the Honours B.Sc. programmes are listed in this section of the Calendar.

**Honours (Specialist Option) Programmes**

Most Departments offer four-level Honours B.Sc. programmes with a specialist option which requires concentration of studies in a specific discipline.

**Honours (Complementary Studies Option) Programmes**

Many Departments offer four-level Honours B.Sc. programmes (Complementary Studies Option) which require somewhat less concentration in the discipline and 21 units of complementary studies, 24 units of electives which include at least six units of Level III and IV courses.

The Honours Science (Complementary Studies Option) degree requires a breadth of studies in science; at least one course each from geo science, life science, mathematical science and physical science is required.

**Combined Honours Programmes**

A number of Departments offer Combined Honours degrees which are academically more challenging than single Honours 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 in Honours Biochemistry, Honours Biology and Pharmacology, Honours Chemistry, Honours Environmental Sciences and Honours Medical and Health Physics. Additional Honours Co-op programmes are in the planning stages and may be offered in the future subject to resource availability.

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 the 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.

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

Admission is limited for the following programmes:

- Honours Biochemistry (Specialist Option)
- Honours Biology (Specialist Option)
- Honours Biology and Mathematics
- Honours Biology and Psychology
- Honours Molecular Biology
- Honours Psychology (Specialist Option)

Each of these programmes 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.

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 of Science programmes, please see the General Academic Regulations section in this Calendar.
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 not complete, 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.

COORDINATE INTERNSHIPS

The Faculty of Science offers students the opportunity to participate in 12-16 month full-time paid work placements in industry to provide work experience related to their academic curriculum. Students compete for placements with participating companies through an application and interview process. In order to accept an internship, students must be in Level II or III of a four-level programme, and be eligible to return to complete their undergraduate degree. A fee is assessed following the start of the placement.

For further information, please consult the Associate Dean of Science (Studies) or Science Cooperative Education in the Faculty of Science.

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’ Honour 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.

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 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 Level III 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. 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 403 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 4C03 Inquiry in Biochemistry
- BIOCHEM 4P03 Research Project
- BIOLOGY 4C09 Senior Thesis
- BIOLOGY 4F06 Senior Project
- BIOLOGY 4F09 Inquiry in Biology
- CHEM 4G06 Senior Thesis
- COMP SCI 4ZP6 Project
- GEO 4C3 Inquiry in Climate Change: A Geographical 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, and
- the associated tuition fee to McMaster at Fall registration.

Although students initially register for field courses through the appropriate departmental offices, it is their responsibility to include field courses on their registration forms for the appropriate Fall/Winter session.

Detailed information regarding field courses and deadlines for registration may be obtained from the individual departmental offices.

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. However, 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 in Levels II, III, and IV 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 Courses Requiring Permission and 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, 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. For admission in 1998-99 to all Level II programmes in the Faculty of Science, students must meet the minimum requirements as described in the individual programme descriptions in the Faculty of Science section of the 1997-98 Calendar. Admission to limited enrolment programmes is also based on Cumulative Average achieved; students will be admitted by a selection committee. See Limited Enrolment Courses 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 entered Level I 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 to complete Level I. Students are not permitted 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.

COURSES REQUIRING PERMISSION

In the Course Listings section of the Calendar, courses requiring permission may be identified by checking the course prerequisite which states as a requirement: Permission of the Instructor, department, coordinator, chair, etc.

It is the student's responsibility to apply to the corresponding departmental office, instructor, etc. for permission by the end of March for courses in which they wish to register for the following Fall/Winter session.

Students who do not apply for permission by the end of March risk losing the opportunity to take the course in the following Fall/Winter session.
LIMITED ENROlEMENT COURSES
In the Course Listings section of this Calendar, certain courses are described as having an enrolment limit by the phrase: "Enrolment is limited" which appears below the prerequisite statement. There are two types of limited enrolment courses as follows:
1. Limited enrolment courses with a prerequisite stating as a requirement: Permission of the instructor, department, coordinator, chair, etc. have the enrolment controlled by requiring that permission be obtained prior to registration in the course. It is the student's responsibility to apply to the corresponding departmental office for permission by the end of March for courses in which they wish to register for the following Fall/Winter session.
   Students must state an alternate course on their registrations for each limited enrolment course selected. If permission has not been obtained for a course, it will be deleted from the Fall/Winter registration and the alternate course selection will be substituted.
2. Limited enrolment courses that make no mention of obtaining permission have the enrolment controlled on a first-come, first-served basis. Students must state an alternate course on their registrations for each limited enrolment course they list.

N.B. 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. They must attach the signed permission slip to their Drop and Add forms to be permitted to enter their desired limited enrolment courses.

DEPARTMENT OF BIOCHEMISTRY

WEB ADDRESS:
http://www.science.mcmaster.ca/biochem/index.html

Honours Arts & Science and Biochemistry
(B.Arts.; See Arts & Science programme)

Honours Biochemistry (2042)
(Complementary Studies Option)

ADMISSION
Completion of the Science I requirements, including:
- 6 units MATH 1A03, STAT 1C03
- 6 units BIOLOGY 1A03, 1A93
- 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

Students will also be considered for admission if they have completed MATH 1AA3 instead of STAT 1C03. However, STAT 1C03 is strongly recommended.

MINIMUM AVERAGES/GRADERS:
A Cumulative Average of 5.0 and a grade of C+ in each of four of BIOLOGY 1A03, 1A93, CHEM 1A03, 1AA3, and MATH 1A03.

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 and III programmes.
2. A minor in Biology or Chemistry is not permitted in the Honours Biochemistry (Complementary 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

LEVEL III: 30 UNITS
- 15 units BIOCHEM 3B03, 3B03, 3L03, BIOLOGY 2B03, CHEM 2N03
- 3 units HUMAN 2C03
- 6 units from Business, Humanities, Social Sciences
- 6 units Electives, excluding Biochemistry

LEVEL IV: 30 UNITS
- 3 units BIOCHEM 4C03
- 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 3X03, 3X03, 4V03
- 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, 1A93
- 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

Students will also be considered for admission if they have completed MATH 1AA3 instead of STAT 1C03. However, STAT 1C03 is strongly recommended.

MINIMUM AVERAGES/GRADERS:
A Cumulative Average of 5.0 and a grade of C+ in each of four of BIOLOGY 1A03, 1A93, CHEM 1A03, 1AA3, and MATH 1A03.

NOTES
1. This programme fulfills the academic requirements for membership in the Chemical Society of Canada.
2. Students who completed Level II of Honours Biochemistry (Specialist Option) with a C.A. of at least 6.0 in the 1997-98 Fall/Winter Session, have three choices:
   (i) Remain in Honours Biochemistry (Specialist) (Biochemistry Option);
   (ii) Transfer to Level III Honours Biochemistry (Specialist) (Biotechnology and Genetic Engineering Option);
   (iii) Transfer to Honours Biochemistry and Molecular Biology
3. Students who completed Level III of Honours Biochemistry (Specialist Option) in the 1997-98 Fall/Winter Session with a C.A. of at least 6.0, have two choices:
   (i) Remain in Honours Biochemistry (Specialist) (Biochemistry Option);
   (ii) Transfer to Level IV Honours Biochemistry (Specialist) (Molecular Biology, Biotechnology and Genetic Engineering Option)
4. A minor in Biology or Chemistry is not permitted in the Honours Biochemistry (Specialist 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, 2O03, 2A03, 2B03
3-6 units from either CHEM 2R03 or both CHEM 2PA3 and 2PB3
3-6 units Electives. CHEM 2I03, COMP SCI 1SA3 (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 3F03
6 units from Level III, IV Biochemistry, Biology, Chemistry
6 units Electives, excluding Biochemistry

LEVEL IV: 30 UNITS (BIOCHEMISTRY OPTION) (2041)
BIOTECHNOLOGY AND GENETIC ENGINEERING OPTION
(1998-99 ONLY)
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) (2041)
(EFFECTIVE 1998-99)
12 units BIOCHEM 3B03, 3BB3, 3L03, 3P03
9 units BIOLOGY 3O03, 3E03, 3F03
3 units from Level III, IV Biochemistry, Biology, Chemistry
6 units Electives, excluding Biochemistry

LEVEL IV: 30 UNITS (BIOTECHNOLOGY AND GENETIC ENGINEERING OPTION)
(EFFECTIVE 1999-2000)
9 units BIOCHEM 4D03, 4DD3, 4E03
15 units including:
- 3-9 units from BIOCHEM 4BB6, 4F09, 4G03
- 3-6 units from BIOCHEM 4I03, 4M03
- 3-6 units from Level III, IV Biochemistry, Biology, Chemistry (BIOCHEM 5X03 or 4V03 is recommended)
6 units Electives

Honours Biochemistry Co-op (2045)

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 either Level II Honours Biochemistry (Specialist Option), Honours Biochemistry and Molecular Biology, Honours Biochemistry and Chemistry or Honours Molecular Biology with a Cumulative Average of at least 6.0. 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 must be spent in Biochemistry 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. Students who completed Level III of Honours Biochemistry Co-op in the 1997-98 Fall/Winter Session with a C.A. of at least 6.0, have two choices:
   (i) Remain in Biochemistry Co-op;
   (ii) Transfer to Level IV Honours Biochemistry Co-op (Molecular Biology, Biotechnology and Genetic Engineering Option)
5. Students who are entering Level III Honours Biochemistry Co-op in the 1998-99 Fall/Winter Session with a C.A. of at least 6.0, have two choices:
   (i) Honours Biochemistry Co-op;
   (ii) Honours Biochemistry Co-op (Biotechnology and Genetic Engineering Option)
6. 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.
7. 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
90 units from Honours Biochemistry (Specialist Option), Honours Biochemistry and Chemistry (BIOLOGY 2B03 and 2C03 must be completed), Honours Biochemistry and Molecular Biology, or Honours Molecular Biology (CHEM 2N03 must be completed)

(Biochemistry Option) (2045)

YEAR 3
FALL/WINTER, TERM 1
9 units BIOCHEM 3B03, 3L03, BIOLOGY 3O03
3 units from Level III, IV Biochemistry, Biology, Chemistry
3 units Electives

FALL/WINTER TERM 2 AND SUMMER
First eight month Work Term

YEAR 4
(1998-99 ONLY)
Students who completed Year 3 of the Honours Biochemistry Co-op programme in the 1997-98 session must follow this Calendar's programme requirements for Levels 4 and 5. Specifically, BIOCHEM 4E03 (GENE EXPRESSION I) must be completed in Year 4 instead of Year 5 because it will not be given in the second term in subsequent years.

FALL/WINTER, TERM 1
3 units BIOCHEM 4M03
9 units from Level III, IV Biochemistry, Biology, Chemistry
3 units Electives

FALL/WINTER, TERM 2
3 units BIOCHEM 4E03
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 Electives

SUMMER AND FALL/WINTER, TERM 1
Second eight month Work Term

YEAR 5
(1998-99 ONLY)
FALL/WINTER, TERM 1
Work Term
FALL/WINTER, TERM 2
6 units BIOCHEM 4E03, 4I03
3 units from BIOCHEM 4L03, 4P03
3 units from Level III, IV Science courses, excluding Biochemistry
3 units Electives
YEAR 4
(Effective 1999-2000)
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
SUMMER AND FALL/WINTER, TERM 1
Second eight month Work Term

YEAR 5
(Effective 1999-2000)
FALL/WINTER, TERM 1
Work Term
FALL/WINTER, TERM 2
3 units BIOCHEM 4L03
3 units from BIOCHEM 4L03, 4P03
3 units Level III, IV Biochemistry
3 units from Level III, IV Science courses, excluding Biochemistry
3 units Electives

(Molecular Biology, Biotechnology and Genetic Engineering Option) (1998-99 only)

YEAR 4
FALL/WINTER, TERM 1
6 units BIOCHEM 4D03, 4M03
3 units from Level III, IV Biochemistry, Biology, Chemistry
3 units Electives
FALL/WINTER, TERM 2
3 units BIOCHEM 4E03
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 Electives
SUMMER AND FALL/WINTER, TERM 1
Second eight month Work Term

YEAR 5
(1998-99 only)
FALL/WINTER, TERM 1
Work Term
FALL/WINTER, TERM 2
6 units BIOCHEM 4D03, 4I03
3 units from BIOCHEM 4G03, 4P03
3 units from Levels III, IV Science courses, excluding Biochemistry
3 units Electives

YEAR 5
(Effective 1999-2000)
FALL/WINTER, TERM 1
Work Term
Honours Biology (Complementary Studies Option) [2052]

ADMISSION

Completion of Science I requirements, including:
6 units MATH 1A03, STATS 1CC3
6 units BIOLOGY 1A03, 1A3
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/GRDES:
A Cumulative Average of 5.0 and an average of 6.0 in BIOLOGY 1A03, 1AA3, and a grade of C+ in each of three of MATH 1A03, CHEM 1A03, 1AA3, PHYSICS 1B03, STATS 1CC3.

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) programme.

COURSE LIST
All Level III and IV Biology courses, except BIOLOGY 4C09 and 4L09; BIOCHEM 2E03, 3B03, 3BB3, 3C03, 3G03, 3GG3, 3H03, 3N03, 4D03, 4E03, 4EE3, 4F03, 3D03, 4M03; ENGINEER 4X03; GEO 2P03, 3B03, 3C03, 3P03, 4B03, 4P03; GEOG 2P03, 3P03, 4P03; GEOLOGY 2J03, 3J03, 4G03; MOL B0L 4F03, 4H03, 4J03; PHARMAC 4B03, PSYCH 2F03, 3FA3, 3R03, 3S03, 3T03, 4U03

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, 2OA3, 2CB3
3-6 units from either CHEM 2P03 or both CHEM 2PA3 and 2PB3

LEVEL III: 30 UNITS
15 units BIOCHEM 3B03, 3BB3, 3C03, 3L03, 3P03
6 units BIOLOGY 3O03, CHEM 3G03
3 units from Level III, IV Biochemistry, Biology, Chemistry (BIOLOGY 3E03 is recommended)
6 units Electives, excluding Biochemistry

LEVEL IV: 30 UNITS
9 units BIOCHEM 4D03, 4E03, 4EE3
3 units from BIOCHEM 4G03, 4M03
9 units from Level III, IV Biochemistry or Molecular Biology courses which must include one of BIOCHEM 4B06, 4F09, 4G03
3 units Level III, IV Biochemistry, Biology, Chemistry
6 units Electives

Minor in Biochemistry
6 units from CHEM 1A06, 1A03, 1AA3
6 units from either CHEM 2G06 or 2B06 or both 2OA3 and 2OB3 or both CHEM 2BA8 and 2BB3
6 units from BIOCHEM 3G03 and one of 2EE3, 3G03, or 3A03 and 3AA3, or 3B03 and 3BB3
6 units from Level 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.A. Arts So; See Arts & Science programme)

Honours Molecular Biology
(See Molecular Biology)
MINIMUM AVERAGES/GRDES:
A Cumulative Average of 5.0 and an average of 6.0 in Biology 1A03, 1AA3, and a grade of C+ in each of three of MATH 1A03, CHEM 1A03, 1AA3, PHYSICS 1B03, STATS 1CC3.

NOTES
1. Students are advised to note carefully the prerequisites for all Level III and IV courses listed in the following programme, particularly BIOCHEM 2EE3, 3G03.
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 2EA3 and 2OB3 or 2Ob6.

COURSE LIST
All Level III and IV Biology courses: BIOCHEM 2EE3, 3B03, 3EB3, 3G03, 3GG3, 3H03, 3N03, 4D03, 4DD3, 4E03, 4EE3, 4AF03, 4T03, 4II03, 4M03, 4V03; PHARMAC 4B03; PSYCH 4F03, 3FA3, 3R03, 3SO3, 3TO3, 4U03

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, 2EE3, 2F03; BIOCHEM 2EE3
3-6 units from either CHEM 2E03 or both CHEM 2OA3 and 2OB3 (See Note 3 above.)
3 units STATS 2MA3
3-6 units Electives, excluding Biochemistry and Biology

LEVEL III: 30 UNITS
16 units from Level III, IV Biology
8 units from the Course List. (See above)
3 units Electives, excluding Biochemistry and Biology
3 units Electives

LEVEL IV: 30 UNITS
18 units from Level 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 2B03
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/GRDES:
A Cumulative Average of 5.0 and an average of 6.0 in BIOLOGY 1A03, 1AA3 and an average of 6.0 in MATH 1A03, 1AA3, 1B03.

NOTES
1. Students should seek counselling for this programme in either the Department of Mathematics and Statistics or in the Department of Biology.
2. Students are advised to carefully note graduate programme requirements.
3. Students considering graduate studies in Mathematics are recommended to complete BIOLOGY 4C09 or BIOLOGY 4F06.
4. Students considering graduate studies in Mathematics, are recommended to complete MATH 2A03, 2B03 and either 2SO3 or 2TO3 in Level II, MATH 3A03 and 3X03 in Level III, and MATH 3AA3 and 4X03 in Level IV. MATH 3E03 is recommended.
5. Students must complete at least 9 units from Level IV Biology

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 2A03, 2B03, 2C03, 2F03, 3F03
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 3F03, 3N03
3 units from MATH 2S03, 2T03, 3A03
3-6 units STATS 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, STATS 3D06, 3SO3, 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 II of one Honours Biology or Molecular Biology programme (including CHEM 2OA3 and 2OB3 or 2Ob6) with a Cumulative Average of at least 6.0.

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 highly 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, 3G06, 4A03, 4AA3, 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, 3B05, 3D03, 3GG3, 3H03, 3N03; All Level III and IV Biology courses; CHEM 3F03, 4DD3; GEOG 3B03, 4G03, 4F03; GEOG 3P03, 3X03, 3U03, 3W03, 4P03, 3D03; MOL BIOL 4F03, 4I03, 4J03
Honours Biology and Psychology (2050460)

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, 1A93
3 units PHYSICS 1B03
3 units PSYCH 1A03
6 units from Level I Course Lists 2, 3
1 course SCIENCE 1A00
PSYCH 1A93 must be completed by the end of Level II and is strongly recommended in Level I.

MINIMUM AVERAGES/GRADERS:
A Cumulative Average of 5.0 and an average of 6.0 in BIOLOGY 1A03, 1AA3, a grade of C+ in PSYCH 1A03, and an average of 6.0 in CHEM 1A03, 1AA3.

NOTES
1. Counselling for this programme is shared by the Departments of Biology and Psychology and alternates each year.
2. MATH 1B03 is strongly recommended for students intending to pursue graduate work in Psychology.
3. In Level III or IV students must complete at least one laboratory course in Psychology (see Course List 5). 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. Students planning to do postgraduate work in Psychology or Neuroscience are strongly recommended to take PHYSICS 3B53.
6. A minor in Biochemistry is not permitted in the Honours Biology and Psychology programme.

COURSE LIST 1
BIOLOGY 2D03, 2E03, 2F03

COURSE LIST 2
PSYCH 2E03, 2F03, 2H03, 2T03

COURSE LIST 3
All Level III and IV Biology courses; BIOCHEM 3H03, 3N03, 4D03, 4DD3, 4E03, 4EE3, 4F03, 4M03, MOL BIOL 4F03, 4H03; PHARMAC 4G03

COURSE LIST 4
All Level III and IV Psychology courses except PSYCH 3D03, 3DD3

COURSE LIST 5
PSYCH 3E03, 3L03, 3LL3, 3QQ3, 3S03, 3V03, 4G03, 4QQ3 (Psychology lab courses 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
12 units BIOLOGY 2B03, 2C03; CHEM 2A03 and 2B03
6 units from PSYCH 2E03, 2F03, 2H03, 2T03
3 units PSYCH 2RR3
9 units Electives. CHEM 2R03 is recommended.
If not completed: PSYCH 1AA3

LEVEL III: 30 UNITS
6 units BIOCHEM 2E03, 3G03
3 units from Course List 1 or 3 (see above)
3 units from Course List 2 or 4 (see above)
6 units from Course List 3 (see above)
3 units from Course List 4 (see above)
3 units from Course List 5 or 6 (see above)
3 units from Course List 6 (see Note 3 above.)
3 units Electives

LEVEL IV: 30 UNITS
30 units from the Course List (see above)
LEVEL IV: 30 UNITS
24 units from Course Lists 3, 4 and 5 (see above), including at least nine units from Course List 3, 4 and 5. 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 1A3 is recommended for students without those skills.
2. The Department is phasing out the Combined Honours degrees it is offering through the Faculty of Science, i.e. Honours Biochemistry and Chemistry, Honours Chemistry and Geology, Honours Chemistry and Mathematics, and Honours Chemistry and Physics. Students who wish to continue in Combined Honours programmes should consult the 1997-98 Undergraduate Calendar for programme requirements.
3. Students are encouraged to seek academic counselling from the Undergraduate Advisor for Chemistry programmes.
4. 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 Course Core Course List 1
6 units from Level I Course Lists 2, 3
1 course CHEM 1A00

MINIMUM AVERAGES/GRADERS:
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 1C03 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
6 units from the Faculty of Humanities and/or the Department of Religious Studies

LEVEL III: 30 UNITS
15 units CHEM 3A03, 3BA3, 3BB3, 3D03, 3Q03
3 units HUMAN 2C03
6 units from 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 CHEM 1A00

MINIMUM AVERAGES/GRADERS:
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

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 the Faculty of Humanities and/or the Department of Religious Studies

LEVEL III: 30 UNITS
15 units CHEM 3A03, 3BA3, 3BB3, 3D03, 3Q03
3 units HUMAN 2C03
6 units from 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 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 which 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

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<th>from the Science I requirements</th>
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<td>LEVEL II</td>
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**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 1**
- 6 units CHEM 3A03, 3G03
- 3 units HUMAN 2C03
- 6 units Electives, excluding Chemistry and 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**
- 15 units CHEM 3A03, 3G03, 3D03, 3I03, 4TA3
- 3 units from the Science Inquiry Course List
- 6 units from 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

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### Honours Biological Chemistry

#### ADMISSION
Completion of the Science I requirements, including:
- 6 units MATH 1A03, 1A43
- 6 units BIOLOGY 1A03, 1A43
- 6 units CHEM 1A03, 1A43
- 3 units PHYSICS 1B03
- 3 units MATH 1B03
- 6 units from Level I Course Lists 2, 3
- 1 course SCIENCE 1A00
- PHYSICS 1B3 (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/GRADS:
A Cumulative Average of 5.0 and an average of 6.0 in CHEM 1A03, 1A43.

#### 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 2EE3 in Level III, students considering BIOCHEM 4L03 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.)

**LEVEL II: 30 UNITS**
- 3 units BIOLOGY 2B03
- 21 units CHEM 2A03, 2A33, 2B33, 2I03, 2L03, 2P33, 2P93
- 3 units MATH 2A03
- 3 units Electives, excluding Chemistry.
If not completed: PHYSICS 1B3 (or 1BB3)

**LEVEL III: 30 UNITS**
- 6 units BIOCHEM 3G03; BIOLOGY 2C03
- 3 units from BIOCHEM 2EE3, 3BB3 (See Note 3 above.)
- 12 units CHEM 3A03, 3A33, 3B33, 3G03
- 3 units from CHEM 3D03, 3F03
- 6 units Electives

**LEVEL IV: 30 UNITS**
- 6 units CHEM 4D03, 4DD3
- 3 units from BIOCHEM 3L03, 3BB3, 4I03
- 6 units from CHEM 4G06 or both CHEM 4TA3 and 3 units of Level III, IV Chemistry
- 3 units from BIOCHEM 3L03, Level IV Biochemistry
- 3 units from Level III, IV Biology
- 6 units Electives, excluding Biology
- 6 units Electives

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### FACULTY OF SCIENCE

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FACULTY OF SCIENCE

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.dcss.mcmaster.ca

NOTES

1. The Department of Computer Science and Systems will cease to exist effective July 1, 1998 and responsibility for all Computer Science courses will be transferred to the Department of Computing and Software housed within the Faculty of Engineering. However, students registered in Computer Science programmes will continue to be administered through the Faculty of Science.

2. COMP SCI 1MA3 can be used as a substitute for COMP SCI 1MC3, COMP SCI 1MB3 can be used as a substitute for COMP SCI 1MD3, and COMP SCI 2MC3 can be used as a substitute for COMP SCI 2SC3.

3. 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. Sc. programme are recommended to take 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.A. Arts Sc.; See Arts & Science programme)

Honours Computer Science

(Complementary Studies 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. Students may choose their electives to complete a coherent set of courses, such as:
   - Numerical Analysis: MATH 3Q03, 4Q03, 4QQ3 and 4RR3
   - Hardware: PHYSICS 2B06, 3BA3 (or 3B06), 4DA3 (or 4D06)

2. COMP SCI 3EA3 is listed as required in Level IV but may be taken in Level III.

3. 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) programme.

4. 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 2R03, 2T03
6 units from the Faculty of Humanities and/or the Department of Religious Studies
6 units Electives, excluding Computer Science
If not completed: SCIENCE 1A00

LEVEL III: 30 UNITS

6 units COMP SCI 3MG3, 3MH3
6 units from COMP SCI 3CB3, 3GA3, 3IA3, 3TA3
3 units COMP SCI 2ME3
3 units HUMAN 2C03
6 units from Business, Humanities, Social Sciences
6 units Electives, excluding Computer Science

LEVEL IV: 30 UNITS

6 units COMP SCI 3EA3, 3MI3
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)

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. Students may choose their electives to complete a coherent set of courses, such as:
   - Numerical Analysis: MATH 3Q03, 4Q03, 4QQ3 and 4RR3
   - Hardware: PHYSICS 2B06, 3BA3 (or 3B06), 4DA3 (or 4D06)

2. COMP SCI 3EA3 is listed as required in Level III but may be taken in Level IV.

3. Level II and III courses should be selected carefully so that prerequisites for the Level III and IV courses in the desired area are satisfied.

4. A minor in Mathematics or Mathematics and Statistics is not permitted in the Honours Computer Science (Specialist Option) programme.

COURSE LIST

All Level III and IV Computer Science (excluding COMP SCI 4MP6, 4ZP6, 4ZP3), all Level III, IV Mathematics and Statistics courses; NEURCOMP 3W03; PHYSICS 3B06, 3BA3, 3BB3, 4D06, 4DA3, 4DB3

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.)

Students entering from a Faculty other than the Faculty of Science must complete the requirements of the Science I programme before entry to Level IV.

LEVEL II: 30 UNITS

15 units COMP SCI 2MD3, 2ME3, 2MF3, 2MJ3, 2SC3
6 units MATH 2A03, 2R03
3 units from MATH 2S03, 2T03
6 units Electives
If not completed: SCIENCE 1A00

LEVEL III: 30 UNITS

12 units COMP SCI 3EA3, 3MG3, 3MH3, 3MI3
3 units from COMP SCI 3CB3, 3GA3, 3IA3, 3TA3
6 units from Level III, IV Mathematics, Statistics
6 units Electives, excluding Computer Science, Mathematics, Statistics
3 units Electives
LEVEL IV: 30 UNITS
6 units COMP SCI 4ZP6
18 units from the Course List (see above) which must include at least nine units of Level IV Computer Science
6 units Electives

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 from 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 2S03, 2T03
6 units Electives
If not completed: SCIENCE 1A00

LEVEL III: 30 UNITS
12 units COMP SCI 2ME3, 2MG3, 3MH3, 3MI3
3 units from COMP SCI 3CB3, 3EA3, 3GA3, 3IA3, 3TA3
6 units MATH 3A03, 3X03
3 units from Level II, 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, excluding 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 from 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, 2S03, STATS 2D03
6 units Electives
If not completed: SCIENCE 1A00

LEVEL III: 30 UNITS
12 units COMP SCI 2ME3, 2MG3, 3MH3, 3MI3
3 units MATH 2C03
9 units STATS 2MB3, 3D06
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
6 units COMP SCI 4MP6
6 units from Level III, IV Mathematics
9 units from Level III, IV Statistics
9 units from Level III, IV Computer Science (excluding COMP SCI 4ZI3), 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 at 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, 4ZI3, 4ZP6), Mathematics and Statistics courses; NEURCOMP 3W03; PHYSICS 3B05, 3BA3, 3BB3, 4D06, 4DA3, 4DB3

REQUIREMENTS:
60 units total
15 units COMP SCI 2MD3, 2ME3, 2MF3, 2MJ3, 2SC3
9 units MATH 2A03, 2R03, 2T03
12 units COMP SCI 3EA3, 3MG3, 3MI3, 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

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
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
Honours Geography (B.A.) and B.A. in Geography and Honours Geography and Environmental Studies (B.A.)

(See Faculty of Social Sciences, School of Geography and Geology)

Honours Arts & Science and Geography

(B.A. Arts Sc.; See Arts & Science programme)

PROGRAMMES FOR STUDENTS ENTERING IN SEPTEMBER 1998

Honours Geography (B.Sc.) (2241)

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.

ADMISSION

Completion of the Science I requirements, including:

6 units MATH 1A03, 1C03
3 units BIOLOGY 1A03
6 units CHEM 1A03, 1AA3
3 units GEO 1G03
3 units PHYSICS 1B03
6 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/GRADERS:

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 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, 3F03, 3G03, 3H03, 3I03, 3J03, 3K03, 3L03, 3M03, 3N03, 3O03, 3P03, 3Q03, 3R03, 3S03, 3T03, 3U03, 3V03, 3W03, 3X03, 3Y03, 3Z03, 4A03, 4B03, 4C03, 4D03, 4E03, 4F03, 4G03, 4H03, 4I03, 4J03, 4K03, 4L03, 4M03, 4N03, 4O03, 4P03, 4Q03, 4R03, 4S03, 4T03, 4U03, 4V03, 4W03, 4X03, 4Y03, 4Z03

REQUIREMENTS

120 units total (Levels I to IV), of which no more than 48 units may be Level I courses.
### Hydrology Stream:
- Required Specialist courses: GEO 2W03, 3W03, 4W03
- Specialist Course List: GEO 2C03, 2WW3, 3C03, 3G03, 3Y03, 4Z03, 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.

3. 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 authorize a transcript notation attesting that they have followed and/or completed their chosen stream.

4. The field component of GEO 3F03 is normally taken in the two weeks before the start of the fall term in Level III.

5. A minor in Geography or Geology is not permitted in the Honours Environmental Science programme.

### COURSE LIST

**Biochemistry:** BIOCHEM 3E03; BIOLOGY 2D03, 3SS3, 3TT3, 4A03, 4Y03; CHEM 3A03; ECON 3W03; GEO 2C03, 2E03, 2K03, 2K3, 2W03, 3C03, 3E03, 3G03, 3K03, 3Q03, 3W03, 3Y03, 3Z03, 3Z3, 4E03, 4FE3, 4Q03, 4W03, 4Z03, 4Z73

**Requirements:**

120 units total (Levels I to IV), of which no more than 48 units may be Level I courses.

#### Level I:

<table>
<thead>
<tr>
<th>Units</th>
<th>Course Code</th>
</tr>
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<tbody>
<tr>
<td>9</td>
<td>CHEM 2R03, GEO 2I03, 2S03</td>
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<tr>
<td>6</td>
<td>from BIOCHEM 2EE3, BIOLOGY 2F03, CHEM 2E03, 2A03 (or 2N03)</td>
</tr>
<tr>
<td>9</td>
<td>from GEO 2B03, 2C03, 2E03, 2G03, 2W03</td>
</tr>
<tr>
<td>6</td>
<td>Electives</td>
</tr>
<tr>
<td></td>
<td>If not completed: GEO 1A03, 1B03</td>
</tr>
</tbody>
</table>

#### Level II:

<table>
<thead>
<tr>
<th>Units</th>
<th>Course Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>GEO 3A03, 3F03, 3R03, 3U03</td>
</tr>
<tr>
<td>6</td>
<td>from GEO 3B03, 3C03, 3G03, 3Q03, 3W03</td>
</tr>
<tr>
<td>6</td>
<td>from the Course List (see above and Note 2)</td>
</tr>
<tr>
<td>6</td>
<td>Electives</td>
</tr>
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</table>

#### Level III:

<table>
<thead>
<tr>
<th>Units</th>
<th>Course Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>GEO 4A03, 4R06</td>
</tr>
<tr>
<td>6</td>
<td>from GEO 4B03, 4C03, 4G03, 4Q03, 4W03</td>
</tr>
<tr>
<td>9</td>
<td>from the Course List (see above and Note 2)</td>
</tr>
</tbody>
</table>

Honours Environmental Science (2212)

### Co-op (B.Sc.)

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.

### 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 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. A senior thesis (GEO 4R06) will be completed as part of Level IV.
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 programme. 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, 2K3, 3E03, 3FG3, 3K03, 3Y03, CHEM 3A03
   - **Surficial Geoscience Stream:**
     - Required Specialist courses: GEO 2G03, 3G03, 4G03
     - Specialist Course List: GEO 2E03, 3E03, 3FG3, 3Y03, 3Z03, 3Z3, 4E03, 4Z03, 4Z73
   - **Biogeochemistry Stream:**
     - Required Specialist courses: GEO 2B03, 3B03, 4B03
     - Specialist Course List: BIOLOGY 2D03, 3SS3, 3TT3, 4A03, 4Y03, GEO 3E03
   - **Hydrology Stream:**
     - Required Specialist courses: GEO 2W03, 2WW3, 3W03, 4W03
     - Specialist Course List: GEO 2C03, 3C03, 3G03, 3Y03, 4Z03, 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 authorize 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 3F03 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

**Biochemistry:** BIOCHEM 3E03; BIOLOGY 2D03, 3SS3, 3TT3, 4A03, 4Y03; CHEM 3A03; GEO 2C03, 2E03, 2K03, 2K3, 2W03, 3C03, 3E03, 3G03, 3K03, 3Q03, 3W03, 3Y03, 3Z03, 3Z3, 4E03, 4FE3, 4Q03, 4W03, 4Z03, 4Z73

### Requirements

120 units total (Levels I to IV), of which no more than 48 units may be Level I courses.

#### Level I

<table>
<thead>
<tr>
<th>Units</th>
<th>Course Code</th>
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</thead>
<tbody>
<tr>
<td>30</td>
<td>(See Admission above.)</td>
</tr>
</tbody>
</table>
LEVEL II
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, 3P03
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
12 units GEO 3U03, 3A03, 3R06
6 units from GEO 3B03, 3C03, 3G03, 3Q03, 3W03, 4B03, 4C03, 4G03, 4Q03, 4W03
6 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, 4Q03, 4B03, 4C03, 4G03, 4Q03, 4W03
3 units from the Course List (see Note 5 above.)
6 units Electives

Honours Geology [2251]
All Geography (except GEOG 4B09), Geology and 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.

ADMISSION
Completion of the Science I requirements, including:
6 units MATH 1A03, 1A13
3 units BIOLOGY 1A03

MINIMUM AVERAGES/GRDES:
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) programme.
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, 3Y03, 4E03, 4F03, 4I03, 4K03, 4Q03, 4S03, 4T03, 4R06, 4W03, 4Z03, 4Z3S
   - Geo-environmental:
     Specialist Course List: BIOCHEM 2EE3; BIOLOGY 2F03, 3SS3; GEO 2B03, 2G03, 2W03, 3A03, 3C03, 3G03, 3P03, 3W03, 3Y03, 4A03, 4E03, 4F03, 4I03, 4K03, 4Q03, 4R06, 4Z03, 4Z3S
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 3FG3 in Level III, but normally take after 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, 3W03, 3Y03, 4A03, 4E03, 4F03, 4I03, 4K03, 4Q03, 4R06, 4Z03, 4Z3S

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
15 units GEO 2E03, 2I03, 2K03, 2K35, 2P03, 2S03
9 units Electives

LEVEL III: 30 UNITS
15 units GEO 3E03, 3FG3, 3Q03, 3Z03, 3Z3Z
9 units from Course List (see Note 3 above.)
6 units Electives
LEVEL IV: 30 UNITS
3 units from GEO 3A03, 3R03, ENGINEER 4B03
21 units from Course List (see Note 3 above), including at least 9 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
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 Former designation of a 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.

Honours Geography and Environmental Science (B.Sc.)
(Available only to students who entered this programme before 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 former designation of a 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.

NOTE
The Honours Geography and Environmental Science programme is being phased out. Level III will be last offered in September 1998. Students who entered this programme prior to September 1998 will be given the option of transferring into the Honours Environmental Science programme administered by the School of Geography and Geology.

COURSE LIST 1
ENVI RC 4W03; GEO 3B03, 3C03, 3G03, 3HG3, 3I03, 3L03, 3M03, 3Y03, 4B03, 4FE3, 4HS3, 4HT3, 4I03, 4PD3, 4WD3, 4X93; GEOG 3F93, 3GR3, 3K03, 3R03, 3RD3, 3MN3, 3NP3, 3PP3, 3WW3, 4R03, 4D03, 4EO3, 4K03, 4K33, 4N53, 4PD3, 4Q03, 4S03, 4T03, 4W03; GEOLOGY 4C03, 4D03, 4S03

COURSE LIST 2
BIOLOGY 3F33, 3R03, 3S33, 3TT3, 4A03, 4AA3, 4J03, 4Y03, ENGSOCY 3Z03; ECON 3W03 or GEOG S03

COURSE LIST 3
BIOLOGY 2D03, 2E03, GEO 2E03, 3U03, GEOLOGY 2C03, 2K03

REQUIREMENTS
120 units total (Level I to IV), of which no more than 48 units may be Level I courses

LEVEL III: 30 UNITS
12 units GEO 3A03, 3FE3, 3R03, 4A03
6 units from Course Lists 2 and 3 (see above)
6 units from Course Lists 1 and 2 (see above)
6 units Electives

LEVEL IV: 30 UNITS
6 units GEO 4R06
9 units from Course Lists 2 and 3 (see above)
9 units from Level IV courses from Course Lists 1 and 2 (see above)
6 units Electives

Honours Geography and Environmental Science Co-op (B.Sc.)
(Available only to students who entered this programme before 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 former designation of a 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.

NOTE
The Honours Geography and Environmental Science Co-op programme is being phased out. Level IV will be last offered in September 1998. Students who entered this programme prior to September 1998 will be given the option of transferring into the Honours Environmental Science Co-op programme administered by the School of Geography and Geology.

COURSE LIST 1
ENVI RC 4W03; GEO 3B03, 3C03, 3G03, 3HG3, 3I03, 3L03, 3M03, 3Y03, 4B03, 4FE3, 4HS3, 4HT3, 4I03, 4PD3, 4WD3, 4X93; GEOG 3F93, 3GR3, 3K03, 3PR3, 3RD3, 3MN3, 3NP3, 3PP3, 3WW3, 4R03, 4D03, 4EO3, 4K03, 4K33, 4N53, 4PD3, 4Q03, 4S03, 4T03, 4W03; GEOLOGY 4C03, 4D03, 4S03

PROGRAMMES FOR STUDENTS WHO ENTERED PRIOR TO SEPTEMBER 1998
Honours Geography (B.Sc.)

Students who entered this programme prior to September 1998 must consult the Academic Advisor for the School of Geography and Geology to discuss ways of fulfilling their programme requirements.
A Cumulative Average of CHEM 3 units, CHEM 1 8 units, 6 units, 6 units, MATH 6 units, 6 units

MINIMUM AVERAGES/GRADES:
A Cumulative Average of at least 4.0

NOTE
In order to meet prerequisite requirements, at least 6 units of appropriate Level II Mathematics must be taken.

Courses and Studies

WEB ADDRESS: http://mse.eng.mcmaster.ca

Honours Materials Science (Specialist Option)

MINIMUM AVERAGES/GRADES:
A Cumulative Average of at least 4.0

MINIMUM AVERAGES/GRADES:
A Cumulative Average of at least 4.0

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 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 1A03, 1AA3, 1B03.

NOTES
1. By electing STATS 2D03 and STATS 2M03 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, 2M03

MINIMUM 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
If not completed: SCIENCE 1A00

LEVEL III: 30 UNITS
15 units MATH 3A03, 3AA3, 3E03, 3EF3, 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 [2021]

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, 1BA3 (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 four of MATH 1B03, 1AA3, PHYSICS 1BA3 (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 four of MATH 1H03, 1N03, PHYSICS 1E03, CHEM 1A03, 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 2A03 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 Computer Engineering will be subject to possible enrolment limitations. Please consult with an advisor in the appropriate department.
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; ENGINEER 2003, 2P04; GEOLOGY 2I03; MATLS 2X02; MATH 2E03; MECH ENG 2W04; PHYSICS 2B06, 2H04, 2I03

COURSE LIST B
CHEM ENG 3O04; CIV ENG 3G03, 4K04; COMP ENG 3S14, 3D14, 3SK4; ENG PHYS 3003; GEOLOGY 4J03; MATLS 3E04, 3P03, 3T04; MECH ENG 3A03, 3O04, 3R03, 4S03; PHYSICS 3C03, 3K03, 3M03, 3M03, 3N03, 4B04, 4K03; Any other Level III 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 STATS 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
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, 4G03, 4Q03, 4V03, 4X03
3 units from MATH 3A03, STATS 3U03
9-12 units from Course List B (see above)
6-9 units Elective
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

COMP SCI 1MC3 or 1SA3 is recommended in Level I.

MINIMUM AVERAGES/GRADERS:
A Cumulative Average of 5.0 and a grade of C+ in each of MATH 1AA3, 1B03, 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 2MC3, 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 II and IV Physics courses except PHYSICS 3G03, 3H03, 3T03, 4T03, 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, 4X03
- 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, 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. 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) programme.
3. Students taking MATH 2T03 in Level II will have to take MATH 3A03 and 3X03 to complete 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.)

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 and Statistics

LEVEL III: 30 UNITS (EFFECTIVE 1998-99)
- 6 units STATS 3D06
- 6 units from MATH 3A03, 3E03, 3X03
- 3 units from Level III Mathematics and Statistics, MATH 2K03
- 6 units Electives, excluding Mathematics and Statistics

LEVEL IV: 30 UNITS (EFFECTIVE 1999-2000)
- 15 units from Level III, IV Mathematics and Statistics courses, MATH 2K03
- 3 units from Level III, IV courses, excluding Mathematics and Statistics
- 6 units Electives

LEVEL IV: 30 UNITS (EFFECTIVE 1998-99)
- 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 and 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/GRADERS:
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 Level I courses.

LEVEL I
- 30 units (See Admission above.)

LEVEL II: 30 UNITS
- 15 units MATH 2A03, 2AB3, 2C03, 2R03
- 6 units from the Faculty of Humanities and/or the Department of Religious Studies
- 6 units Electives, excluding Mathematics and Statistics

LEVEL III: 30 UNITS
- 15 units MATH 3A03, 3E03, 3X03; STATS 3D06
- 6 units from MATH 3A03, 3E03, 3X03
- 3 units from Level III Mathematics and Statistics, MATH 2K03
- 6 units Electives, excluding Mathematics and Statistics

LEVEL IV: 30 UNITS
- 6 units from the Science Inquiry Course List
- 6 units from Level III, IV Mathematics and Statistics courses, MATH 2K03
- 3 units from Level III, IV courses, excluding Mathematics and Statistics
- 6 units Electives

LEVEL IV: 30 UNITS (EFFECTIVE 1999-2000)
- 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 and Statistics
- 6 units Electives
MOLECULAR BIOLOGY

Honours Biochemistry and Molecular Biology

(See Department of Biochemistry)

Honours Molecular Biology

A Minor in Mathematics and Statistics

6 units from MATH 1A03, 1AA3, 1B03

12 units from MATH 2A03, 2B03, 2C03, 2R03

3 units from MATH 2S03, 2T03

6 units from STAT 2D03, 2M03

LEVEL III: 30 UNITS

12 units from Course Lists 1, 2 and 3 (see above)

9 units Electives

LEVEL IV: 30 UNITS

6 units from Course List 2 (see above)

9 units from Course Lists 2 and 3 (see above)

9 units Electives

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.

9 units MATH 1A03, 1AA3, 1B03

18 units from Level II, III, IV Mathematics and Statistics, including at least six units from Level III, IV Mathematics and Statistics.
**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/GRADES:**
A Cumulative Average of 5.0, an average of 6.0 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 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.
4. The Neural Computation thesis in Level IV may be taken from any participating department with permission of the Programme Coordinator.

**COURSE LIST**
- COMP SCI 2M3, 3GA3, 3SD3, 3TA3, 4TC3; MATH 2E03, 4S03

**REQUIREMENTS**
121-122 units total (Levels I to IV), of which no more than 46 units may be Level I courses

**LEVEL I**
- 30 units (See Admission above.)

**LEVEL II: 30-31 UNITS**
- 6 units MATH 1B03, STATS 2D03
- 1 course from MATH 2A03, 2Q04
- 3 units COMP SCI 2MD3
- 6 units from PSYCH 2E03, 2H03, 2T03
- 3 units PSYCH 2F03
- 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
- 6 units PSYCH 3PA3, 4T03
- 6 units STATS 3D05
- 6 units Electives

**LEVEL IV: 30 UNITS**
- 9 units from the Course List (see above)
- 3 units COMP SCI 4IB3
- 9 units NEURCOMP 4D09
- 9 units Electives

**DEPARTMENT OF PHYSICS AND ASTRONOMY**

**WEB ADDRESS:** http://www.physics.mcmaster.ca/undergraduates

**NOTE**
Students in all Physics programmes are expected to have basic skills in the use of personal computers, word processing and spreadsheet software, and some familiarity with a programming language such as Basic, C, Fortran or Pascal. COMP SCI 1SA3 is recommended for students without those skills.

**Honours Mathematics and Physics**
(See Department of Mathematics and Statistics)

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**Honours Arts & Science and Physics**
(B.Arts Sc.; See Arts & Science programme)

**Honours Physics**
(Complementary Studies Option)

**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

**MINIMUM AVERAGES/GRADES:**
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), Honours Physics (Theoretical Option), or Honours Astrophysics (with completion of either ASTRON 1F03 or 2E03).
2. Students are required to take 6 units from PHYSICS 3B06, 3B3A, 3B3B, 4D06, 4D3A, 4D3B. This requirement is listed in Level III but may be completed in Level IV. It is recommended that any courses selected from PHYSICS 3B06, 3B3A, 3B3B are taken in Level III and any courses selected from PHYSICS 4D06, 4D3A, 4D3B are taken in Level IV.

3. Students interested in applied physics should include PHYSICS 3B06, 4D06 in their programme.

4. Students transferring to a programme who have credit in PHYSICS 2G03 will lose this credit and must replace it with PHYSICS 2K03 and 2L03. MATH 2003 does not have to be replaced, but MATH 2AB3 must be completed.

5. A minor in Astronomy or Mathematics or Mathematics and Statistics is not permitted in the Honours Physics (Specialist Option) programme.

6. Students interested in transferring to Honours Astrophysics in Level III should take ASTRON 2E03 if ASTRON 1F03 is not completed.

**REQUIREMENTS**

124 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

- 9 units MATH 2A03, 2B3B, 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, 3B3A, 3B3B, 4D06, 4D3A, 4D3B (See Notes 2 and 3 above.)
- 16 units PHYSICS 3H04, 3K03, 3M03, 3M3M, 3N03
- 3 units Electives

**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 Physics (Theory Option)**  

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 one of ASTRON 1F03, 2E03

**LEVEL III:** 31 UNITS

- 3 units from ASTRON 3X03, 3Y03
- 6 units from PHYSICS 3B06, 3B3A, 3B3B, 4D06, 4D3A, 4D3B (See Note 2 above.)
- 16 units PHYSICS 3H04, 3K03, 3M03, 3M3M, 3N03
- 6 units MATH 3C03, 3D03

**LEVEL IV:** 31 UNITS

- 13 units PHYSICS 4A03, 4B04, 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 Astrophysics**

122 units total (Levels I to IV), of which no more than 48 units may be Level I courses

**LEVEL IV:** 31-32 UNITS

- 3 units from MATH 4B03, 4V03, PHYSICS 3A03 (See Note 2 above.)
- 10 units PHYSICS 4A03, 4B04, 4F03
- 9 units from ASTRON 3X03, 3Y03, PHYSICS 3A03, 4E03, 4G03, 4R03
- 6-7 units from Level III, IV Science
- 3 units Electives (See Note 1 above.)

**Honours Medical and Health Physics**

122 units total (Levels I to IV), of which no more than 48 units may be Level I courses

**LEVEL I**

- 6 units MATH 1A03, 1A3
- 3 units BIOLOGY 1A03
- 6 units CHEM 1A03, 1A3
- 3 units PHYSICS 1B03
- 3 units MATH 1B03
- 3 units from BIOLOGY 1A03, PHYSICS 1B03 (or 1BB3)
- 6 units from Level I Course Lists 2, 3
- 1 course SCIENCE 1A00

**LEVEL II**

- 2 units BIOL 1A03 and PHYSICS 1B03 (or 1BB3) must be completed by the end of Level II and are recommended in Level I.

**MINIMUM AVERAGES/GRADES:**

A cumulative average of 5.0, an average of 6.0 in MATH 1A03, 1A3, 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 Level I courses
LEVEL I:
30 units (See Admission above.)

LEVEL II: 31 UNITS
3 units BIOCHEM 2E03
3-6 units from either CHEM 2E03, or both 20A3 and 20B3
6 units MATH 2A03, 2E03
3 units MATH 2C03
13 units PHYSICS 2B06, 2K03, 2H04
0-3 units Electives. BIOLOGY 2C03 is recommended.
If not completed, BIOLOGY 1AA3, PHYSICS 1B03 (or 1BB3)

LEVEL III: 31 UNITS
9 units BIOLOGY 2B03, MATH 3C03, 3D03
19 units PHYSICS 3H04, 3M03, 3N03, 3R03, 3T03
3 units Electives. BIOCHEM 3G03 is recommended.

LEVEL IV: 30 UNITS
3 units BIOLOGY 4U03
3 units from ENG PHYS 3X03, ENGINEER 4X03
12 units PHYSICS 4A03, 4D06, 4E03
12 units PHYSICS 4K03, 4R06, 4T03

Honours Medical (2330) and Health Physics Co-op

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 II 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 ENGINEER 4X03 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, ENGINEER 4X03
3 units MATH 3D03
7 units PHYSICS 3I01, 3M03, 3R03
12 units PHYSICS 4D06, 4R06

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
6 units PHYSICS 3H02, 4I03
6 units PHYSICS 4E03, 4T03

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 1P03, 2E03
3-9 units from either one of MATH 2A03, 2A06, 2G03 and one of MATH 2C03, 2003, or MATH 2N03
3-6 units from either one of PHYSICS 2H03, 2H04, CHEM 2P06, 2R03, or both CHEM 2P03 and 2PB3
3 units from PHYSICS 2G03, 2K03
3 units ASTRON 3X03, 3Y03
3 units from PHYSICS 3M03, 3C03, CHEM 3B03

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, 2003 is also completed.
6 units from PHYSICS 1A06, 1B06, 1C06, 1B03 (or 1C03), 1B08 (or 1BB3)
18 units from Levels II, III, IV Physics 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.)
(Complementary Studies Option)

ADMISSION
Completion of the Science I requirements, including:
6 units MATH 1A03, STATS 1CC3
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 1AA3 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/GRDES:
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) programme.

COURSE LIST
PSYCH 3E03, 3L03, 3LL3, 3QQ3, 3S03, 3V03, 4G03, 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 Business, Humanities, Social Sciences
6 units Electives, excluding Psychology
3 units Electives

LEVEL IV: 30 UNITS
6 units from the Science inquiry Course List
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)

ADMISSION
Enrollment 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
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 1AA3 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/GRDES:
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 1AA3, CHEM 1AA3 and PHYSICS 1BA3 (or 1BB3) by the end of Level II is recommended.

COURSE LIST
PSYCH 3E03, 3L03, 3LL3, 3QQ3, 3S03, 3V03, 4G03, 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 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, 1AA3, 1A03
18 units from Level II, III Psychology courses, including at least six units from Level III Psychology courses.
Honours Science (Complementary Studies Option)

NOTES
1. The Honours Science (Complementary Studies Option) programme has been revised (see Honours Science (Complementary Studies Option) programme Streams A, B, C, D outlined below).
2. Students currently registered in Levels I, II, III, or IV of this programme should follow the requirements as outlined in the 1995-96 Calendar or alternatively may apply for transfer to the 1997-98 programme outlined below.

Honours Science (Complementary Studies Option)

STREAM A
{2513}
STREAM B
{2514}
STREAM C
{2515}
STREAM D
{2516}

ADMISSION
Completion of Science I, including:
3 units MATH 1A03
3 units from MATH 1AA3, STATS 1CC3 (See Note 4 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/GRADRES:
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 1BA3, 1BB3 (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 programme.
2. Minors within the Faculty of Science are not permitted in the Honours Science (Complementary Studies Option) programmes.
3. Students in this programme must choose a stream in Level II and must follow this stream through to completion of the programme. The four possible streams are as follows:
   Stream A: Geoscience: Geography and Geology
   Stream B: Life Sciences: Biochemistry, Biology and Psychology
   Stream C: Mathematical Sciences: Computer Science, Mathematics, Statistics
   Stream D: Physical Sciences: Astronomy, Chemistry and Physics
4. 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 2E03, 2E03, 2B03, 3B03, 3C03, 3G03, 3G03, 3H03, 3N03, 3C03, 4D03, 4E03, 4F03, 4M03, 4Q03; ENGINEER 4X03; ENG PHYS 3X03; MCL BIOL 4F03, 4H03; PHARMAC 4B03

All Level II, III and IV Biology courses
All Level II, III, and IV Psychology courses, except PSYCH 2A03, 2B03, 2C03, 2V03, 3D03, 3DD3, 4D06, 4V03, 4V3

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

If not completed for all streams: one of ENVIR SC 1A06, 1B03, 1G03, 1H03, GECG 1C03, 1G03, GEOLCY 1C03, GEO 1A03, 1B03, 1G03

If not completed for:
- Stream A: GEO 1A03, 1B03, 1G03
- Stream B: BIOLOGY 1A03 and 1AA3 (or 1A06), PSYCH 1A03 and 1AA3 (or 1A06)
- Stream C: 9 units from COMP SCI 1MC3, 1MD3, MATH 1AA3, 1B03
- Stream D: CHEM 1A03 and 1AA3 (or 1A06), MATH 1B03, PHYSICS 1B03 and 1BA3 (or 1BB3) (or one of 1A06, 1B06, 1C06)

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 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 IV courses in the selected stream Course List
6 units from Level 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

Honours Science (Environmental Science Option)
The Honours Science (Environmental Science Option) programme is being phased out. Students must consult the academic advisor for the School of Geography and Geology to discuss ways of meeting their programme requirements.

THREE-LEVEL B.S.C. PROGRAMMES

B.Sc. in Geoscience
Formerly B.Sc. in Earth Science

ADMISSION
Completion of the Science I requirements, including:
6 units MATH 1A03, STATS 1CC3
6 units from GEC 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, 1C03.

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, 2GG3, 2I03, 2K03, 2KL3, 2P03, 2S03, 2W03, 2WW3, GEOG 2F03, 2K03, 2LL3, 2N03, 2T03, 2W03; all Level II Geology courses

**COURSE LIST 2**
GEO 3A03, 3B03, 3C03, 3E03, 3FG3, 3G03, 3I03, 3KL3, 3P03, 3S03, 3II3, 3W03, 3Y03, 3Z203, GEG 3E03, 3F03, 3I03, 3K03, 3L03, 3M03, 3N03, 3NN3, 3P03, 3W03; all Level III Geology 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**
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 Course List 2 (see above)
3-6 units from Course Lists 1 and 2 (see above)
6 units from 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**

**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/GRADES:**
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) 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 Biology or Psychology. Those who do not intend a particular emphasis should obtain counselling from the Department of Biology.
3. Enrolment in Psychology laboratory courses is limited. PSYCH 3E03, 3L03, 3Q03, 3S03, 3V03 are laboratory courses.

**COURSE LIST 1**
BIOCHEM 2E03, 2EE3; BIOLOGY 2B03, 2C03, 2D03, 2E03, 2F03, PSYCH 2E03, 2H03, 2O03 (or 2F03), 2T03

**COURSE LIST 2**
CHEM 2D03 or 2E03 or CHEM 2006 or 2OA3, 2OB3; STATS 2MA3 or PSYCH 2R03, 2RR3

**COURSE LIST 3**
BIOCHEM 3B03, 3B3; 3C03, 3QG3, 3GG3; PSYCH 2003; 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 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 Business, Humanities, Social Sciences
6 units Electives, excluding Biochemistry, Biology, Psychology
6 units Electives, excluding Biology

**B.Sc. in Mathematical Science**

**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/GRADES:**
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) 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 Mathematics and Computing or Software.
3. Completion of any Level I courses must be completed by the end of Level II.

**COURSE LIST 1**
COMP SCI 2MC3, 2MD3, 2ME3, 2MF3, 2MJ3, 2SB3, 2SC3; MATH 2A03, 2AA3, 2AB3, 2AO6, 2BO6, 2C03, 2EO3, 2G03, 2J06, 2K03, 2O03, 2P03, 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 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 1AA3, 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 1AA3, PHYSICS 1BA3 (or 1BB3) must be taken by the end of Level II and are strongly recommended in Level I.

MINIMUM AVERAGES/GRADUES:
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. Those who do not intend a 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, 2B06, 2BA3, 2BB3, 2C03, 2D06, 2D0, 2E03, 2F03, 2G03, 2H03, 2I03, 2J03, 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
6 units Electives, excluding Astronomy, Chemistry, and Physics
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 Business, Humanities, Social Sciences
6 units Electives, excluding Astronomy, Chemistry, and Physics
3 units Electives, excluding Biology
THE SOCIAL SCIENCES

Dean of Social Sciences
Alan Harrison/B.A., M.A., Ph.D.

Associate Dean (Studies)
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E. Frank/M.A.

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Programmes Coordinator
E. Moore

The social sciences are concerned with the systematic study of activities and human relationships in societies which range from the pre-industrial to the post-industrial. Social scientists examine social, economic and political problems as well as the interaction between people and their natural and artificial environments. Developments in theory and refinements of method have, in recent years, given great impetus to social science studies and research.

The Faculty of Social Sciences includes the following departments and programmes:

Anthropology, Economics, Gerontology, Kinesiology, Labour Studies, Political Science, Religious Studies, Social Work, Sociology. Geography and Psychology have programmes in the Faculty of Social Sciences as well as in the Faculty of Science.

The Faculty offers Bachelor of Arts, Honours Bachelor of Arts, Bachelor of Kinesiology and Bachelor of Social Work 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

PROGRAMME NOTES

1. Beginning in 1998-99 the Faculty will offer INQUIRY I SS3, Inquiry in Social Sciences. Social Sciences I students may choose this course as an elective. For a course description see Inquiry or Social Sciences I in the Course Listings section of this Calendar.

2. 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.

3. 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.

4. 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 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 STATS 1L03. For more information, please contact the Centre for Continuing Education.

REQUIREMENTS: 30 UNITS

12 units from ANTHROP 1A03, 1Z03; ECON 1A06; GEO 1H66; GERONTOL 1A06; LABR ST 1A03, 1Z03; POL SCI 1G06; PSYCH 1A03, 1A33; RELIG ST 1B06, 1D06, 1E06, 1H03, 1L03; SOC WORK 1A06; SOCIO 1A06

18 units Electives, which may include Social Sciences courses

(See Notes 1 and 2 above.)

KINESIOLOGY I

Enrolment in this Programme is limited.

PROGRAMME NOTES:

1. Application is made to the Kinesiology I Programme.

2. Beginning in 1998-99 the Faculty will offer INQUIRY I SS3, Inquiry in the Social Sciences. Kinesiology I students may choose this course as an elective. For a course description see Inquiry or Social Sciences in the Course Listings section of this Calendar.

REQUIREMENTS: 30 UNITS

15 units KINESIOL 1A06, 1B03, 1D03, 1E03

1 course KINESIOL 1C00 (Standard First Aid/CPR)

15 units Electives

B. Degree Programmes

HONOURS PROGRAMMES

The 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 studies.

Students enrolled in an Honours programme 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 and skills requirements prescribed by the Faculty: six units from the Faculty of Humanities and/or the Department of Religious Studies; six units of Research Methods/Statistics prescribed by the Department(s); and a course in critical thinking (HUMAN 2G03).

Honours programmes in the Faculty of Social Sciences consist of a total of 120 units of work, normally completed over four years.

Honours (Specialist Option): In addition to Honours programmes, the School of Geography and Geology and the departments of Economics, Labour Studies and Psychology offer an Honours (Specialist Option) programme which involves greater concentration of work in the particular discipline.

Combined Honours Programmes: Subject to possible timetabling restrictions, and provided that the student meets the requirements for entry into each of the relevant Honours programmes, a student may combine work in two or more departments and be graduated with a Combined Honours degree. These combinations are available within the Faculty, with programmes in the Faculty of Humanities, with the Arts and Science programme and with the Women's Studies programme. The Honours Gerontology degree is offered only in combination with another subject. All Combined Honours programmes must be approved by both Departments concerned as well as by the Office of the Associate Dean(s) (Studies). Students will normally complete approximately 36 units of work beyond Level I in each component of the programme (normally 12 units per level in each subject).

Minor: 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 Level II, III, or IV courses beyond the designated Level I course(s) that meet the requirements of the programme of the description of that minor. If applicable, courses taken to satisfy programme requirements may also be used toward the requirements of a minor. Students are responsible for ensuring that these 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.)

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 B.Kin. programme.

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 prerequisites and registration 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, Part-Time Student Appeal Committee for transfer. 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 and are normally made after July 15 for September entry. Effective September 1987, 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, 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

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 registrations are processed on a first-come basis.

KINESIOL: 3B03, 3F03, 3L03, 3M03, 3P03, 3Q03, 3S03, 4J03, 4L03, 4M03, 4T03, and 4Y03

SOC WORK: 3C03, 3O03, 4B03, 4C03, 4F03, 4G03, 4J03, 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 the Student Advising Office. Transfers are 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 processing of any fee refunds. Students who fail to withdraw formally by any course(s) by the stated deadlines will remain registered whether or not they attend classes and will be assigned a grade.

LETTER OF PERMISSION

Students in good academic standing who wish to attend another university to take courses for credit toward a McMaster degree, must first request a Letter of Permission from the Office of the Associate Dean (Studies) and pay the appropriate fee. Students who fail to withdraw formally by any course(s) by the stated deadlines will remain registered whether or not they attend classes and will be assigned a grade.

STUDENT EXCHANGE PROGRAMMES

There are a number of official exchange programmes offered to undergraduate students registered in the Faculty of Social Sciences, including a 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 (GOTESEP) 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 though 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 2A03, 2F03, 2H03, 2I03, 2P03, 2Q03, 2R03, 2S03, 2T03, 2U03, 2V03, 3A03, 3B03, 3C03, 3D03, 3E03, 3F03, 3G03, 3H03, 3I03, 3J03, 3K03, 3L03, 3M03, 3N03, 3O03, 3P03, 3Q03, 3R03, 3S03, 3T03, 3U03, 3V03, 3W03, 3X03, 3Y03, 3Z03, 4A03, 4B03, 4C03, 4D03, 4E03, 4F03, 4G03, 4H03

PHYSICAL/BIOLOGICAL ANTHROPOLOGY
ANTHROP 2D03, 2E03, 2F03, 2G03, 2H03, 2I03, 2J03, 3A03, 3B03, 3C03, 3D03, 3E03, 3F03, 3G03, 3H03, 3I03, 3J03, 3K03, 3L03, 3M03, 3N03, 3O03, 3P03, 3Q03, 3R03, 3S03, 3T03, 3U03, 3V03, 3W03, 3X03, 3Y03, 3Z03, 4A03, 4B03, 4C03, 4D03, 4E03, 4F03, 4G03, 4H03

ARCHAEOLOGY
ANTHROP 2A03, 2B03, 2C03, 2D03, 2E03, 2F03, 2G03, 2H03, 2I03, 2J03, 3A03, 3B03, 3C03, 3D03, 3E03, 3F03, 3G03, 3H03, 3I03, 3J03, 3K03, 3L03, 3M03, 3N03, 3O03, 3P03, 3Q03, 3R03, 3S03, 3T03, 3U03, 3V03, 3W03, 3X03, 3Y03, 3Z03, 4A03, 4B03, 4C03, 4D03, 4E03, 4F03, 4G03, 4H03

LINGUISTICS
ANTHROP 2L03, 2M03, 3L03, 3M03, 4A03, 4B03

OTHER COURSES
Courses not distinguished by subfield include the reading courses ANTHROP 3W03, 3W03, 4G03, 4G03, as well as the seminar courses ANTHROP 4B03 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)

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 ANTHROP 1A03 and 1Z03.

NOTES
1. Students who have completed ANTHROP 2I03 are not required to take ANTHROP 3I03.
2. Students who were registered in the programme prior to September 1997 may use the following previously cross-listed linguistics courses toward their Anthropology requirements: LIN-GUIST 2A03, 2AA3, 2LL3, 3I03, 3P03, 3X03, 3XX3, 4B03.

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.)
15 units from ANTHROP 2E03, 2F03, 2PA3, 3L03, 4I03 (See Note 1 above.)

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 ANTHROP 1A03 and 1Z03. Satisfaction of admission requirements for the Honours programme in the other B.A. subject.

NOTES
1. Students who have completed ANTHROP 2I03 are not required to take ANTHROP 3I03.
2. Students who were registered in the programme prior to September 1997 may use the following previously cross-listed linguistics courses toward their Anthropology requirements: LIN-GUIST 2A03, 2AA3, 2LL3, 3I03, 3P03, 3X03, 3XX3, 4B03.

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.)
15 units from ANTHROP 2E03, 2F03, 2PA3, 3L03, 4I03 (See Note 1 above.)

B.A. in Anthropology

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 ANTHROP 1A03 and 1Z03.

NOTE
Students who were registered in the programme prior to September 1997 may use the following previously cross-listed linguistics courses toward their Anthropology requirements: LIN-GUIST 2A03, 2AA3, 2LL3, 3I03, 3P03, 3X03, 3XX3, 4B03.

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. (See Admission above.)
6 units from ANTHROP 2E03, 2F03, 2PA3
18 units Level II, III or IV Anthropology (See Note 1 above.)
Minor in Anthropology

NOTE
Students who were working towards a minor prior to September 1997 may use the following previously cross-listed Linguistics courses toward their Anthropology requirements: LINGUIST 2A03, 2A3, 2L3, 3I03, 3P03, 3X03, 3XX3, 4B03.

REQUIREMENTS
6 units ANTHROP 1A03 and 1Z03
3 units from ANTHROP 2E03, 2F03, 2P03
15 units Level II, III or IV Anthropology (See Note above.)

DEPARTMENT OF ECONOMICS

Honours Economics [2150]

NOTE
Students who completed COMMERCE 2FA3 in the 1997-98 academic year may use this course as three units of Economics.

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.

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 ECON 2G03, 2GG3, 2H03, 2HH3, 3A03, 3A3, 3F03, 3G03, 3L3, 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, 2K03, 2P03, 2T03 (See Note 2 above.)
6 units ECON 2B03 and 3U03; or 3O06
3 units* from MATH 1M03 or 1A03
3 units** from STATS 1L03, 2D03 (or OAC Finite Math)
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. The number of units of Economics courses above Level I (excluding ECON 2B03, 3O06 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.

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 research methods courses offered by the Department of Economics (ECON 2B03 and 3O06).
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 2FA3 in the 1997-98 academic year may use this course as three units of Economics.

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 ECON 2G03, 2GG3, 2H03, 2HH3, 3A03, 3A3, 3F03, 3G03, 3L3, 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, 2K03, 2P03, 2T03 (See Note 2 above.)
9 units Level II, III, IV Economics with no more than six units from ECON 2A03, 2C03, 2D03, 2E03, 2F03, 2I03, 2J03, 2K03, 2P03, 2T03 (See Note 3 above.)
36 units Courses specified for the other subject
6 units ECON 2B03 and 3U03; or 3O06 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 1M03 or 1A03
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.
Honours Economics (2150145) and Computer Science

NOTE
Students who completed COMMERCE 2FA3 in the 1997-98 academic year may use this course as three units of Economics.

ADMISSION
Completion of any Level I programme with a Cumulative Average of at least 6.0 including COMP SCI 1M3C and 1MD3 (or 1M3A and 1MB3), and including a grade of at least D- in ECON 1A06, and a weighted average of at least 7.0 in ECON 1A06, COMP SCI 1M3C, 1MD3 (or 1MB3), MATH 1A03, 1AA3 and 1B03. MATH 1B03 may be postponed until Level II.

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, 2GG3, 2H03, 2H13, 3F03, 3LL3, 4A03
3 units from ECON 2KG3, 3I03
12 units Level II, III, IV Economics with no more than six units from ECON 2A03, 2C03, 2D03, 3E03, 2F03, 2I03, 2J03, 2N03, 2P03, 2T03 (See Note above.)
18 units Level II, III, IV Economics with no more than six units from ECON 2A03, 2C03, 2D03, 3E03, 2F03, 2I03, 2J03, 2N03, 2P03, 2T03 (See Note above.)
6 units from COMP SCI 3CA3, 3EA3, 3MH3, 3MJ3
6 units Level II, III, IV Computer Science. (COMP SCI 3EA3 is strongly recommended. COMP SCI 2ME3, 3EB3, 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, or 3006
3 units HUMAN 2C06
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)

NOTE
Students who completed COMMERCE 2FA3 in the 1997-98 academic year may use this course as three units of Economics.

ADMISSION
Completion of any Level I programme with a Cumulative Average of at least 6.0 including COMP SCI 1M3C and 1MD3 (or 1M3A and 1MB3), and including a grade of at least B- in each of ECON 1A06, MATH 1A03, 1AA3 and 1B03.

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, 2GG3, 2H03, 2H13, 3F03, 3LL3, 4A03
3 units from ECON 2KG3, 3I03
12 units Level II, III, IV Economics with no more than six units from ECON 2A03, 2C03, 2D03, 3E03, 2F03, 2I03, 2J03, 2N03, 2P03, 2T03 (See Note above.)
18 units Level II, III, IV Economics with no more than six units from ECON 2A03, 2C03, 2D03, 3E03, 2F03, 2I03, 2J03, 2N03, 2P03, 2T03 (See Note above.)
18 units MATH 2A03, 2AB3, 2C03, 2F03, 3A03, 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, or 3006
3 units HUMAN 2C06
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.

Honours in Economics

NOTE
Students who completed COMMERCE 2FA3 in the 1997-98 academic year may use this course as three units of Economics.

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.

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, 3E03, 2F03, 2I03, 2J03, 2N03, 2P03, 2T03 (See Note above.)
3 units* from MATH 1M03 or 1A03
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, 3006 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

NOTE
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.

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, 3E03, 2F03, 2I03, 2J03, 2N03, 2P03, 2T03.

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 Geography and Geology (B.Sc.)

(See Faculty of Science, School of Geography and Geology.)

Honours Arts & Science and Geography (B.A., Specialist Option)

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.

Honours Geography (2245)

(B.A., Specialist Option)
ADMISSION
Completion of any Level I programme with a Cumulative Average of at least 6.0 including a minimum grade of B- in GEOG 1B06 or an average of at least 7.0 in six units from GEOG 1C03, 1G03, 1H03 (or 1A06).

NOTES
1. Beginning in 1999-2000, admission to the programme will require completion of any Level I programme with a Cumulative Average of at least 6.0 including a minimum grade of B- in GEOG 1B06 or an average of at least 7.0 in six units from GEOG 1C03, 1G03, 1H03 (or 1A06).
2. Students who entered the programme prior to September 1998 are encouraged, but not required, to complete GEO 3HF3. Students who choose not to complete GEO 3HF3 will replace this with three units from Course Lists 1 or 2. See the 1997-1998 Undergraduate Calendar for programme requirements.
3. STATs 1CC3 and one of MATH 1M03 or 1A03, must be completed by the end of Level II. Their inclusion in Level I is strongly recommended.

COURSE LIST 1
GEO 4A03, 4B03, 4C03, 4CC3, 4D03, 4FES, 4G03, 4H03, 4HS3, 4HT3, 4HUS, 4HX3, 4HY3, 4HZ3, 4I03, 4R06, 4S03, 4W03

COURSE LIST 2
GEO 3A03, 3B03, 3C03, 3FES, 3G03, 3H03, 3HG3, 3HT3, 3H33, 3HZ3, 3I03, 3S03, 3W03, 3Y03

COURSE LIST 3
GEO 2B03, 2C03, 2G03, 2HA3, 2HBS, 2HDS, 2HR3, 2HY3, 2I03, 2S03, 2W03

REQUIREMENTS
120 units total (Levels I to IV), of which 48 units may be Level I

COMBINED HONOURS B.A. IN GEOGRAPHY AND ANOTHER SUBJECT
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.

ADMISSION
Completion of any Level I programme with a Cumulative Average of at least 6.0 including a minimum grade of B- in GEOG 1B06 or an average of at least 7.0 in six units from GEOG 1C03, 1G03, 1H03 (or 1A06). Satisfaction of admission requirements for the Honours programme in the other B.A. subject.

NOTES
1. Beginning in 1999-2000, admission to the programme will require completion of any Level I programme with a Cumulative Average of at least 6.0 including a minimum grade of B- in GEOG 1B06 or an average of at least 7.0 in six units from GEOG 1C03, 1G03, 1H03 (or 1A06). Satisfaction of admission requirements for the Honours programme in the other B.A. subject.
2. Students who entered the programme prior to September 1998 are encouraged, but not required, to complete GEO 3HF3. Students who choose not to complete GEO 3HF3 will replace this with three units from Course Lists 1 or 2. See the 1997-1998 Undergraduate Calendar for programme requirements.
3. STATs 1CC3 and one of MATH 1M03 or 1A03, must be completed by the end of Level II. Their inclusion in Level I is strongly recommended.

COURSE LIST 1
GEO 4A03, 4B03, 4C03, 4CC3, 4D03, 4FES, 4G03, 4H03, 4HS3, 4HT3, 4HUS, 4HX3, 4HY3, 4HZ3, 4I03, 4R06, 4S03, 4W03

COURSE LIST 2
GEO 3A03, 3B03, 3C03, 3FES, 3G03, 3H03, 3HG3, 3HT3, 3H33, 3HZ3, 3I03, 3S03, 3W03, 3Y03

COURSE LIST 3
GEO 2B03, 2C03, 2G03, 2HA3, 2HBS, 2HDS, 2HR3, 2HY3, 2I03, 2S03, 2W03

NOTES
1. Beginning in 1999-2000, admission to the programme will require completion of any Level I programme with a Cumulative Average of at least 6.0 including a minimum grade of B- in GEOG 1B06 or an average of at least 7.0 in six units from GEOG 1C03, 1G03, 1H03 (or 1A06).
### Requirements

120 units total (Levels I to IV), of which 48 units may be Level I

<table>
<thead>
<tr>
<th>Units</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>30</td>
<td>from the Level I programme completed prior to admission to the programme. (See Admission above.)</td>
</tr>
<tr>
<td>6</td>
<td>GEO 3HF3, 3RF03 (See Note 2 above.)</td>
</tr>
<tr>
<td>18</td>
<td>from Course Lists 1, 2, 3</td>
</tr>
<tr>
<td>12</td>
<td>from Course List 1 including one of GEO 4CC3 or 4R06 or 12-15 units from honours units from Course List I and the Thesis or Honours Seminar specified by the department for the other subject</td>
</tr>
<tr>
<td>36</td>
<td>Courses specified for the other subject</td>
</tr>
<tr>
<td>6</td>
<td>STATS 1CC3*, GEO 2S03 or in combined programmes within the Faculty of Social Sciences, the Research Methods/Statistics requirement specified for the other subject</td>
</tr>
<tr>
<td>3</td>
<td>from MATH 1M03 or 1A03, which must be completed by the end of 60 units</td>
</tr>
<tr>
<td>3</td>
<td>HUMAN 2C06. Students combining Honours Arts &amp; Science with Geography are exempt from this requirement.</td>
</tr>
<tr>
<td>3-6</td>
<td>Electives. If not completed in Level I, a minimum of six units must be from the Faculty of Humanities and/or the Department of Religious Studies. Students combining Geography and Arts &amp; Science or with a Humanities subject, are exempt from this requirement.</td>
</tr>
</tbody>
</table>

*If requirement completed in Level I, these units will be taken as electives.

### Honours Geography and Environmental Studies (B.A.)

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.

### Admission

Completion of Social Sciences I with a Cumulative Average of at least 6.0 including an average of at least 6.0 in six units from GEOG 1C03, 1G03, ENVIR SC 1B03, 1G03, 1H03 and a grade of at least C+ in ENVIR SC 1A06 or 1B03 and completion of ECON 1A06.

### Notes

1. Beginning in 1999-2000, 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 and completion of ECON 1A06.
2. Students who entered the programme prior to September 1998 are encouraged, but not required, to complete GEO 3HF3. Students who choose not to complete GEO 3HF3 will choose this with three units from Course Lists 1 or 2. See the 1997-1998 Undergraduate Calendar for programme requirements.
3. 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
4. STATS 1CC3 and one of MATH 1M03 or 1A03, must be completed by the end of Level II. Their inclusion in Level I is strongly recommended.

### Course List 1

<table>
<thead>
<tr>
<th>Course</th>
</tr>
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<tbody>
<tr>
<td>GEO 2B03, 2C03, 2G03, 2HR3, 2I10, 2W03, 3B03, 3C03, 3G03, 3H03, 3I03, 3S03, 3W03, 3Y03, 4B03, 4C03, 4F03, 4G03, 4H03, 4I03, 4S03, 4W03</td>
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</table>

### Course List 2

<table>
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<tr>
<th>Course</th>
</tr>
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<tr>
<td>ANTH 2E03, 2F03, 2H03, 2P03, 3C03, 3F03, 3V03, 3Z03, 4AE3</td>
</tr>
<tr>
<td>BIOLOGY 2D03, 2E03, 3S03, 3TT3, 4Y03</td>
</tr>
<tr>
<td>ECON 2G03, 2J03, 3B03, 3C03, 3Z03</td>
</tr>
<tr>
<td>PHILOS 2G03</td>
</tr>
<tr>
<td>POLSCI 2E06, 2G06, 3S03, 3Z02, 4D03, 4G06, 4K06, 4006</td>
</tr>
<tr>
<td>SOCIO 3G03, 3H03, 3J03</td>
</tr>
</tbody>
</table>

### Requirements

120 units total (Levels I to IV), of which 48 units may be Level I

<table>
<thead>
<tr>
<th>Units</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>30</td>
<td>from the Level I programme completed prior to admission to the programme. (See Admission above.)</td>
</tr>
<tr>
<td>27</td>
<td>BIOLOGY 2F03, 3G03, 3H03, 3R03, 4A03, 4R06 (See Notes 2 and 3 above.)</td>
</tr>
<tr>
<td>36</td>
<td>from Course Lists 1 and 2:</td>
</tr>
<tr>
<td>3</td>
<td>at least 12 units must be Level III or IV courses;</td>
</tr>
<tr>
<td>3</td>
<td>at least 18 units must be from Course List 1;</td>
</tr>
<tr>
<td>3</td>
<td>at least 3 units must be from Course List 1</td>
</tr>
<tr>
<td>6</td>
<td>from MATH 1M03 or 1A03 which must be completed by the end of 60 units</td>
</tr>
<tr>
<td>3</td>
<td>HUMAN 2C06. If not completed in Level I, a minimum of six units must be from the Faculty of Humanities and/or the Department of Religious Studies.</td>
</tr>
</tbody>
</table>

*If requirement completed in Level I, the units will be taken as electives.

### Honours Geography (B.A.)

Level I students who had 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

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.

### Admission

Completion of any Level I programme with a Cumulative Average of at least 3.5 including a grade of at least C- in GEOG 1B06 or an average of at least 4.0 in six units from GEOG 1C03, 1G03, ENVIR SC 1B03, 1G03, 1H03 (or 1A06).

### Notes

Beginning in 1999-2000, admission to the programme will require completion of any Level I programme with a Cumulative Average of at least 3.5 including a grade of at least C- in GEOG 1B06 or an average of at least 4.0 in six units from GEOG 1C03, 1G03, ENVIR SC 1B03, 1G03, 1H03 (or 1A06).
Minor in Geography

All Geography (except GEOG 4B09), Geology and Level 1 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 | 4A03, 4B03, 4C03, 4D03, 4E03, 4F03, 4H03, 4S3, 4TH3, 4HU3, 4HX3, 4HY3, 4HZ3, 4I03, 4S03, 4W03 |

COURSE LIST 2

| GEO | 3A03, 3B03, 3C03, 3F03, 3G03, 3H03, 3H3, 3H3G, 3H3J, 3H3R, 3H3T, 3H3X, 3H3Z, 3I03, 3S03, 3W03, 3Y03 |

COURSE LIST 3

| GEO | 2B03, 2C03, 2G03, 2G3, 2HA3, 2HB3, 2HC3, 2HD3, 2HR3, 2HU3, 2HY3, 2I03, 2S03, 2W03, 2W3W |

REQUIREMENTS

6 units from GEO 1A03, 1B03, 1G03
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, 2HU3, 2WW3, 3H3, 3HR3

GERONTOLOGICAL STUDIES

WEB ADDRESS: http://www.socsci.mcmaster.ca/~geros

PROGRAMMES FOR STUDENTS ENTERING IN SEPTEMBER 1998

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 the other subject of the combined programme with a minimum Cumulative Average of 3.5 including a grade of at least C- 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 GERONTO1 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 GERONTO1 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 GERONTO1 1A06 equivalency prior to applying.

COURSE LIST 1

| ANTHROP | 3Z03 |
| ECON | 3D03, 3Y3*, 3Z03 |
| GEO | 4H3 (formerly GEOG 4S03) |
| HTH SCI | 3B03 |
| PHILOS | 3C03 |
| PSYCH | 3X03 |
| RELIG ST | 2M03, 2N03, 2W03 |
| SOC WORK | 3C03, 4L03, 4R03 |
| SOCIOL | 3CC3, 3G03, 3H3H |

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 IV), 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 GERONTO1 2B03, 2D03
3 units GERONTO1 2C03
6 units GERONTO1 3B03, 3D03

*If requirement completed in Level I, these units will be taken as electives.

B.A. 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 3.5 including a grade of at least C- in GERONTO1 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 GERONTO1 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 GERONTO1 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 GERONTO1 1A06 equivalency prior to applying.

COURSE LIST 1

| ANTHROP | 3Z03 |
| ECON | 3D03, 3Y3*, 3Z03 |
| GEO | 4H3 (formerly GEOG 4S03) |
| HTH SCI | 3B03 |
| PHILOS | 3C03 |
| PSYCH | 3X03 |
| RELIG ST | 2M03, 2N03, 2W03 |
| SOC WORK | 3C03, 4L03, 4R03 |
| SOCIOL | 3CC3, 3G03, 3H3H |

or other designated and approved courses. (See Note 3 above.)

(**If the topic is Economics of Aging)

REQUIREMENTS

(For the B.A. in Gerontology and Sociology programme requirements see below.)

90 units total (Levels I to IV), 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 GERONTO1 2B03, 2D03
3 units GERONTO1 2C03
6 units GERONTO1 3B03, 3D03

*If requirement completed in Level I, these units will be taken as electives.
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 3203  
ECON 3D03, 3YY3**, 3Z03  
GEO 4HS3 (formerly GEOG 4S03)  
HTH SCI 3803  
PHILOS 3C03  
PSYCH 3X03  
RELG ST 2M03, 2N03, 2WW3  
SOC WORK 3C03, 4L03, 4R03  
or other designated and approved courses (See Note 3 above.)

(If the topic is Economics of Aging)

**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, 3D03
9 units Level II, III or IV Gerontology or courses from Course List 1
3 units GERONTOL 2C03 or SOCIOL 2Z03
6 units SOCIOL 2506
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 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 I 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 requirements in their first degree should consult the Chair of the Gerontology Committee of Instruction.

**COURSE LIST 1**

ANTHROP 3203  
ECON 3D03, 3YY3**, 3Z03  
GEO 4HS3 (formerly GEOG 4S03)  
HTH SCI 3803  
PHILOS 3C03  
PSYCH 3X03  
RELG ST 2M03, 2N03, 2WW3  
SOC WORK 3C03, 4L03, 4R03  
or other designated and approved courses (See Note 3 above.)

(If the topic is Economics of Aging)

**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 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 above 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 requirements in their first degree should consult the Chair of the Gerontology Committee of Instruction.
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.

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 3503 (the Gerontology Field Observation requirement) and SOC WORK 3DD6.

**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 McMaster to complete the requirements for their postgraduate 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. GERONTOL 2B03 and 3D03 both may be counted toward the required units in Gerontology. Students are encouraged to take both GERONTOL 2B03 and 3D03.
5. Students who have completed the methods requirement in their first degree should consult the Chair of the Committee of Instruction.
FACULTY OF SOCIAL SCIENCES

WEB ADDRESS: http://kinlobserver.mcmaster.ca

Subject to approval by the Ministry of Education and Training, beginning in the 1999-2000 academic year, the Department of Kinesiology intends to offer the following additional degree programmes: a Bachelor of Science in Kinesiology, a Bachelor of Science in Kinesiology Co-op and a Bachelor of Kinesiology Co-op. For more information contact the Undergraduate Programme Office, Department of Kinesiology.

The Department of Kinesiology offers a four-level programme leading to the Bachelor of Kinesiology degree (B.Kin.). The programme is divided into two distinct parts. During Levels I and II students complete 27 units of required academic courses which introduce the subdisciplines of Kinesiology and two non-credit courses: KINESIOl 1CA0 (Standard First Aid/CPR) and KINESIOl 2FL0 (Aspects of Fitness, Lifestyle Management and Recreation). During Levels III and IV students choose from a variety of Kinesiology courses in both theory and applied areas. These courses, supplemented by electives, may be grouped in various ways with career and/or graduate study goals in mind.

Reinstatement: Kinesiology will not consider students for reinstatement until a minimum of 24 units of work in a non-Kinesiology programme has been completed with a minimum average of 7.0 (B-). Application forms are available from the Office of the Associate Dean (Studies) or the Department of Kinesiology. The application deadline is March 31 of the year in which the transfer is desired.

Bachelor of Kinesiology (B.Kin.) (2308)

Enrolment in this programme is limited.

NOTES

1. KINESIOl 1CA0 (Standard First Aid/CPR) and KINESIOl 2FL0 (Aspects of Fitness, Lifestyle Management and Recreation) are non-credit requirements and must be completed in Levels I and II respectively. To qualify for an exemption from KINESIOl 1CA0, a student must have completed Standard First Aid from either the Red Cross or St. John’s and two person rescuer CPR (C qualification) or hold a current NLS (National Life Saving) certification.

2. Students transferring into the Kinesiology programme with credit in STATS 1CC3 are exempt from KINESIOl 1B03.

3. Students who registered in the B.Kin. Programme prior to September 1997 who require assistance in determining course requirements, should contact an Academic Advisor in the Office of the Associate Dean (Studies), Faculty of Social Sciences.

REQUIREMENTS

120 units total (Levels I to IV), of which 48 units may be Level I.

LEVEL I: 30 UNITS

15 units: KINESIOl 1A06, 1B03, 1D03, 1E03
1 course: KINESIOl 1CA0 (See Note 1 above.)
15 units

LEVEL II: 30 UNITS

12 units: KINESIOl 2A03, 2B03, 2C06
1 course: KINESIOl 2FL0
18 units: Electives

LEVELS III AND IV: 60 UNITS

30 units: Level III or IV Kinesiology (maximum allowed)
30 units: Electives

B.Kin. as a Second Degree (2309)

Enrolment in this programme is limited.

ADMISSION

Completion of any undergraduate degree from a recognized university with a minimum average of 7.0 (B-).

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 108. Graduates (or potential graduates) from other universities must use the 105D 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. The degree must be completed on a full-time basis and typically requires two years.

3. KINESIOL 1CA0 (Standard First Aid/CPR) and KINESIOL 2FL0 (Aspects of Fitness, Lifestyle 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 resucve (C qualification) or hold a current NLS (National Life Saving) certification.

4. Students registering in this programme with prior credit in STATS 1C03 are exempt from taking KINESIOL 1B03.

5. Students who registered in the B. Kin. as a Second Degree Programme prior to September 1997 who require assistance in determining course requirements, should contact an Academic Advisor in the Office of the Associate Dean (Studies) - Faculty of Social Sciences.

REQUIREMENTS
60 units total
27 units KINESIOL 1A06, 1B03, 1D03, 1E03, 2A03, 2B03, 2C06
2 courses KINESIOL 1CA0, 2FL0 (See Note 3 above.)
30 units Level III or IV Kinesiology (maximum allowed)
3 units Electives

LABOUR STUDIES

WEB ADDRESS: http://www.socsci.mcmaster.ca/~labrst

Honours Labour Studies (Specialist Option) (2641)

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 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, 3F03
SOCIOL 2E06, 2R03, 2R53, 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
9 units Level III Labour Studies; COMMERCE 4BD3
6 units from Course List I
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

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 1203 (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, 3F03
SOCIOL 2E06, 2R03, 2R53, 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 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 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.

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: SOCIOl 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 2BA3
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 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* SOCIOl 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 1Z03 (or 1A03). Applicants must have completed at least six units from ECON 1A06, HISTORY 1A06 or 1C06, MATH 1K05 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. 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, COMMERCE 4BC3
6 units Level II Labour Studies; COMMERCE 2BA3
9 units Level III Labour Studies; COMMERCE 4BD3
12* units SOCIOl 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.

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 no 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 SOCIOl 1A06

PROGRAMMES FOR STUDENTS WHO ENTERED PRIOR TO SEPTEMBER 1997

Honours Labour Studies

(Specialist Option)

(Available only to students who entered this programme before September 1997.)

NOTES
1. Students are encouraged to consult the Labour Studies Programme Handbook which is available from the Labour Studies Office.
2. Students may not transfer to another Labour Studies programme except by the normal application process.
3. Students who have not completed LABR ST 2A06 may substitute LABR ST 2A03 and three additional units Level II Labour Studies, preferably LABR ST 2D03.
4. Students who have not completed LABR ST 3AA3 are advised to take LABR ST 3G03.
5. Students who complete a six unit Research Methods/Statistics course will reduce their elective component by three units.

COURSE LIST 1

COMMERCE 2C03
ECON 2C03, 2E03, 2F03, 2K03, 2N03
GERONTOL 3J03
HISTORY 3N03
POL SCI 4D03, 3G03, 3E03, 3F03
SOCIOl 4B03, 4D03, 4E03, 3G03

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 LABR ST 2A06 (See Note 3 above.), 2C03, 4A09, 4C03, 4D03, COMMERCE 4BC3
3. 27-30 units
2. 12 units
1. 6 units

HUMAN 2C03
SOCIO 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)
(Available only to students who entered this programme before September 1997.)

NOTES
1. Students are encouraged to consult the Labour Studies Programme Handbook which is available from the Labour Studies Office.
2. Students may not transfer to another Labour Studies programme except by the normal application process.
3. Students who have not completed LABR ST 2A06 may substitute LABR ST 2A03 and three additional units Level II Labour Studies, preferably LABR ST 2D03.
4. Students who have not completed LABR ST 2A06 are advised to take LABR ST 3G03.
5. 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, 3E3, 3F03
SOCIO 1A06, 2E06, 2F03, 2R03, 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
18 units LABR ST 2A06 (See Note 3 above.), 2C03, 4A09
6 units Level II Labour Studies; COMMERCE 2BA3
12 units Level III Labour Studies; COMMERCE 4BC3, 4BD3 (See Note 4 above.)
3 units from LABR ST 4C03, 4D03
3-6 units Level II, III, IV Labour Studies; Course List 1
3 units from SOC SCI 2J03 or STATS 1CC3* or an equivalent Research Methods/Statistics course as prescribed by other Social Science programmes (See Note 5 above.)
3 units HUMAN 2C03
12 units* SOCIO 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 (Available only to students who entered this programme before September 1997.)

NOTES
1. Students are encouraged to consult the Labour Studies Programme Handbook which is available from the Labour Studies Office.
2. Students may not transfer to another Labour Studies programme except by the normal application process.
3. Electives: SOCIO 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.
4. 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.
5. Students who have not completed LABR ST 2A06 may substitute LABR ST 2A03 and three additional units Level II Labour Studies, preferably LABR ST 2D03.
6. Students who have not completed LABR ST 3AA3 are advised to take LABR ST 3G03.
7. Students who complete a six unit Research Methods/Statistics course will reduce their elective component by three units.

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
18 units LABR ST 2A06 (See Note 5 above.), 2C03, 4A09 (See Note 4 above.)
6 units Level II Labour Studies; COMMERCE 2BA3
9 units Level III Labour Studies; COMMERCE 4BC3, 4BD3 (See Note 6 above.)
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 prescribed by the other subject (See Note 7 above.)
3 units HUMAN 2C03 Students combining Honours Arts & Science with Labour Studies are exempt from this requirement.
12 units* SOCIO 1A06 and ECON 1A06 which must be completed by the end of 60 units.
0-12 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 Labour Studies with Arts & Science, or with a Humanities subject are exempt from this requirement.

*If requirement completed in Level I, these units will be taken as electives.

B.A. in Labour Studies (1640)
(Available only to students who entered this programme before September 1997.)

NOTES
1. Students are encouraged to consult the Labour Studies Programme Handbook which is available from the Labour Studies Office.
2. Students may not transfer to another Labour Studies programme except by the normal application process.
3. Students who have not completed LABR ST 2A06 may substitute LABR ST 2A03 and three additional units Level II Labour Studies, preferably LABR ST 2D03.
4. Students who have not completed LABR ST 3AA3 are advised to take LABR ST 3G03.

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
12 units LABR ST 2A06 (See Note 3 above.), 2C03; COMMERCE 4BC3
6 units Level II Labour Studies; COMMERCE 2BA3
12 units Level III Labour Studies; COMMERCE 4BD3 (See Note 4 above.)
12 units* SOCIO 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.
PHYSICAL EDUCATION (B.P.E.)

(See Department of Kinesiology)

DEPARTMENT OF POLITICAL SCIENCE

WEB ADDRESS: http://www.socsci.mcmaster.ca/~polisci

Honours Arts & Science and Political Science
(B. Arts Sc.; See Arts & Science programme)

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 from the Level I programme completed prior to admission to the programme. (See Admission above.)
6 units POL SCI 2006
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 from the Level I programme completed prior to admission to the programme. (See Admission above.)
6 units POL SCI 2006
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.

FACULTY OF SOCIAL SCIENCES

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 Political Science with Arts & Science, or with a Humanities subject, are exempt from this requirement. (The maximum Political Science courses to be taken is 54 units.)

B.A. in Political Science [1450]

ADMISSION
Completion of any Level I programme, with a Cumulative Average of at least 3.5 including a grade of at least C- 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. programmes.

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 Level II Political Science
12 units Level III Political Science
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. (The maximum Political Science courses to be taken is 36 units.)

Minor in Political Science

NOTE
Level IV courses have limited enrolment with preference given to Honours Political Science students. Students must apply by ballot through the Department.

REQUIREMENTS
6 units Level I Political Science
18 units Level II, III or IV Political Science of which up to 12 units may be Level II courses

DEPARTMENT OF PSYCHOLOGY

WEB ADDRESS: http://www.science.mcmaster.ca/psychology/psych.html

Honours Psychology (B.Sc.) and Honours Psychology (B.Sc.) (Complementary Studies Option)
(See B.Sc. programmes in Psychology, Faculty of Science, Department of Psychology)

Honours Biology and Psychology (B.Sc.)
(See B.Sc. programmes in Biology, Faculty of Science, Department of Biology)

Honours Arts & Science and Psychology
(B. Arts Sc.; See Arts & Science programme)

Honours Psychology [2459]
(B.A., Specialist Option)

ADMISSION
Enrolment in this programme is limited. Selection is based on academic achievement but requires, as a minimum, 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 1AA3 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.
Notes

1. Applications for all levels may be picked up at the Office of the Associate Dean (Studies), Faculty of Social Sciences, Kenneth Taylor Hall, Room 120. The applications are available March 1st and must be submitted by March 31st.
2. Credit in MATH 1A03 or MATH 1M03 with a grade of at least C must be completed before entrance into Level II of the program.
3. STATS 1CC3 (or PSYCH 2R03) and PSYCH 2RR3 must be completed before entrance into Level III of the program.
4. At some time during the program, the student:
   a) must meet a laboratory requirement by completing one of PSYCH 3E03, 3L03, 3L3, 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.
5. BIOLOGY 1A03 or 1A06 is a prerequisite for PSYCH 2F03.
6. Students intending to pursue graduate work in Psychology or to take Mathematics beyond Level I are strongly recommended to include MATH 1803 in their undergraduate program.

Course List 1

<table>
<thead>
<tr>
<th>Course</th>
<th>Level I</th>
<th>Level II</th>
<th>Level III</th>
<th>Level IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSYCH 3E03, 3L03, 3L3, 3QQ3, 3S03, 3V03, 4G03, 4QQ3</td>
<td>120 units total (Levels I to IV), of which 48 units may be Level I</td>
<td>30 units</td>
<td>30 units</td>
<td>30 units</td>
</tr>
</tbody>
</table>

Requirements

- 6 units STAT 1CC3 or PSYCH 2R03, 2RR3
- 9 units from PSYCH 2E03, 2F03, 2H03, 2T03
- 3 units from the Faculty of Science, excluding the Psychology and the Mathematics courses taken to satisfy the admission or program requirements. BIOLOGY 1A03 is recommended.
- 9 units Electives, excluding Psychology. (See Notes 3(b) and (c) above.)
- 3 units Electives

*If requirement completed in Level I, these units will be taken as electives.

Level II: 30 units

- 15 units Level II 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 four units from PSYCH 2E03, 2F03, 2H03, 2T03 or the Department of Religious Studies;
- 6 units Electives excluding Psychology. (See Note 4(b) and (c) above.)
- 6 units Electives

Level IV: 30 units

- 12 units PSYCH 2RR3 must be completed before entrance into Level III of the program.
- 12 units Level IV Psychology including one course from Course List 1, if not already completed. (See Note 4(a) above.)
- 12 units Electives (See Note 4(b) and (c) above.)

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 1AA3 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 MATH 1M03 with a grade of at least C must be completed before entrance into Level II of the program.
2. STAT 1CC3 (or PSYCH 2R03) and PSYCH 2RR3 must be completed before entrance into Level III of the program.
3. At some time during the program, the student:
   a) must meet a laboratory requirement by completing one of PSYCH 3E03, 3L03, 3L3, 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.
5. BIOLOGY 1A03 or 1A06 is a prerequisite for PSYCH 2F03.
6. Students intending to pursue graduate work in Psychology or to take Mathematics beyond Level I are strongly recommended to include MATH 1803 in their undergraduate program.

Course List 1

<table>
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<th>Level III</th>
<th>Level IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSYCH</td>
<td>3E03, 3L03, 3L3, 3QQ3, 3S03, 3V03, 4G03, 4QQ3</td>
<td>120 units total (Levels I to IV), of which 48 units may be Level I</td>
<td>30 units</td>
<td>30 units</td>
</tr>
</tbody>
</table>

Requirements

- 6 units STAT 1CC3 or PSYCH 2R03, 2RR3
- 9 units from PSYCH 2E03, 2F03, 2H03, 2T03
- 3 units from the Faculty of Science, excluding the Psychology and the Mathematics courses taken to satisfy the admission or program requirements. BIOLOGY 1A03 is recommended.
- 9 units Electives, excluding Psychology. (See Notes 3(b) and (c) above.)
- 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 of Level III Psychology. (See Note 3 (a) above.)
12 units Courses as specified for the other subject.
6 units Electives (See Note 3 (b) and (c) above.)

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 1K03, 1M03 or 1A03 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 1K03, 1M03 or 1A03 (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://www.socsci.mcmaster.ca/-relstud

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 2J06, 2L03, 2P06, 2R03, 2T03, 2TT3, 3AA3, 3E03, 3H03, 3I03, 3L03, 3S03, 3U03
   SANSKRIT 3A06, 4B06

II. BIBLICAL STUDIES
   RELIG ST 2B03, 2DD3, 2EE3, 2GG3, 2HH3, 2VV3, 2YY3, 2Z03, 3D03, 3M03, 3N03, 3R03, 3T03
   HEBREW 2A03, 2B03, 3A03, 3B03

III. WESTERN RELIGIOUS THOUGHT
   RELIG ST 2C03, 2CC3, 2H03, 2L03, 2J03, 2KK3, 2U03, 2UJ3, 2Y03, 2ZZ3, 3D03, 3I13, 3KK3, 3LL3, 3MM3, 3NN3, 3U03, 3YY3, 3Z03, 3ZZ3

IV. CONTEMPORARY AND COMPARATIVE RELIGIONS
   RELIG ST 2AA3, 2BB3, 2E3, 2EE3, 2F03, 2M03, 2N03, 2Q03, 2QO3, 2SS3, 2V03, 2W03, 2WW3, 3J06

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 consider 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 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.

REQUIREMENTS
120 units total (Levels I to IV), of which 48 units may be Level I

LEVEL I: 30 UNITS
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, 4J06
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, from Linguistics, a language other than English or Statistics
6 units* from the Faculty of Humanities.
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* 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/~sowork

PROGRAMME FOR STUDENTS ENTERING IN SEPTEMBER 1998

Combined B.A./B.S.W.

ADMISSION

Completion of any Level I programme, including PSYCH 1A03 or 1A06 and 1A03 and 1A06, normally with a C.A. 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.

Beginning in 1999-2000, admission to the B.A./B.S.W. programme will require completion of any Level I programme, including two of PSYCH 1A03 and 1A03 (or 1A06), SOCIOLOGY 1A06, SOCIOL 1A06, SOC WORK 1A06, normally with a C.A. 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 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 of Social Work by March 1. To facilitate this process, students should select two courses that will allow entry to the B.A. programme. Students who wish to do so should consult the School of Social Work for details.

Applicants transferring from other universities (see Two-Tier Applications below) must also apply through the Ontario Universities Application Centre (OUAC) and 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 106D application form from the Admissions Office of any Ontario university. Complete the form showing both 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 McMaster, or the Office of the Registrar, Gilmour Hall, Room 108. Return this form 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 108. Return this form to 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 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 admisions 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.

2. Progression Within Programme: Students must achieve a minimum grade of C+ in each of SOC WORK 2A06, 2B03, 2BB3, 2E03, 3A03, 3D06, 3DD0, 4D06, 4D06, 4DD0, 4003, 4X03

3. Students must complete three units of Social Sciences Research Methods, (e.g., SOCIOl 2203 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, 3DD0, 4D06, 4J03, 4003, and 4X03, a Pass in SOC WORK 3D06 and 4D06 and a CA of at least 6.0.

5. Students are expected to assume the cost of travelling to and from field practice agencies.

REQUIREMENTS

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 3D06).

12 units SOC WORK 3D06, 3DD0 (which must be completed prior to enrolling in SOC WORK 4D06 and 4D06).

12 units SOC WORK 4D06, 4DD0.

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.)

B.S.W. [1620]

ADMISSION

Completion of an undergraduate degree from a recognized university, including introductory Psychology and Sociology, (equivalent to the McMaster courses PSYCH 1A06 or 1A03 and 1A3 and SOCIOl 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.

Beginning in 1999-2000, admission to the programme will require completion of an undergraduate degree from a recognized university, including two of introductory Psychology, Sociology or Social Work (equivalent to McMaster courses PSYCH 1A03 and 1A3 or 1A06, SOCIOl 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, test, or interviews. 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 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 to the Office of the Registrar, McMaster University) with the appropriate fee.

   If you wish to study part-time, you must obtain either a McMaster University 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 complete this form and mail it immediately 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;

FOUNDATION OF SOCIAL WORK

SOC WORK 2A06, 2B03, 2BB3, 2E03, 3A03, 3D06, 3DD0, 4D06, 4D06, 4DD0, 4003, 4X03

SOCIAL AND POLITICAL CONTEXT OF SOCIAL WORK

SOC WORK 3C03, 3H03, 3C03, 4B03, 4C03, 4F03, 4G03, 4J03, 4L03, 4M03, 4N03, 4W03

2. Progression Within Programme: Students must achieve a minimum grade of C+ in each of SOC WORK 2A06, 2B03, 2BB3, 2E03, 3A03, 3D06, 3DD0, 4D06, 4DD0, 4003, and 4X03, a Pass in SOC WORK 3D06 and 4D06 and a CA of at least 6.0.
3. Students must complete three units of Social Sciences Research Methods (e.g. SOCIO1 2203 or GERONTO1 2C03). If this requirement was completed prior to admission to the B.S.W. programme, three additional units from the Social and Political Context of Social Work courses will be taken. A statistics course may not substitute for a research methods course.

4. **Graduation:** To qualify for the B.S.W. students must complete a total of 60 units. The B.S.W. will be granted only if the student has achieved a grade of at least C+ in each of SOC WORK 2A06, 2B03, 2B03, 2E03, 2A03, 3D06, 4D06, 4J03, 4A03, 4B03, 4C03, 4E03, 4F03, 4G03, 4H03, 4J03, 4K03, 4L03, 4M03, 4N03, 4P03, 4R03, 4T03, 4U03, 4V03, 4W03, 4X03, 4Y03, 4Z03.

5. Students are expected to assume the cost of travelling to and from field practice agencies.

6. **REQUIREMENTS**

**60 units total**

15 units SOC WORK 2A06, 2B03, 2B03, 2E03 (which must be completed prior to enrolling in SOC WORK 3D06 and 3D06)

12 units SOC WORK 3D06, 3D06 (which must be completed prior to enrolling in SOC WORK 4D06 and 4D06)

12 units SOC WORK 4D06, 4D06

9 units SOC WORK 3A03, 4A03, 4X03

9 units SOC WORK 4J03 and six additional units selected from the Social and Political Context of Social Work courses.

3 units Social Sciences Research Methods. It required was completed prior to admission, these units must be chosen from Social and Political Context of Social Work courses. (See Note 3 above.)

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### PROGRAMMES FOR STUDENTS WHO ENTERED PRIOR TO SEPTEMBER 1998

**Combined B.A/ B.S.W.**

*(Available only to 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 2B03. 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 SOC WORK 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 2B03), 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 previously completed 18 units from Course List 1.

6. Students must complete at least three units of Social Sciences Research Methods, (e.g. SOCIO1 2203 or GERONTO1 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.S.W. 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 2B03), 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

<table>
<thead>
<tr>
<th>Units</th>
<th>Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>SOC WORK 3A03, 3C03, 3G03*, 3H03, 3N03*, 3P03*, 3R03*, 4A03*, 4B03, 4C03, 4E03*, 4F03, 4G03, 4H03, 4J03, 4K03*, 4L03, 4M03, 4N03, 4P03, 4R03, 4T03, 4U03*, 4V03*, 4W03, 4X03, 4Y03*, 4Z03*</td>
</tr>
</tbody>
</table>

*course no longer offered

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**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 2B03. 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 SOC WORK 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 2B03), 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 previously completed 12 units from Course List 1.

6. Students must complete at least three units of Social Sciences Research Methods, (e.g. SOCIO1 2203 or GERONTO1 2C03). A statistics course may not substitute for a research methods course.

7. **Graduation:** To qualify for the B.S.W., 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 2B03), 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

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<tr>
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</tr>
</tbody>
</table>

*course no longer offered
REQUIREMENTS
60 units total
1. A student may take a maximum of six units of level IV independent research (SOCIOl 4M03, 4MM6 or 4N03). Students combining Honours Arts and Science with Sociology are exempt from this requirement.
2. Students should check both this Calendar and the Departmental Handbook for prerequisites and course descriptions.

COMPLETED HONOURS SOCIOLOGY PROGRAMME DEGREE REQUIREMENTS

FACULTY OF SOCIAL SCIENCES

WEB ADDRESS: http://www.mcmaster.ca/socsci/docs/sochome.htm

Honours Arts & Science and Sociology
(Three Year Course List 1)

Honours Sociology (Specialist Option) (2522)

ADMISSION
Completion of any Level I programme with a Cumulative Average of at least 6.0 including a grade of at least B- in SOCIOL 1A06.

NOTES
1. The Honours Sociology (Specialist Option) programme is being phased out. Registration in Level II will be last available in September 1998.
2. A student may take a maximum of six units of Level IV independent research (SOCIOl 4M03, 4MM6 or 4N03).
3. 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 2506
3 units from SOCIOL 3A03, 3P03, 3P3P
3 units from SOCIOL 3I03, 3003, 3W03
12 units Level IV Sociology
24 units Level II, III or IV Sociology
9 units SOCIOL 2203 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.

Honours Sociology (2520)

In 1999-2000, enrolment in this programme may be limited.

ADMISSION
Completion of any Level I programme with a Cumulative Average of at least 6.0 including a grade of at least B- in SOCIOL 1A06.

NOTES
1. A student may take a maximum of six units of Level IV independent research (SOCIOl 4M03, 4MM6 or 4N03).
2. 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 2506
3 units from SOCIOL 3A03, 3P03, 3P3P
3 units from SOCIOL 3I03, 3003, 3W03
12 units Level IV Sociology
18 units Level II, III or IV Sociology
9 units SOCIOL 2203 which must be completed by the end of 60 units, and SOCIOL 3H06
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.

Combined Honours in Sociology and Another Subject

In 1999-2000, enrolment in this programme may be limited.

ADMISSION
Completion of any Level I programme with a Cumulative Average of at least 6.0 including a grade of at least B- in SOCIOL 1A06. Satisfaction of admission requirements for the Honours programme in the other B.A. subject.

NOTES
1. A student may take a maximum of six units of Level IV independent research (SOCIOl 4M03, 4MM6 or 4N03).
2. 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 2506
3 units from SOCIOL 3A03, 3P03, 3P3P
3 units from SOCIOL 3I03, 3003, 3W03
12 units Level IV Sociology
12 units Level II, III or IV Sociology
36 units Courses specified for the other subject
6-9 units SOCIOL 2203 which must be completed by the end of 60 units, and SOCIOL 3H06 or, in combined programmes within the Faculty of Social Sciences, the six units Research Methods/Statistics course specified for the other subject.
3 units HUMAN 2C03. Students combining Honours Arts and Science with Sociology are exempt from this requirement.
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. Students combining Sociology with Arts & Science, or with a Humanities subject, are exempt from this requirement.

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 the 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 2506
3 units SOCIOL 2203
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 2506 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
The Women's Studies Programme is governed by the general Academic Regulations of the University and the regulations described below.
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 per year for three years.

The subject area of Theme Schools will vary over time, depending on the interests of faculty and students.

Individual Theme Schools will invite applications from students wishing to enrol early in each calendar year. Normally, students will indicate their particular interests and qualifications. Students selected for a school will be informed in the spring.

Currently, three schools are in operation. The Theme School on Globalization, Social Change and the Human Experience will be admitting students for the first intake in September 1998; the Theme School in Science, Technology, and Public Policy will be admitting new students in September 1998; the last intake for the Theme School in International Justice and Human Rights was in September 1996.

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 INTERNATIONAL JUSTICE AND HUMAN RIGHTS

Director
Rhoda E. Howard, B.A., M.A., Ph.D., FRSC
Kenneth Taylor Hall, Room 202, ext. 24164

Associate Director
Howard Jones, B.A., M.A., Ph.D.

This Theme School takes as its starting point the global consensus on human rights enshrined in the International Bill of Rights of the United Nations, and many other UN documents. The focus is on comparative international debates about the relationships among modernization, technology, development and human rights. The concept of International Justice recognizes the cultural and ideological diversity that underlies these debates. Canadian topics are also addressed in the Theme School.

This Theme School provides students with a chance to investigate problems of human rights and international justice from an interdisciplinary perspective. Students conduct individual and group research using problem-based and self-directed learning techniques.

REQUIREMENTS

The last intake for this Theme School was September 1996.

Students are required to complete 24 units in order to obtain the Theme School Minor. In Level II, all students must take GSCHE2A06, 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 SCHOOLS ON GLOBALIZATION, SOCIAL CHANGE AND THE HUMAN EXPERIENCE

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 1998-99. Admission will be by selection and on condition that a student is accepted into any four- or five-level programme in the University.

Applications for admission in 1998-99 should be made to the Director by April 9, 1998. Application forms may be obtained from any Associate Dean's office or in the case of Commerce students, the Academic Programmes office. Applications will be reviewed once the Level I grades are available in mid-May. Students will be notified by mail of the decision. If vacancies exist in the Theme School after this first round, applications will continue to be accepted until the enrolment limit is reached.

REQUIREMENTS

Students are required to take 24 units in order to obtain the Theme School Minor. In Level II, all students must take GSCHE2A06, 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.dcss.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 I 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 1998-99. Admission will be by selection and on condition that a student is accepted into any four- or five-level programme in the University.

Applications for admission in 1998-99 should be made to the Director by April 9, 1998. Application forms may be obtained from any Associate Dean's Office or in the case of Commerce students, the Academic Programmes Office. Applications will be reviewed once the Level I grades are available in mid-May. Students will be notified of the decision on their grade report or by mail. If vacancies exist in the Theme School after June 1, students may continue to apply; applications will be accepted until the enrolment limit is reached.

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. Vivienne Walters, Kenneth Taylor Hall, Room 602, ext. 23617, during the Fall 1998 term and Dr. Ann Herring, Chester New Hall, Room 527, ext. 23920, during the Winter 1999 term.

COURSES DEALING WITH HEALTH AND SOCIETY ISSUES

ANTHROP 2U03 Plagues and People
ANTHROP 353Y Cultural Psychology
ANTHROP 3Y03 Aboriginal Community Health and Well-being
ANTHROP 3Z03 Medical Anthropology: The Biomedical Approach
ANTHROP 3Z23 Medical Anthropology: Symbolic Healing
ECON 3Z03 Health Economics
GEO 4HS3 Geography of Health Care (formerly GEOG 4503)
HTH SCI 3B03 Health, Science and Society
KINESIOL 3B03 Physical Activity for Challenged Populations
(See Note above.)
KINESIOL 3S53 Body, Mind, Spirit
LABR ST 3D03 Work and Environment
PHILS 2D03 Minority Issues
PHILS 3C03 Advanced Bioethics
PSYCH 3B03 Special Populations
PSYCH 3N03 Abnormal Psychology I (Fundamentals)
PSYCH 3NN3 Abnormal Psychology II (Major Disorders)
RELIG ST 2M03 Death and Dying: Comparative Views
RELIG ST 2N03 Death and Dying: The Western Experience
RELIG ST 2WW3 Health, Healing and Religion
SCIENCE 2G03 The Right to Food
SOC WORK 3C03 Social Aspects of Health and Illness
SOCIOl 3G03 Sociology of Health Care
SOCIOl 3H3 Sociology of Health
SOCIOl 4G03 The Social Production of Illness
SOCIOl 4U03* Special Topics in the Sociology of Women
*If on a health-related topic.

Please see the Course Listings section for a detailed description of the above courses.

Indigenous Studies

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  INDIG ST 1A06
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 226, ext. 27426.

COURSE LIST

INDIG ST 2A06 Introduction to Indigenous People’s Spirituality
INDIG ST 2C05 Introduction to Contemporary Indigenous Societies
INDIG ST 3A03 Traditional Indigenous Ecological Knowledge
INDIG ST 3A05 The Spiritual Teachings of Elders
INDIG ST 3B03 History of the Eastern Woodland People
INDIG ST 3B05 History of Contemporary Indigenous Peoples
INDIG ST 3B07 Study of Iroquois First Nations in Contemporary Times
INDIG ST 3C03 Contemporary Indigenous Societies: Selected Topics—1986/87. Traditional Indigenous Approaches to Healing and Wellness
INDIG ST 3D03 Contemporary Native Literature in Canada
INDIG ST 3E03 Indigenous Women’s Issues
INDIG ST 3F06 Indigenous Creative Arts and Drama
CAYUGA 1206 Introduction to Cayuga Language and Culture
CAYUGA 2206 Intermediate Cayuga
CAYUGA 3206 Advanced Cayuga
MOHAWK 1206 Introduction to Mohawk Language and Culture
MOHAWK 2206 Intermediate Mohawk
MOHAWK 3206 Advanced Mohawk
OJIBWE 1206 Introduction to Ojibwe Language and Culture
OJIBWE 2206 Intermediate Ojibwe
OJIBWE 3206 Advanced Ojibwe
ANTHROP 2H03 Environment and Culture
ANTHROP 2V03 The Aztecs, Maya and Inka
ANTHROP 3F03 Contemporary Northern Peoples
POL SCI 3C03 Government and Politics of Indigenous Peoples

Please see the Course Listings section for a detailed description of the above courses.
Jewish Studies

Jewish Studies is an international, multidisciplinary field devoted to the study of Judaism, Jewish history, thought, culture and community. The Minor in Jewish Studies is open to all students registered in a four or five-level 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

HEBREW 2A03 Introduction to Biblical Hebrew I
HEBREW 2B03 Introduction to Biblical Hebrew II
HEBREW 3A03 Intermediate Hebrew I
HEBREW 3B03 Intermediate Hebrew II
RELIG ST 2B03 Women in the Biblical Tradition
RELIG ST 2DD3 The Five Books of Moses
RELIG ST 2EE3 The Prophets
RELIG ST 2VV3 Bible as Story
RELIG ST 2YYY The Bible and Film
RELIG ST 3DD3 The Jewish World in New Testament Times
RELIG ST 3MM3 Songs of David: Poetry in the Hebrew Bible
RELIG ST 3RR3 Death and the Afterlife in Early Judaism and Christianity
RELIG ST 3ZZ3 Judaism, the Jewish People, and the Birth of the Modern World
RELIG ST 3ZZ3 Judaism and the Jewish People in the Twentieth Century

LIST B

ANTHRO 3B03 Ethnology: Europe
ANTHRO 3G03 Comparative Mythology
ANTHRO 3H03 Anthropological Demography
ENGLISH 3S03 Biblical Traditions in Literature
HISTORY 2EA3 Islam and Mediterranean Society, 600-1300
HISTORY 2EB3 Islam in the World, 1300-1800
HISTORY 3AA3 The Modern Middle East
HISTORY 3IO3 International Relations of the European Powers, 1914-45
PHILOS 2A06 Ancient Greek Philosophy
PHILOS 2D03 Moral Issues
PHILOS 3A06 From Kant to Hegel
PHILOS 3H03 Philosophy of Religion
POL SCI 3AA3 International Politics in the Postwar Period
POL SCI 4D03 Human Rights and International Politics
SOC SCI 2C03 Genocide and Ethnicicide
SOC WORK 4C03 Racism and Social Marginalization in Canadian Society
SOC WORK 4J03 Social Change: Social Movements and Advocacy
SOC WORK 4M03 International and Comparative Social Welfare
SOCIO 2E06 Racial and Ethnic Group Relations
SOCIO 3Z03 Ethnic Relations

Please see the Course Listings section for a detailed description of the above courses.

Peace Studies

Peace Studies, which is concerned with war and peace - their nature, causes and relation to social life - is a growing international field. It is now possible for students to complete a Minor in Peace Studies at McMaster. The requirements of the Minor include the core course, SOC SCI 2B06, and an additional 18 units above Level I, selected from the courses 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.

ANTHRO 2X03 Warfare and Aggression
ANTHRO 3T03 Power and Resistance
ECON 2F03 Globalization and Economic Development
HISTORY 3IO3 The International Relations of The European Powers, 1914-1945
PHILOS 2G03 Social and Political Issues
PHILOS 3P03 Philosophies of War and Peace
POL SCI 2E06 Global Politics
POL SCI 3AA3 International Politics in the Postwar Period
POL SCI 4D03 Human Rights and International Politics
POL SCI 4M06 Issues in International Politics
RELIG ST 2H03 Theory and Practice of Non-Violence
RELIG ST 2L03 Life, Work and Teachings of Mahatma Gandhi
SCIENCE 2G03 The Right to Food
SOC SCI 2B06 Introduction to the Study of Peace
SOC SCI 2C03 Genocide and Ethnicide
SOC SCI 2D03 Peace and Development
SOCIO 3F06 Political Sociology

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. 23939.

COURSES DEALING STRICTLY WITH ASIAN MATERIAL

GEO 3H03 Geography of Japan (formerly GEOG 3J03)
HISTORY 2EA3 Islam and Mediterranean Society, 600-1300
HISTORY 2EB3 Islam in the World, 1300-1800
HISTORY 2G03 China: Historical Foundations
HISTORY 3A03 Imperial Islam: The Ottomans
HISTORY 3AA3 The Modern Middle East
HISTORY 3B03 Modern Japan
HISTORY 3G03 China: The Revolutionary Century, 1895-1995
HISTORY 4BB6 Special Topics in the History of Modern Japan
HISTORY 4G06 Special Topics in the History of Modern China
HISTORY 4G06 Topics in Middle Eastern and Islamic History
RELIG ST 2J06 India: Its Culture, Social History, Religion and Philosophy
RELIG ST 2L03 Life, Work and Teachings of Mahatma Gandhi
RELIG ST 2P06 Japanese Civilization
HUMANITIES

ART HIST 3B03  Aspects of Canadian Art
ENGLISH 2C03  Contemporary Canadian Fiction
ENGLISH 3Z03  Contemporary Canadian Poetry
FRENCH 2D03  Introduction to the Civilization of French Canada
FRENCH 2E03  Literature of Quebec
FRENCH 3AA3  The Modern French-Canadian Novel
FRENCH 3BB3  Contemporary Quebec Theatre
FRENCH 4U03  Topics in French-Canadian Literature
HISTORY 2J06  The History of Canada
HISTORY 3G03  Business History: The Canadian Experience in International Perspective
HISTORY 3K03  Canadian Political Development Since 1840
HISTORY 3N03  The History of the Canadian Working Class
HISTORY 3P03  Religion and Society in Canada
HISTORY 3U03  Aspects of French Canadian History
MUSIC 3T03  Canadian Music

SOCIAL SCIENCES

ANTHROP 3F03  Contemporary Northern Peoples
ANTHROP 3Y03  Aboriginal Community Health and Well-Being
ECON 2K03  Economic History of Canada
GEO 2HC3  Canada (formerly GEOG 2E03)
GEO 4HT3  Geography of Planning (formerly GEOG 4T03)
GEO 4HU3  Selected Problems in Urban Planning (formerly GEOG 4U03)
GEO 4HZ3  The Landscape of Urban Housing (formerly GEOG 4Z03)
POL SCI 1G06  Politics and Government
POL SCI 3D03  Participation and Elitist Politics in Canada
POL SCI 3F03  Canadian Foreign Policy
POL SCI 3GG3  Federalism: Theoretical, Constitutional and Institutional Issues
POL SCI 3HH3  Intergovernmental Policy Issues in Canada
POL SCI 3I03  Elections and Electoral Behaviour in Canada
POL SCI 3J03  Provincial Politics in Canada
POL SCI 4C06  Canadian Public Policy
POL SCI 4S06  Canadian Political Theory

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.

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 doing so, 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 you are an LPT student, 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 admission to 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 admitted 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.

OFFICE OF PART-TIME DEGREE STUDIES

WEB ADDRESS: http://www.mcmaster.ca/parttime/index.html
E-MAIL ADDRESS: horton@mcmaster.ca

The Coordinator of Part-time Degree Studies, Tina Horton, may be telephoned at 525-9140, ext. 24325 for counselling and to discuss preparation and plans for degree study. The Office is located in Gilmour Hall, Room 108, and is open in the day, and in the evening by appointment. More detailed information concerning programmes and courses is provided by the Academic Counsellors within each Faculty as follows:
- Business: ext. 23941
- Humanities: ext. 24326
- Science: ext. 27590
- Social Sciences: ext. 24604

Information about application procedures and admission regulations is available through the Office of the Registrar, (Gilmour Hall, Room 108, 525-4600).

Information about non-degree courses and programmes, including courses for pre-university upgrading, is available through the Centre for Continuing Education (525-9140, ext. 24321).

MOHAWK/MCMASTER EDUCATION INFORMATION CENTRE

The Mohawk/McMaster Education Information Centre in downtown Hamilton exists to provide information and maintain comprehensive collections of calendars and brochures concerning educational opportunities across Canada. The staff can help you to make contact with the appropriate persons at McMaster.

The Information Centre is at the Hamilton Public Library (Central Branch), 55 York Boulevard, Hamilton, just off Jackson Square, telephone (905) 522-3361.

MAPS

The McMaster Association of Part-time Students (MAPS) maintains an office and student lounge in Kenneth Taylor Hall, Room 102, telephone 525-9140, ext. 22011, and publishes a newsletter, Link, which is sent to all part-time students. The office and lounge are open from Monday to Thursday, day and evening, and Friday during the day.

MAPS Executive Director, Sheila Smith, is available during these hours to help students. All part-time students are invited to use these facilities and to assist their Association in its efforts to improve the quality and range of educational opportunities available to students who can only attend university on a part-time basis.
CERTIFICATE AND DIPLOMA PROGRAMMES

CENTRE FOR CONTINUING EDUCATION

Located in the Commons Building, Room 116, 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 extenion 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 Admissions Requirements section of this Calendar.

ADDITIONS STUDIES DIPLOMA PROGRAMME (8968)
This programme (150 hours) is designed to provide foundation studies in the field of addictions. Advanced Credit - 9 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

EMPLOYEE ASSISTANCE PROGRAMME (EAP) CERTIFICATES
(8944/8945)
The two EAP certificate programmes (160 hours each) are designed to introduce the core concepts and practices in the expanding field of occupational assistance. Advanced Standing - 9 units

McMASTER BUSINESS CERTIFICATE (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 - 9 units

McMASTER HUMAN RESOURCES SPECIALIST CERTIFICATE
(8958)
This ten-course programme covers concepts and practices basic to human resources management. Advanced Credit - 12 units

ACCOUNTING DIPLOMA PROGRAMME (8955)
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

METALLURGY OF IRON AND STEEL CERTIFICATE (8991)
This programme (150 hours) comprehensively covers metallurgical principles involved in the extraction, refining and manufacturing of ferrous products. Advanced Credit - 6 units

CASE MANAGEMENT PROGRAMME (8939)
(Jointly offered by McMaster University and the University of Toronto) This ten-course programme is designed to develop and enhance the ability of health and social service professionals to perform case management functions in a variety of practice settings. Advanced Credit - 24 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

QUALIFIED ADMINISTRATIVE ASSISTANTS PROGRAMME (QAA)
A seven-course programme which provides a solid background in general business education. Advanced Credit - 9 units

CREDIT UNION INSTITUTE OF CANADA (CUCI) (8883)
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

CANADIAN PUBLIC PERSONNEL MANAGEMENT ASSOCIATION (CPPMA)
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

CANADIAN INSTITUTE OF CERTIFIED ADMINISTRATIVE MANAGERS (CAM)
This nine-course programme covers a mix of courses in the professional management field. Advanced Credit - 9 units

INSTITUTE OF CANADIAN BANKERS (ICB)

THE INSURANCE INSTITUTE OF CANADA-INSURANCE FELLOWSHIP PROGRAMME (FIC)
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

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

HUMAN RESOURCES PROFESSIONALS 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

PURCHASING MANAGEMENT ASSOCIATION OF CANADA
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

MOHAWK-McMASTER GEOGRAPHIC INFORMATION SYSTEMS SPECIALIST CERTIFICATE (8947)
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

THE McMASTER CERTIFICATE IN WRITING
This programme is currently under development in partnership with the Faculty of Humanities and the local writing community. Advanced Credit - pending

PROGRAMMES UNDER DEVELOPMENT FOR FALL 1999
Family Mediation Diploma
Foundation Studies in Art
Project Management Certificate
Teaching English as a Second Language Certificate

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 1998/99 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.

ANTHROPOLOGY

Faculty as of January 15, 1998

Chair
D. Ann Herring

Professors Emeriti
David R. Count/B.A. (Texas), Ph.D. (Southern Illinois)
David J. Darnell/B.A. (Towle), A.M., Ph.D. (Chicago)
William C. Nobie/B.A. (Toronto), Ph.D. (Calgary)
Richard J. Preston/M.A., Ph.D. (North Carolina)
Richard Si lobodin/B.A., M.S. (City College New York), Ph.D. (Columbia)

Professors
Matthew Cooper/B.A. (Brooklyn College), M.Phil., Ph.D. (Yale)
Harvey Feit/B.A. (Queens), M.A., Ph.D. (McGill)
Edward V. Glanville/B.A., Ph.D. (Dublin)
William L. Rodman/B.A. (Toronto), Ph.D. (Chicago)
Shelley Saunders/B.A., M.A., Ph.D. (Toronto)

Adjunct Professors
Regina Darnell/B.A. (Western Ontario), B.A. (Brym Mawr), M.A., Ph.D. (Pennsylvania)part-time
Michael Spence/B.A. (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 Cannan/B.A. (Simon Fraser), Ph.D. (Cambridge)
Laura Finkel/B.A. (Western Ontario), M.A. (Calgary), Ph.D. (Purdue)
D. Ann Herring/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. (Toronto), M.A. (Calgary), Ph.D. (Toronto)
Wayne Werry/B.A., M.A. (McMaster), Ph.D. (ANU)
Dennis Willms/B.A. (Waterloo), M.A. (McMaster), Ph.D. (British Columbia)

Adjunct Associate Professors
Christopher Ellis/B.A. (Western Ontario), B.A. (Waterloo), M.A. (McMaster), Ph.D. (Simon Fraser)part-time
Den W. Jorgenson/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
Petr Reithmar/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.

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. The department offers two Level I Anthropology courses. ANTHRO 1A03 and 1Z03, taken together, are designed to provide an introduction to the study of Anthropology.
3. 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.
4. 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.

ANTHRO 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

ANTHRO 1Z03 THE HUMAN JOURNEY: THE ANTHROPOLOGY OF THE PAST
An examination of the story of the human species, from the earliest origins to the rise of civilization, as told by physical anthropology and archaeology.
Three hours (lectures and discussion); one term

ANTHRO 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

ANTHRO 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 (lectures and discussion); one term
Prerequisite: Six units of Level I Anthropology

ANTHRO 2E03 HUMAN VARIATION AND EVOLUTIONARY CHANGE
An introduction to the study of human evolution, evolutionary mechanisms, and variability in living species of human and non-human primates.
Three hours (lectures and discussion); one term
Prerequisite: ANTHRO 1Z03
This course is required of all students registered in an Honours Programme in Anthropology, and is a prerequisite for advanced courses in Physical Anthropology.

ANTHRO 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 anthropology.
Three hours (lectures and discussion); one term
Prerequisite: ANTHRO 1A03
This course is required of all students registered in an Honours Programme in Anthropology.

ANTHRO 2F03 HUMAN OSTEOLGY 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

ANTHRO 2H03 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

ANTHRO 2J03 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

ANTHRO 2L03 PHONOLOGY
A study of the sounds of human and primate vocalizations.
Three hours (lectures); one term
Prerequisite: Registration in Level II and above
ANTHROP 2LP3 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 2P03 NORTH AMERICAN PREHISTORY
An examination of the origins and development of the major indigenous cultural groups of prehistoric North America.
Three hours (lectures and discussion); one term
Prerequisite: Three units of Level I Anthropology

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 2X03 WARFARE AND AGGRESSION
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 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: ANTHROP 1A03 or 2F03 and registration in an Anthropology programme
Cross-list: SOCIOL 2203
Antirequisite: GERONTOL 2303 (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 HUMAN ADAPTABILITY/THE PHYSICAL ENVIRONMENT
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: Registration in Level III or IV of any programme. ANTHROP 2E03 is highly recommended.

ANTHROP 3C05 ARCHAEOLOGICAL FIELD SCHOOL
Field instruction in the techniques used in the excavation of an archaeological site. The course includes hands-on instruction in manual excavation methods, mapping, field recording, and laboratory analysis.
Prerequisite: ANTHROP 2PA3 or an equivalent course in archaeological methods
Not open to students with credit in an equivalent field school from another university.
Enrolment is limited.

ANTHROP 3C03 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 3E03 SPECIAL TOPICS IN ARCHAEOLOGY I
The topic varies with each instructor (e.g. one class may examine Ancient Mesoamerican Cities and another focus on The Archaeology of Death).
Three hours (lectures and discussion); one term
Prerequisite: ANTHROP 2PA3

ANTHROP 3E03 SPECIAL TOPICS IN ARCHAEOLOGY II
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 ARCHAEOLOGICAL INTERPRETATION
Technique and methodology in the investigation of archaeological material.
Three hours (lectures and discussion); one term
Prerequisite: ANTHROP 2PA3
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 3LG3
LINGUISTICS AND CULTURE A: 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 3003, LINGUIST 2003

ANTHROP 3N03
PRIMATE EVOLUTION
Comparative anatomy and evolutionary development of humans and our nearest living relatives, the other primates.
Three hours (lectures and discussion); one term
Prerequisite: ANTHROP 2E03
Antirequisite: ANTHROP 3N03

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: Registration in any programme in Anthropology

ANTHROP 3P03
PALEOPATHOLOGY
The origins and evolution of human diseases and methods of identifying disease in ancient human remains.
Three hours (lectures and discussion); one term
Prerequisite: ANTHROP 2FF3

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: Six units of Social/Cultural Anthropology, or registration in any programme in Gerontology
Cross-list: GERONTOL 3Q03

ANTHROP 3R03
TOPICS IN 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

ANTHROP 3W03
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
As per ANTHROP 3W03, but on a different topic.
One term
Prerequisite: Registration in any programme in Anthropology

ANTHROP 3Y03
ABORIGINAL COMMUNITY HEALTH AND WELL-BEING
A critical examination of the determinants of health in Aboriginal communities, processes of community revitalization, and recent government policy initiatives.
Three hours (lecture and discussion); one term

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 3ZZ3
MEDICAL ANTHROPOLOGY: SYMBOLIC HEALING
An interdisciplinary approach to traditional systems of healing such as Greek humoral 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 4A33
ANTHROPOLOGY AND ENVIRONMENT
This course examines the different and rapidly changing ways in which anthropologists study relationships between humans and their environments. It also considers the contributions which anthropologists are making to environmentalism and knowledge about current ecological issues.
Three hours (seminar); one term
Prerequisite: ANTHROP 2F03 and registration in an honours programme, or permission of the instructor

ANTHROP 4B03
CURRENT PROBLEMS IN ANTHROPOLOGY I
The topic varies with each instructor.
Three hours (seminar); one term
Prerequisite: Registration in Level IV Honours Anthropology or permission of the instructor

ANTHROP 4B03
CURRENT PROBLEMS IN ANTHROPOLOGY II
As per ANTHROP 4B03, but on a different topic.
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 2PA3 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 2PA3

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 (seminar); one term
Prerequisite: ANTHROP 2E03

ANTHROP 4L03
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 (lectures 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 (seminar); 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 (seminar); one term
Prerequisite: Registration in an Honours programme in Social Sciences 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 (seminar); 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 (lectures and discussion); one term
Prerequisite: ANTHROP 2FR3
Antirequisite: ANTHROP 3006

ANTHROP 4S03  INFECTIOUS DISEASE AND HUMAN EVOLUTION
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 (lectures and discussion); one term
Prerequisite: ANTHROP 2E03 and registration in Level IV Honours Anthropology

Note: 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 (seminar); one term
Prerequisite: ANTHROP 3LC03

ANTHROP 4U03  PREHISTORY OF THE BRITISH ISLES
A seminar course in the archaeology of Great Britain and Ireland from the Lower Paleolithic to the Bronze Age. Within these limits, chronology and topical emphasis may vary.
Three hours (seminar); one term
Prerequisite: ANTHROP 2PA3

ANTHROP 4Y03  DEVELOPING SOCIETIES
Topics may include, for example, the meaning of development, innovation and technological change, urbanization and protest movements.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level III or IV Honours Anthropology

ART 1F06  STUDIO PRACTICE
Courses and programmes in Art are administered within the School of Art, Drama, and Music of the Faculty of Humanities.

Note:
Art courses are open only to students registered in a programme in Honours Art.

Courses

ART 1F06  STUDIO PRACTICE
An introduction to visual art fundamentals.
Prerequisite: Permission of the School of Art, Drama and Music based on 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 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. Applicants for this course should use the MHA OUAC code.

ART 2A06  PAINTING II
An introduction to approaches and techniques related to the development of paintings from conception through organization to completed work.
Four hours demonstration and two hours independent study; two terms
Prerequisite: ART 1F06

ART 2B06  SCULPTURE I
A series of workshops and seminars to expand the student’s understanding and experience in the production of three-dimensional works of art. A portfolio of three-dimensional works will be produced.
Four hours demonstration and two hours independent study; two terms
Prerequisite: ART 1F06

ART 2C03  DRAWING II
An exploration of a variety of approaches to drawing with an emphasis on the study of the figure.
One studio practice (three hours); two terms
Prerequisite: ART 1F06

ART 2F06  PRINTMAKING II
An introduction to printmaking techniques including monotypes, collotypes and editioned prints in intaglio, lithography and relief. Emphasis will be on developing personal images that relate to these techniques.
Four hours demonstration and two hours independent study; two terms
Prerequisite: ART 1F06

ART 2A03  ADVANCED PAINTING I
A series of defined assignments and independent projects focused on improving skills and fostering personal direction in the field of painting.
Two hours demonstration and one hour independent study (twice weekly); one term
Prerequisite: ART 2A06

ART 3A03  ADVANCED PAINTING II
A series of self-directed projects and in-class assignments with emphasis on independent development preparing the student for Level IV work.
Two hours demonstration and one hour independent study (twice weekly); one term
Prerequisite: ART 2A06

ART 3B03  ADVANCED SCULPTURE I
A series of advanced workshops and projects designed to develop individual artistic direction in the field of sculpture.
Two hours demonstration and one hour independent study (twice weekly); one term
Prerequisite: ART 2B06

ART 3B03  ADVANCED SCULPTURE II
A series of self-directed projects and in-class assignments with emphasis on independent development preparing the student for Level IV work.
Two hours demonstration and one hour independent study (twice weekly); one term
Prerequisite: ART 2B06
ART HIST 1A06 INTRODUCTION TO THE STUDY AND HISTORY OF THE VISUAL ARTS
An examination of the various forms and functions of art and architecture in the Western tradition, with an historical study of the major monuments of that tradition.
Two lectures, one tutorial; two terms
Prerequisite: Registration in Level II and above
Cross-list: CLASSICS 2B03

ART HIST 2B03 GREEK ART
The architecture, sculpture, and painting of the Greek and Hellenistic worlds.
Three lectures; one term
Prerequisite: Registration in Level II 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 2C03

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

ART HIST 2G03 THE ART OF THE MEDIEVAL WORLD
A systematic survey of the history of medieval art between c. 350 and 1400 A.D.
Three lectures; one term
Prerequisite: Registration in Level II and above
Cross-list: PHIL 2H03
Offered in alternate years.

ART HIST 2M03 THE ART AND ARCHITECTURE OF THE ITALIAN RENAISSANCE 1400-1580
The history of art in Renaissance Italy with the emphasis on the works of individual artists and architects.
Three lectures; one term
Prerequisite: Registration in Level II and above

ART HIST 2N03 ITALIAN BAROQUE ART AND ARCHITECTURE
An examination of the major trends in Italian art and architecture from 1580-1780.
Three lectures; one term
Prerequisite: Registration in Level II and above

ART HIST 2P03 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
Cross-list: DRAMA 2X06

ART HIST 3AA3 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: ART HIST 2G03 or 2P03
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
Offered in alternate years.

ART HIST 3B03 THE ART OF NORTHERN EUROPE IN THE 17TH CENTURY
A discussion of the art of France, Flanders, the Netherlands and England in the Baroque period. Emphasis will be given to Rubens, Poussin and Rembrandt.
Three lectures; one term
Prerequisite: ART HIST 2N03
Offered in alternate years.

ART HIST 3C03 LITERATURE AND FILM
An examination of the particular characteristics of both literature and film and the relationship between them from 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, Literature or Art History. ART HIST 2X06 is recommended.
Cross-list: COMP LIT 3L03, DRAMA 3H03, and ENGLISH 3C03

ART HIST 3E03 EUROPEAN ARCHITECTURE OF THE 17TH AND 18TH CENTURIES
This course will examine the developments in architecture primarily in Italy, France and England in the 17th and 18th centuries with background material, where necessary, on 16th-century architectural styles.
Three lectures; one term
Prerequisite: ART HIST 2N03
ART HIST 3F03  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: ART HIST 2X06
Cross-list: DRAMA 3R03

ART HIST 3F05  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: ART HIST 2X06
Cross-list: DRAMA 3R03

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 2G03
Cross-list: CLASSICS 3G03
Alternates with ART HIST 3H03.

ART HIST 3H03  ANCIENT GREEK ART
The formative period of Greek Art from its rebirth after the Dark Ages to the Persian Wars (c. 1000-450 B.C.) and its relationship to the art of the Near East.
Three lectures; one term
Prerequisite: ART HIST 2C03
Cross-list: CLASSICS 3H03
Alternates with ART HIST 3G03.

ART HIST 3L03  THE VENETIAN RENAISSANCE PAINTING
An examination of the works of the major painters of the Renaissance in Venice, including such artists as Giovanni Bellini, Giorgione and Titian.
Three lectures; one term
Prerequisite: ART HIST 2M03
Offered in alternate years.

ART HIST 3Q03  ART AND CIVILIZATION AT THE DAWN OF THE ITALIAN RENAISSANCE 1200-1400
A study of Italian art and civilization in the age of transition between the Middle Ages and the Renaissance.
Three lectures; one term
Prerequisite: Registration in Level III or IV of a programme in Art or Art History
Offered in alternate years.

ART HIST 3T03  TOPICS IN NATIONAL CINEMAS I
Previous topics include: Soviet and East European Cinema. Consult the School of Art, Drama and Music concerning topic to be offered.
Two lectures, plus one weekly film screening; one term
Prerequisite: ART HIST 2X06
Cross-list: DRAMA 3T03 and MOD LANG 3T03
ART HIST 3T03 may be repeated, if on a different topic, to a total of six units.

ART HIST 3T03  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: ART HIST 2X06
Cross-list: DRAMA 3T03 and MOD LANG 3T03
ART HIST 3T03 may be repeated, if on a different topic, to a total of six units.

ART HIST 3V03  SUPERVISED READING
Readings in a field of special interest to the student, under the guidance of a Faculty member.
Prerequisite: Registration in Level III or IV of Honours Art History or Level IV Honours Art 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
Antirequisite: ART HIST 4D03

ART HIST 4A03  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: ART HIST 3A03
Offered in alternate years.
Enrollment is limited.

ART HIST 4B03  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 2B03 and 2C03, and registration in Level III or IV of an Honours programme in Art History
Cross-list: CLASSICS 4B03
ART HIST 4B03 may be repeated, if on a different topic, to a total of six units.
Enrollment is limited.

ART HIST 4C03  THE ART OF THE HIGH RENAISSANCE IN ROME
A study of the art and architecture of Raphael, Michelangelo and their contemporaries in Rome in the early 16th century.
Seminar (two hours); one term
Prerequisite: ART HIST 2M03
Offered in alternate years.
Enrollment is limited.

ART HIST 4C03  STUDIES IN THEATRE AND FILM
Senior Seminar: A comparative examination of the performance, visual and narrative techniques of theatre and film, including specific examples of adaptation.
Seminar (two hours), plus weekly film screening; one term
Prerequisite: Registration in Level IV of an Honours programme in Art History
Cross-list: DRAMA 4C03
Offered in alternate years.
Enrollment is limited.

ART HIST 4D03  STUDIES IN THE HISTORY AND HISTORIOGRAPHY OF EARLY ITALIAN ART
An investigation of major Italian artists from the thirteenth through fifteenth centuries, the historiographical tradition related to these figures, and the methodological premises of that tradition.
Seminar (two hours); one term
Prerequisite: Registration in Level III or Level IV of a programme in Art or Art History. Previous completion of ART HIST 2E03 is recommended.
Alternates with ART HIST 4H03.
Enrollment is limited.

ART HIST 4F03  DUTCH PAINTING OF THE 17TH CENTURY
A study of the so-called minor masters of Holland's Golden Age of painting.
Seminar (two hours); one term
Prerequisite: ART HIST 3B03
Offered in alternate years.
Enrollment is limited.

ART HIST 4F03  STUDIES IN FILM
Senior Seminar: An examination of selected films.
Seminar (two hours); one term
Prerequisite: Registration in Level IV of an Honours programme in Art or Art History. ART HIST 2X06/DRAMA 2X06 is recommended.
Cross-list: DRAMA 4F03
Offered in alternate years.
Enrollment is limited.

ART HIST 4M03  ASPECTS OF THE ART OF MATISSE AND PICASSO
An examination of selected paintings, sculptures and drawings by Henri Matisse and Pablo Picasso.
Three lectures; one term
Prerequisite: ART HIST 2D03 or 2P03
Offered in alternate years.

ART HIST 4N03  NEOCLASSICISM AND ROMANTICISM
An historical and critical investigation of selected issues and artists connected with the Neoclassical and Romantic movements.
Seminar (two hours); one term
Prerequisite: ART HIST 2D03 or 2P03
Offered in alternate years.

ART HIST 4O06  THESIS
Supervised study of a problem in the history of art of special interest to the student.
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
ARTS AND SCIENCE

ART HIST 4Q03 CARAVAGGIO
A study of all the paintings attributed to Caravaggio and their stylistic and documentary evidence. The variety of methods of examining an artist’s work is emphasized. Three lectures; one term
Prerequisite: ART HIST 2N03
Offered in alternate years.

ART HIST 4R03 PAINTING AND SCULPTURE OF 15TH-CENTURY ITALY
An examination of the representational arts of the early Renaissance with emphasis on the Florentine contribution. Seminar (two hours); one term
Prerequisite: ART HIST 2M03
Offered in alternate years.

ART HIST 4S03 SPECIAL STUDIES IN FILM
Previous topics include: Genre Studies, Film Comedy, Corrissi the School of Art, Drama and Music concerning topic to be offered. Two lectures, plus one weekly film screening; one term
Prerequisite: ART HIST 2X05
Cross-list: DRAMA 3J03
ART HIST 4S03 may be repeated, if on a different topic, to a total of six units.

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
Alternates with ART HIST 4D03.
Enrolment is limited.

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
N. Balakrishnan (Mathematics and Statistics) B.Sc., M.Sc. (Madras), Ph.D. (U.T., Kanpur)
John D. Browning (Modern Languages) B.A., M.Phil. (London), Ph.D. (Essex)
Sylvia Bowerbank (English and Arts & Science) B.A.(McMaster), B.Ed.(Toronto), M.A.(Simon Fraser), Ph.D.(McMaster)

Barbara M. Ferrier (Biochemistry) B.Sc., Ph.D. (Edinburgh)

Department Notes:
1. Prerequisites: The prerequisite for all Level I, II, III and IV 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 dealing with the written word. Students will examine the structure of selected texts, analyze various types of reasoning, and receive individual attention in expository writing.

ARTS&SCI 1C06 INQUIRY
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 1E06 TECHNOLOGY
This course explores many of the great concepts of physics in a quantitative way. Beginning with Newtonian mechanics, it moves into Einstein’s relativity, wave phenomena, atomic physics, quantum mechanics and cosmology. Selected laboratory projects will be carried out.

ARTS&SCI 2A06 MODERN WESTERN CIVILIZATION
Development of political, economic, sociological 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 quantitative way. Beginning with Newtonian mechanics, it moves into Einstein’s relativity, wave phenomena, atomic physics, quantum mechanics and cosmology. Selected laboratory projects will be carried out.

ARTS&SCI 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 enduring 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 studies as a cultural activity with its own beliefs, values, social structures and institutions.

ARTS&SCI 3B06 PHYSICS
This course explores many of the great concepts of physics in a quantitative way. Beginning with Newtonian mechanics, it moves into Einstein’s relativity, wave phenomena, atomic physics, quantum mechanics and cosmology. Selected laboratory projects will be carried out.

ARTS&SCI 3B07 TECHNOLOGY AND SOCIETY II
The Social Control of Technology. The dominant mechanisms of the social control of technology will be studied. Includes an examination of assessment methods and the role of ethics.
Prerequisite: ARTS&SCI 3B03.

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.
ARTS & SCI 3CD6  INQUIRY TOPIC: DISCOVERY: THE CONTEXT OF BIOMEDICAL RESEARCH

Using a problem-based approach, the antecedents and consequences of biomedical discoveries will be explored. Issues discussed will include: organization of laboratories, funding, publications, priority disputes, rewards, frauds, academic-industry links, patents, experimental ethics.

ARTS & SCI 3CE6  INQUIRY TOPIC: MEDIA

This course consists of four sections dealing with theoretical and analytical perspectives, political economy of the media, news media and entertainment media and their cultural effects.

ARTS & SCI 3L03  EASTERN STUDIES I: INDIA

Readings of Indian 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: RELIG ST 3L03

ARTS & SCI 3S03  EASTERN STUDIES II: EAST ASIA

Readings of East Asian 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: RELIG ST 3S03, JAPAN ST 3S03

ARTS & SCI 4A06  INDIVIDUAL STUDY

This course consists of a library, laboratory, or field project under the supervision of a faculty member. Students intending to register must first consult the Director of the Arts & Science Programme and then prepare an outline for approval after consultation with the faculty supervisor. Plan of Study requires approval of the Programme Director by March 1 of the academic year prior to registration in the course.

ARTS & SCI 4A12  INDIVIDUAL STUDY

ARTS & SCI 4A06 based on more extensive study.

ARTS & SCI 4C06  THESIS

This course consists of a library, laboratory, or field project under the supervision of a faculty member. Three copies of a completed thesis must be submitted by the end of classes. Students intending to register must first consult the Director of the Arts & Science Programme and then prepare an outline for approval after consultation with the faculty supervisor. Plan of Study requires approval of the Programme Director by March 1 of the academic year prior to registration in the course.

ARTS & SCI 4C12  THESIS

ARTS & SCI 4C06 based on more extensive research.

ASIAN STUDIES

(SEE INTERDISCIPLINARY MINORS AND THEMATIC AREAS)

ASTRONOMY

(SEE PHYSICS AND ASTRONOMY)

BIOCHEMISTRY

Faculty as of January 15, 1998

Chair
J.P. Capone

Professors Emeriti
Russell A. Bell/Ph.D. (Wellington), M.S. (Wisconsin), Ph.D. (Stanford), F.C.I.C., Professor of Chemistry
Luis A. Brandi/B.Sc., D.Sc. (Uruguay)
Karl E. Froman/M.A. (Toronto), Ph.D. (Cambridge)
Ross H. Hall/B.A. (British Columbia), M.A. (Toronto), Ph.D. (Cambridge)
Dennis R. McCullough/B.Sc. (Alberta), M.Sc. (Saskatchewan), Ph.D. (California Inst. of Technology), F.C.I.C.

Professors
Vettai S. Ananthanarayan/M.Sc., Ph.D. (Madras)
John F. Capone/B.Sc. (Western Ontario), Ph.D. (McMaster)
William W. Chan/M.A., Ph.D. (Cambridge)
Richard M. Eapen/A.B. (Johns Hopkins), Ph.D. (Columbia)
Barbara M. Ferrier/B.Sc., Ph.D. (Edinburgh)
Gerhard E. Gerber/B.Sc., Ph.D. (Toronto)
Hara P. Ghosh/M.Sc., D.Phil. (Calcutta)
Radhey S. Gupta/M.Sc. (New Delhi), Ph.D. (Bombay)
Richard J. Haslam/M.A., D.Phil. (Oxford), Professor of Pathology
John A. Hassel/B.Sc. (Brooklyn College), Ph.D. (Connecticut)
Evert Nieboer/M.Sc. (McMaster), Ph.D. (Waterloo)

Associate Professors
David W. Andrews/B.Sc. (Ottawa), Ph.D. (Toronto)
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. Wraith/B.Sc., Ph.D. (Waterloo)
Daniel S.C. Yang/B.Sc., M.Sc. (Alberta), Ph.D. (Pittsburgh)

Assistant Professors
Albert M. Berghuis/M.Sc. (Groningen, The Netherlands), Ph.D. (British Columbia)
Corrine G. Lobe/B.Sc., Ph.D. (Alberta)

Associate Members
Stephanie A. Atkinson (Pediatrics) B.A. (Western Ontario), Ph.D. (Toronto)
Jack Gauldie (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. Ruchnick (Pathology) B.Sc., Ph.D. (Ottawa)
Gurmit Singh (Pathology) B.Sc., Ph.D. (Dalhousie)
Thilakanathan Sivakumar (Pathology) B.Sc., M.Sc., Ph.D. (Queen's), F.R.S.C. (London)
Bradley N. White/B.Sc., M.Sc. (Nottingham), Ph.D. (McMaster)
Peter F.M. Whyte (Pathology) B.Sc., M.Sc., (British Columbia), Ph.D. (New York)

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, reaction and energetics of molecules in biological systems.
Three lectures or tutorial; two terms
Prerequisite: Credit or registration in one of CHEM 2B06, 2B00, or in both CHEM 2B03 and 2B03 or in both CHEM 2B03 and 2B03 and registration in an Honours Biochemistry or Honours Molecular Biology programme.
Antirequisite: BIOCHEM 2E03, 3E03, 3G03

BIOCHEM 2E03  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 2B03, 2E03 or credit or registration in one of CHEM 2B06, 2B00, 2A3, 2B03, 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, BIOLOGY 3H03

BIOCHEM 3B03  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
BIOCHEM 3C03  CELLULAR BIOCHEMISTRY
Biochemical basis of complex cellular processes such as compartmentalization, vesicular traffic, cell division, movement and communication. Includes physical principles of related techniques and instrumentation.
Three lectures; first term
Prerequisite: BIOCHEM 2A06, or BIOCHEM 3G03 and one of BIOCHEM 2EE3, 3GG3

BIOCHEM 3E03  ENVIRONMENTAL BIOCHEMISTRY LABORATORY
Fundamental principles and techniques of experimental biochemistry analyses of environmental problems.
One lab (three hours), one tutorial (three hours); one term
Prerequisite: Enrollment 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: One of CHEM 2B06, 2B05; or both CHEM 2BA3 and 2B3 or both CHEM 2OA3 and 2OB3; or a grade of at least B+ in CHEM 2D03 or 2E03.
Antirequisite: BIOCHEM 2A06, 2E03, 3A03, 3A3

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 BIOCHEM 3G03 and one of BIOCHEM 2EE3, 3GG3, or a grade of at least C+ in BIOCHEM 2EE3

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, and registration in an Honours Biochemistry programme or in the Honours Molecular Biology programme; or BIOCHEM 3G03, one of BIOCHEM 2EE3, 3GG3 and registration in Honours Biological Chemistry.
Antirequisite: BIOCHEM 3E03

BIOCHEM 3M03  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 BIOCHEM 3G03 and one of BIOCHEM 2EE3, 3GG3, or a grade of at least C+ in BIOCHEM 2EE3

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 an Honours Biochemistry programme or permission of the Department.
Antirequisite: BIOLOGY 3V03
Enrollment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

BIOCHEM 4A03  RECENT ADVANCES IN BIOCHEMISTRY AND MOLECULAR BIOLOGY
Student presentation and critical evaluation of selected topics from the current research literature.
Three lectures; one term
Prerequisite: Registration in Level IV of an Honours Programme in Biochemistry. Permission of the Department is required by March 31.
Antirequisite: BIOCHEM 4C03
Enrollment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

BIOCHEM 4B06  SENIOR PROJECT IN BIOCHEMISTRY
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 registration 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 4BB6, 4F09, 4G03, 4L03, 4P03
Enrollment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

BIOCHEM 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
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 CA of at least 8.0.
Permission of the Department is required by March 31.
Antirequisite: BIOCHEM 4BB6, 4F09, 4G03, 4L03, 4P03
Enrollment 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 environmental discussion 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); or one of BIOCHEM 2A06, 2E03, 2EE3, or 3G03 and registration in a Complementary Studies programme and permission of the instructor.
Antirequisite: BIOCHEM 4A03
Enrollment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

BIOCHEM 4D03  BIOTECHNOLOGY I
Theory, methods and applications in genetic engineering and biotechnology with emphasis on gene cloning 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. 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 and post-translational levels.
1998-99: Three lectures; second term
Effective 1999-2000: 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 in 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 CA 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 3BB3, 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 immunocompetence, interaction 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

Cross-list: MOL BIOL 4J03

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 3BB3 and one of BIOCHEM 3B03, BIOLOGY 3H03

Antirequisite: BIOCHEM 4B06, 4BB6, 4F09, 4G03; MOL BIOL 4F09

BIOCHEM 4M03 MEMBRANE STRUCTURE AND FUNCTION

Chemical structure and molecular organization of membrane constituents. Molecular 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 Honours Biochemistry Co-op programme or BIOCHEM 3G03 and one of BIOCHEM 2EE3, 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 3V03 and either BIOCHEM 3A03 or 3BB3 or 3G03 and 3G03.

Permission of the Department is required by March 31.
Antirequisite: BIOCHEM 4B06, 4BB6, 4F09; MOL BIOL 4F09

Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

BIOCHEM 4Q03 BIOCHEMICAL PHARMACOLOGY

Interactions of drugs with living systems. Drug absorption, distribution, mechanism of action, metabolism and elimination will be discussed.

Three lectures; first term
Prerequisite: BIOCHEM 2A06 and registration in Level IV of an Honours Biochemistry or Honours Molecular Biology programme or Year 4 of the Honours Biochemistry Co-op programme; or BIOCHEM 3G03 and one of BIOCHEM 2EE3, 3G03

Antirequisite: BIOLOGY 3AA3

BIOLOGY

Faculty of January 15, 1998

Chair
A.J. Rainbow

Professors Emeriti

Stanley T. Bayley/B.Sc., Ph.D. (London)
Douglas Davidson/B.Sc. (Durham), D.Phil. (Oxford)

Douglas M. Davies/B.A., 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 Mak/M.Sc. (Saskatchewan), Ph.D. (Toronto)
Richard A. Morton/M.S., Ph.D. (Chicago)
Ludvik A. Prevec/MA., Ph.D. (Toronto)
Iwaq Takahashi/B.A. (Hokkaido), M.A., (Kyushu), Ph.D. (Montreal)
Stephan F.H. Threlkel/M.Sc. (Alberta), Ph.D. (Cambridge)
Jean E.M. Westermann/B.Sc. (Western Ontario), M.A. (Mount Holyoke), Ph.D. (Toronto)

Professors

Turlough Finan/B.Sc., M.Sc. (Galway, Ireland), Ph.D. (Guelph)
G. Brian Golden/ B.Sc. (Dalhousie), Ph.D. (Alberta)
Frank L. Graham (Pathology)/B.Sc. (Manitoba), M.A., Ph.D. (Toronto)
Daleworth G. Harinishi (Pathology)/B.Sc., M.Sc. (Queen's), Ph.D. (McMaster)
John A. Hassold (Biochemistry, Pathology)/B.Sc. (Brooklyn College), Ph.D. (Connecticut)

Jurek Koziara/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)
Colin 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 Reif/B.Sc., M.Sc. (Guelph), Ph.D. (British Columbia)
Fama S. Singh/B.Sc. (Agra), M.Sc. (Kanpur), Ph.D. (Calif.), (British Columbia)
George J. Sorger/B.Sc. (McGill), M.S., Ph.D. (Yale)
Bradley N. White/B.Sc. (Nottingham), Ph.D. (McMaster)/Undergraduate Advisor

Christopher M. Wood/B.Sc., M.Sc. (British Columbia), Ph.D. (East Anglia)

Assocate Professors

Ana Campos/B.A., M.A. (Rio de Janeiro), Ph.D. (Brindisi)
Patricia Chow-Fraser/B.Sc., M.Sc. (Waterloo), Ph.D. (Toronto)
Allan D. Dinglo/B.Sc. (McMaster), M.Sc. (Illinois), Ph.D. (Brindisi)/Part-time
H. Lisa Gibbons/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. (Manchester)/Part-time
Herbert E. Scheilhorn/B.Sc., M.Sc. (Guelph), Ph.D. (North Carolina)
Elizabeth A. Weretilny/B.Sc., Ph.D. (Alberta)

Assistant Professors

Susan A. Dudley/B.Sc., M.Sc. (McGill), Ph.D. (Chicago)
James S. Quinn/B.Sc. (Queen’s), M.Sc. (Brock), Ph.D. (Ottawa)

Instructional Assistants

Merwin Gunderman/B.Sc., M.Sc. (McMaster)
Thelma Lasch/B.Sc., M.Sc. (Guelph)
Beryl Piccinini/B.Sc. (Mount Allison), M.Sc. (McMaster)
Raymond Proctor/B.Sc. (McMaster), B.Ed. (Toronto)

Department 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 (as of 1999-2000) and 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, 1A03 (or 1A05) is strongly recommended. CHEM 1A03, 1A03 (or 1A08) are prerequisites for many Biology courses in Level II, III, and IV.
Corequisite: SCIENCE 1A00
Antirequisite: BIOLOGY 1A06
BIOLOGY 1A03 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 1A03
Antirequisite: BIOLOGY 1A06

BIOLOGY 1J03 HUMAN PHYSIOLOGY
Physiology of respiration, circulation, energy and muscle metabolism and reproduction.
Three lectures; one term
Not open to students registered in Science I or in any Biology, Biochemistry or Molecular Biology programme
Antirequisite: Registration or credit in KINESIOL 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; monohybrid 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 ENVIR SC 1A06 or one of GEO 1B03, ENVIR SC 1B03 and one of GEO 1A03, ENVIR SC 1H03 or one of GEO 1G03, ENVIR SC 1G03

BIOLOGY 2E03 THE ANIMAL KINGDOM
Selected aspects of design in the major animal groups, with emphasis on adaptations to terrestrial versus aquatic environments.
Two lectures, one lab (three hours); one term
Prerequisite: BIOLOGY 1A03 (or 1A06) or ENVIR SC 1A06 or one of GEO 1B03, ENVIR SC 1B03 and one of GEO 1A03, ENVIR SC 1H03 or one of GEO 1G03, ENVIR SC 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 ENVIR SC 1A06 or one of GEO 1B03, ENVIR SC 1B03 and one of GEO 1A03, ENVIR SC 1H03 or one of GEO 1G03, ENVIR SC 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, 3J03, or 3U03, and credit in one of BIOCHEM 2A06, 2E03, 3A03 or 3G03.
Antirequisite: BIOCHEM 4Q03
Not open to students with registration in Honours Biology and Pharmacology.

BIOLOGY 3H03 ORGANIZATION OF THE CYTOPLASM
A detailed examination of the molecular organization and function of cytoplasmic structures in metazoans, with particular focus on the differentiation and specialization of the cell surface and the cytoskeleton.
Three lectures, 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

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 phenomenology: interactions of radiations 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 1A05, 1B05, 1B03, 1B06, 1C06 or permission of the instructor
Cross-list: PHYSICS 3T03
BIOLOGY 3MM3 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 EMBRYOLOGY
Descriptive and experimental studies of animal development, including: genetocoeiy, fertilization; cell proliferation, migration, and selective cell associations; inductive interactions; organogenesis; regeneration.
Two lectures, one lab (three hours); one term
Prerequisite: BIOLOGY 2E03

BIOLOGY 3NN3 DEVELOPMENTAL BIOLOGY
A study of the principles underlying developmental phenomena: polarity, gradients and pattern formation; intra and intercellular mechanisms governing cell determination and differentiation; cell lineage and cell recognition.
Three lectures, or two lectures, one tutorial; one term
Prerequisite: BIOLOGY 2B03, 2C03. BIOLOGY 3N03 is strongly recommended.

BIOLOGY 3003 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 BIOCHEM 2EE3 are strongly recommended.

BIOLOGY 3P03 RECENT ADVANCES IN CELL PHYSIOLOGY
Analysis of cell function with an emphasis on electrical properties, ion transport proteins, signaling 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

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 ENVIR SC 1A06 or one of GEO 1B03, ENVIR SC 1B03 and one of GEO 1A03, ENVIR SC 1H03 or one of GEO 1G03, ENVIR SC 1G03 and acceptance into a specific module.

BIOLOGY 3SS3 POPULATION ECOLOGY
Population structure and dynamics. Natural selection and regulation of organisms by environmental and biological factors. An evolutionary view of predation, competition, life history schedules.
Three lectures; one term
Prerequisite: BIOLOGY 2F03

BIOLOGY 3T33 COMMUNITY ECOCY
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 2B03 or 2E03 and STATS 1CC3 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. BIOCHEM 2EE3 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 3U03 ANIMAL PHYSIOLOGY - CONTROL SYSTEMS
Nervous function, endocrinology, muscle function, metabolism and gastro-intestinal physiology.
Two lectures, one lab/tutorial (three hours); one term
Prerequisite: BIOLOGY 2B03 and permission of the instructor. BIOCHEM 2EE3 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 3O03
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
Antirequisite: BIOLOGY 4I03

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 3B03 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, 3S03 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, 3S03 or 3T03.
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 3H03 are recommended.
Offered in alternate years. Offered in 1998-99.

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 Year III. Antirequisite: BIOLOGY 4F06, 4FP3, MOL BIOL 4R09, PHARMAC 4F09, PSYCH 4D06
See the heading Courses Requiring Permission 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, or two lectures, one tutorial; one term
Prerequisite: BIOLOGY 3J03
Offered in alternate years. Offered in 1998-99.

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, ANTHRO 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 Year III.
Antirequisite: BIOLOGY 4C09, 4F03, PHARMAC 4F09 or PSYCH 4D06

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 Honours Biology (Complementary Studies Option), Honours Biochemistry (Complementary Studies Option), or Honours Science (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 Year 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 or co-registration in BIOLOGY 3F03 and 3K03. These are minimum requirements, and final selection by the Chair of the Department of Biology will be based on academic merit.
Enrolment limit: 16 See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

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 (two hours); one term
Prerequisite: BIOLOGY 3I03 or both 2B03 and 2C03. PSYCH 2F03, 3R03, and BIOLOGY 3H03 are recommended.
Offered in alternate years.

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 fees, as prescribed by the Department, and the regular tuition fees.
Prerequisite: BIOLOGY 1AA3 (or 1A06) or ENVIR SC 1A06 or one of GEO 1B03, ENVIR SC 1B03 and one of GEO 1A03, ENVIR SC 1H03 or one of GEO 1G03, ENVIR SC 1G03 and acceptance into a specific module.

BIOLOGY 4M03  MOLECULAR ASPECTS OF EUKARYOTIC CHROMOSOMES

Chromatin structure, repeated DNA sequences, concerted evolution of gene families, telomeres, centromeres, gene transfer, oncogenes, transposable elements.
Three lectures; one term
Prerequisite: BIOLOGY 3G03 and either BIOCHEM 2A06 or both BIOCHEM 2EE3 and 3G03

BIOLOGY 4P03  MEDICAL MICROBIOLOGY

Bacterial diseases: identification, epidemiology and treatment.
Three lectures, or two lectures, one tutorial; one term
Prerequisite: BIOLOGY 3EG3

Offered in alternate years.

BIOLOGY 4P03  ENVIRONMENTAL MICROBIOLOGY

Study of interaction 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: Credit or registration in 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: Six cr of Level III or IV Biology laboratory courses. BIOCHEM 2EE3 and 3G03 are recommended.
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
Prerequisite: BIOLOGY 3P03; or permission of the instructor. One or more of BIOLOGY 3H03, 3HH3, 3UU3, PSYCH 2F03, 3FA3 are also recommended.
Offered in alternate years.

BIOLOGY 4U03  RADIATION BIOLOGY AND RADIATION BIOPHYSICS

The effects of radiation on biological material at the molecular, cellular, tissue and whole organism level. Applications of radiation in medicine and toxicology.
Three lectures, or two lectures and one tutorial; one term
Prerequisite: BIOLOGY 2B03 or 2C03 and one of BIOLOGY 3L03 or PHYSICS 3T03; or registration in Level IV of Medical Health and Physics Co-op; or permission of the instructor
Antirequisite: BIOLOGY 3Q03

BIOLOGY 4V03  VIROLOGY

The viruses of animals, bacteria, and plants, with emphasis on the molecular biology of virus replication and the diversity of virus-cell interactions.
Two lectures, one tutorial (two hours); one term
Prerequisite: BIOCHEM 3E03 or 3D03

BIOLOGY 4X03  ENVIRONMENTAL PHYSIOLOGY

Advanced physiology of animals with an emphasis on interactions with and adaptation to the environment.
Two lectures, one lab (three hours); one term
Prerequisite: One of BIOLOGY 3M03, 3U03, 3UU3 and permission of the instructor
Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

Offered in alternate years.

BIOLOGY 4Y03  ECOLOGY OF INLAND WATERS

Physical, chemical and biological interrelationships of inland waters, including aspects of pollution.
Two lectures; one lab; one term
Prerequisite: BIOLOGY 2F03, one of BIOLOGY 2D03 or 2E03, and one of BIOLOGY 3S33 or 3TT3

PHARMAC 4B03  DRUGS AND BEHAVIOUR

Behavioural measures to study drug action and the use of drugs to study the organization and physiochemical mechanisms in normal and abnormal behaviour.
One tutorial (three hours); one term
Prerequisite: PHARMAC 3A06 or BIOLOGY 3AA3
BUSINESS

(SEE COMMERCE)

CANADIAN STUDIES

(SEE INTERDISCIPLINARY MINORS AND THEMATIC AREAS)

CAYUGA

(SEE INDIGENOUS STUDIES, CAYUGA)

CHEMICAL ENGINEERING

Faculty as of January 15, 1998

Chair
J.L. Brash

Professors Emeriti
Cameron M. Crowe/B.Eng. (McGill), Ph.D. (Cambridge), F.C.I.C.
Leslie W. Shemilt/O.C., B.A.Sc., Ph.D. (Toronto), M.Sc. (Manitoba),

CHEMICAL ENGINEERING THERMODYNAMICS

CHEM 149

Steady-state mass balances in chemical processes and the first law of

The second law of thermodynamics and physical chemical equilibria.

Three lectures, one tutorial (three hours); first term

Prerequisite: Registration in Level II Chemical Engineering or Chemical

Engineering and Management or Chemical Engineering and Society or

Honours Applied Chemistry

CHEM ENG 2D04 CHEMICAL ENGINEERING PRINCIPLES I

Chemical process simulation and chemical engineering thermodynamics

Three lectures, one tutorial (three hours); first term

Prerequisite: CHEM ENG 2C02, 2D04

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.

Two lectures, one tutorial (two hours); 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, 3E04 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, 3K04

CHEM ENG 3M04 MASS TRANSFER AND STAGewise OPERATIONS

Stage-wise operations, diffusion, mass transfer coefficients, distillation,

differential contacting and absorption.

Three lectures, one tutorial (two hours); first term

Prerequisite: CHEM ENG 2F04
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, or MATH 2P04 and 2Q04, any of which may be taken concurrently and registration in a Chemical Engineering or Materials Engineering programme.

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, 2Q06, 2W04

CHEM ENG 4B03  POLYMER REACTION ENGINEERING
Three lectures; first term
Prerequisite: CHEM ENG 3K04 and 3Q03

CHEM ENG 4E03  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; second term
Prerequisite: STATS 3N03 or COMMERCE 2QA3

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 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, turbulent and unsteady state mass transfer; analogies; absorption, extraction, adsorption, ion exchange, drying, humidification, crystallization.
Three lectures; first term
Prerequisite: CHEM ENG 2A04, 3Q04, 3M04

CHEM ENG 4N04  ENGINEERING ECONOMICS AND PROBLEM SOLVING
Three lectures, one tutorial (two hours); first term
Prerequisite: CHEM ENG 3Q03, 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; first term
Prerequisite: CHEM ENG 3Q04 or MECH ENG 3Q04 or ENG PHYS 3Q03

CHEM ENG 4W04  CHEMICAL PLANT DESIGN AND SIMULATION
Projects, often in co-operation with industry, usually involve steady-state computer 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 2A03  ANALYTICAL CHEMISTRY 1
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 2P08 or 2R03 or 2PB3, or registration in a Chemical Engineering programme
Antirequisite: CHEM 2M05, 2N03

CHEM 2B03  ORGANIC CHEMISTRY
Bonding: Alkanes, alkyl halides, alkenes, alkenes, and alcohols.
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, 2006, 20A3, 2W04

CHEM 2B03  ORGANIC CHEMISTRY
Infra-red, \(^1\)H and \(^1\)C nuclear magnetic resonance, ultraviolet and mass-spectrometric methods. Aldehydes and ketones including enolates. Electrophilic aromatic substitution. Carboxylic acids and functional derivatives. Reaction intermediates and reaction mechanisms.
Three lectures; second term
Prerequisite: CHEM 2B03
Antirequisite: CHEM 2B06, 20D0, 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.

CHEM 2103  STRUCTURE AND REACTIONS OF THE MAIN GROUP ELEMENTS
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 or B.Sc. Physical Science programme, or permission of the instructor
Antirequisite: CHEM 2C03, 2F03, 2W03, 2W04

CHEM 2D03  CHEMISTRY LABORATORY
An introduction to experimental organic and inorganic chemistry.
Two labs (three hours) first term; one lab (three hours) second term
Prerequisite: CHEM 2B03, 2B03, 2E03, 2E03, 2B06, 2003, 20A3
Antirequisite: CHEM 2B05, 2D03

CHEM 2N03  ANALYTICAL CHEMISTRY
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 2PA3 and 2PB3, or registration in an Honours Biochemistry programme or permission of the instructor
Antirequisite: CHEM 2A03, 2M02

CHEM 20A3  ORGANIC CHEMISTRY I
An introduction to organic chemistry with emphasis on the reactions of functional groups and an introduction to spectroscopic techniques for structure determination.
Three lectures, one lab (three hours) every other week; first term
Prerequisite: CHEM 1A03 (or 1A06)
Antirequisite: CHEM 2A03, 2M05

CHEM 20B3  ORGANIC CHEMISTRY II
Nucleophilic substitutions at carboxylate 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 2B06, 2B03, 2006
CHEM 2PA3  THERMODYNAMICS AND PHASE EQUILIBRIA
An introduction to macroscopic and microscopic aspects of thermodynamics and their application to physical transformations.
Three lectures, one lab (three hours) or tutorial; first term
Prerequisite: CHEM 1A03 (or 1A06) and one of MATH 1A06, 1A03
Antirequisite: CHEM 2PD6, 2PB3, PHYSICS 2H03, 2H04

CHEM 2PB3  CHEMICAL THERMODYNAMICS AND KINETICS
Thermodynamics of equilibrium chemical and electrochemical systems, and macroscopic and microscopic aspects of kinetics.
Three lectures, one lab (three hours) or tutorial; second term
Prerequisite: CHEM 2PA3
Antirequisite: CHEM 2PD6

CHEM 2RD3  GENERAL PHYSICAL CHEMISTRY
A survey of thermodynamic and kinetic principles and their application to biological systems.
Three lectures; first term
Prerequisite: CHEM 1AA3 (or 1A06) and one of MATH 1A03, 1A06, 1C03, ARTS & SCI 1D06
Antirequisite: CHEM 2PD6, 2PB3, PHYSICS 2H03, 2H04

CHEM 2WW4  INTRODUCTORY ORGANIC AND INORGANIC CHEMISTRY
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

CHEM 3A03  ANALYTICAL CHEMISTRY II
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 2PD6 or 2PB3 or 2RD3

CHEM 3BA3  QUANTUM MECHANICS AND SPECTROSCOPY I
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 2PD6 or 2PB3 (or 2PD6 with a grade of at least B) and one of MATH 2A03, 2G03, 2N03 or 2PD6
Antirequisite: CHEM 3B03, 3B06, 3S03

CHEM 3BB3  QUANTUM MECHANICS AND SPECTROSCOPY II
An introduction to the electronic structure and spectroscopy of atoms and molecules.
Three lectures, one lab (three hours) or tutorial; second term
Prerequisite: CHEM 3BA3
Antirequisite: CHEM 3B03, 3B06, 3S03

CHEM 3D03  ORGANIC CHEMISTRY
A mechanistically oriented discussion of mono- and polyfunctional organic compounds with emphasis on applications to synthesis.
Three lectures, one lab (three hours); second term
Prerequisite: One of CHEM 2B06, 2B33, 2C06, 2O33
Antirequisite: CHEM 3B33

CHEM 3F03  BIO-ORGANIC CHEMISTRY
Topics in bio-organic chemistry; a sequel to Chemistry 2006 or 2B33.
Two lectures, one lab (three hours); second term
Prerequisite: One of CHEM 2B06, 2B33, 2C06, 2O33; registration in an Honours Biochemistry programme, Honours Molecular Biology and Biochemistry programme, or Honours Arts & Science and Biochemistry, or permission of the instructor
Antirequisite: CHEM 3D03

CHEM 3I03  INDUSTRIAL CHEMISTRY
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, 2B33, 2C03, 2E03, 2O3, 2O33 and one of CHEM 2C03, 2I03, 2O33, 2WW4, or registration in Level III or IV of a Chemical Engineering programme

CHEM 3P03  TRANSITION METAL CHEMISTRY
The chemistry of the heavier transition elements. An introduction to organometallic chemistry and bio-organic chemistry.
Two lectures, one lab (three hours); second term
Prerequisite: CHEM 3O3
Antirequisite: CHEM 3E06

CHEM 3Q03  INORGANIC CHEMISTRY
The properties, structures and reactions of inorganic compounds with emphasis on transition metal chemistry.
Two lectures, one lab (three hours); first term
Prerequisite: CHEM 2C03 (or 2D03 and 2E03) or one of CHEM 2W03, 2W04 with a grade of at least B-
Antirequisite: CHEM 3E06

CHEM 3L03  DIRECTED READING IN PHYSICAL CHEMISTRY
The linkage of microscopic and macroscopic descriptions of physical and chemical phenomena. Applications to molecules, macromolecules and solids.
Three lectures; one term
Prerequisite: CHEM 2PD6 or 2PB3 and registration or credit in CHEM 3B06 or 3B33
Antirequisite: CHEM 3K03

CHEM 4A03*  ADVANCED ORGANIC CHEMISTRY
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 3D03 or 3F03

CHEM 4B03  CHEMICAL APPLICATIONS OF SPECTROSCOPY
Aspects of molecular spectroscopies and their application to the solution of chemical problems.
Two lectures; one term
Prerequisite: CHEM 3B06 or 3B33 or both CHEM 3B03 and 3S03

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 2PD6 or 2PB3

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 C 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 C of at least 6.0 must apply for permission of the Department and will be considered, subject to the availability of suitable projects.
See the heading Coursés Requiring Permission 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. 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 2P03 or 2R03

CHEM 4Q03* **ADVANCED QUANTUM MECHANICS**
Applications of quantum mechanics to problems of chemical interest.  
Two lectures; one term  
Prerequisite: CHEM 3B03 or 3B06 or 3BB3 or both PHYSICS 3M03 and 3MM3

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 3E05 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, 3B03, 3C03, 3K05, 3K03  
Antirequisite: PHYSICS 3K03, 3K04

CIVIL ENGINEERING

Faculty as of January 15, 1998

Chair  
B. Baetz

Professor Emeritus


Gunhard, AE. Oravas/B.Sc., M.S. (Michigan)  
Wai K. Tso/B.Sc. (London), M.S., Ph.D. (Caltech), P.Eng.

Professors

Brian Baetz/B.A.Sc., M.A.Sc. (Toronto), Ph.D. (Duke), P.Eng.  

Ahmed Ghabarab/B.Sc. (Cairo), M.Eng., Ph.D. (McMaster), P.Eng.  
Frederick L. Hall/B.Sc. (Amherst), M.Sc. (M.I.T.), Ph.D. (Chicago)

Stan Piestruecz/B.Sc., M.Sc. (Warsaw), Ph.D. (Polish Acad. Sci)  


Associate Professors

Brian L. Allen/B.Sc. (Alberta), M.S., Ph.D. (California, Berkeley), P.Eng.  
Robert G. Horvath/B.Sc. (Windsor), M.E.Sc. (Western Ontario), Ph.D. (Toronto), P.Eng.


Adjunct Assistant Professor

Syed Moen/B.S. (Osmania), M.S. (Neveada), Ph.D. (McMaster)

Associate Members

William P. Anderson (Geography and Geology) M.A., Ph.D. (Boston)

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 2B04 **STRUCTURAL MECHANICS**
Mechanics of materials; plastic deformations 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 ENGINEER 2P04

CIV ENG 2D03 **GEOLGY FOR ENGINEERS**
Composition of earth; classification of rocks and minerals; weathering; geomorphology; subsurface exploration; groundwater; earth movements; case studies.  
Two lectures each week, one lab (three hours) or tutorial (two hours), every other week; second term

CIV ENG 2E03 **COMPUTER APPLICATIONS IN 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: ENGINEER 1D04, and PHYSICS 1D03, and credit or registration in ENGINEER 2P04

CIV ENG 2I03 **COMMUNICATIONS IN CIVIL ENGINEERING**
Oral and written communication in context of civil engineering activity. A professional liaison programme involving site visits.  
Two lectures, one lab or one tutorial; first term

CIV ENG 2J03 **ECOLOGICAL ASPECTS OF ENVIRONMENTAL ENGINEERING**
Two lectures, one tutorial (two hours); second term

CIV ENG 2K03 **FLUID MECHANICS**
Fluid properties; hydrostatics; continuity, momentum and energy equations; potential flow; laminar and turbulent flow; flow in closed conduits; open channel flow.  
Two lectures, one tutorial (one hour), one lab (two hours), every other week; second term  
Prerequisite: Credit or registration in ENGINEER 2P04 and 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; consolidation theory; numerical solutions.  
Two lectures, one lab (three hours) or one tutorial (two hours) every other week; first term  
Prerequisite: CIV ENG 2003

CIV ENG 3B03 **GEOTECHNICAL ENGINEERING II**
Soil shear characteristics and failure criteria for soils; direct shear, triaxial, plane strain and field tests; earth pressure theory; bearing capacity theory; slope stability and embankment analysis.  
Two lectures, one lab (three hours) or one tutorial (two hours), every other week; second term  
Prerequisite: Credit or registration in CIV ENG 3A03

CIV ENG 3G03 **STRUCTURAL ANALYSIS**
Structural analysis and modelling 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 cables 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 for behaviour of structures.
Three lectures, one lab (three hours); second term
Prerequisite: Credit or registration in 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, capacity and control for signalized and unsignalized intersections, and travel demand forecasting. Safety; flow on freeways.
Two lectures, one tutorial (two hours); second term
Prerequisite: CIV ENG 3G03 and credit or registration in MATH 3J04

CIV ENG 3Q03  WATER QUALITY MODELLING
Two lectures, one lab (three hours); first term
Prerequisite: CIV ENG 2J03, 2003 and MATH 2M00

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
Hydrologic cycle; climate; hydrologic processes, precipitation; unit hydrograph; hydrologic statistical mathematical modelling of hydraulic systems; unsteady free surface flow; hydrologic routing; groundwater flow.
Three lectures, one tutorial (three hours); first term
Prerequisite: CIV ENG 2E03 and registration in final level of a Civil Engineering programme

CIV ENG 4B03  ENGINEERING SYSTEMS
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

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 in design of intersections, interchanges, arterial highways, and freeways. Design concepts.
Three lectures, one lab (two hours); first term
Prerequisite: CIV ENG 3K03

CIV ENG 4G03  PAVEMENT MATERIALS AND HIGHWAY DESIGN
Components of highway pavements; ground water and drainage for highway facilities; soil compaction and stabilization; aggregates; bituminous and concrete materials, flexible pavement design; concrete pavement design; interlocking pavement structures.
Two lectures, one lab (three hours); second term
Prerequisite: CIV ENG 3B03

CIV ENG 4H03  LAND USE AND TRANSPORTATION
Methods for the analysis and prediction of transportation and land use patterns in cities, with application to urban planning and pollution problems.
Three lectures; first term
Prerequisite: MATH 3J04
Cross-list: GEO 4G03 (formerly GEOG 4H03)

CIV ENG 4K04  MODERN METHODS OF STRUCTURAL ANALYSIS
Stiffness method; development and applications in structural analysis. Introduction to finite element method. Influence lines, elastic stability analysis of frames with and without sway effects. Application of computer programs.
Three lectures, one tutorial (two hours); second term
Prerequisite: CIV ENG 3G03 and MATH 3J04

CIV ENG 4L04  DESIGN OF WATER RESOURCES SYSTEMS
Investigation, planning, analysis and design of water resources 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); first term
Prerequisite: CIV ENG 3G03, 3J04, 3S03

CIV ENG 4S04  FOUNDATION ENGINEERING
Principles of foundation design; bearing capacity, settlement and location, loadings, deep foundations, piles, pile groups and drilled piers; geotechnical techniques and case histories.
Three lectures, one tutorial (two hours); first term
Prerequisite: CIV ENG 3B03

CIV ENG 4W04  DESIGN OF LOW RISE BUILDINGS
Structural systems and load distribution, design of masonry, wood, cold-formed steel and braced and unbraced steel frames.
Three lectures, one tutorial (two hours); second 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); both 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, 1998

Chair
Katherine M. D. Dunbabin

Professors Emeriti
George M. Paul/M.A. (Oxford), Ph.D. (London)
Donald M. Shepherd/M.A. (Queen's), Ph.D. (Chicago)

Professors
Katherine M. D. Dunbabin/M.A., D. Phil. (Oxford)
The architecture, sculpture, and painting of the Roman world.
The architecture, sculpture, and painting of the Greek and Roman world.

Two lectures, one tutorial; two terms

CLASSICS

Cross-list: ART

Cross-list: HISTORY

Cross-list: COMP

Cross-list: HISTORY

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, slavery, marriage and family, and the role of women. Three lectures; one term

Prerequisite: Registration in Level II and above

Antirequisite: CLASSICS 2U03 or 2V03

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

Antirequisite: CLASSICS 2G06, HISTORY 2L06

Cross-list: HISTORY 2L03

CLASSICS 2L13

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 archeological evidence. (No Greek or Latin required.)

Three lectures; one term

Prerequisite: Registration in Level II and above

Antirequisite: CLASSICS 2G06, HISTORY 2L06

Cross-list: HISTORY 2L13

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: PHILGS 2A06

CLASSICS 2203

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 2203

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: CLASSICS 2C03 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 3103

TOPICS IN GREEK AND ROMAN LITERATURE I

Previous topics include: Greek and Roman Elegiac and Lyric Poetry, The Legend of the Trojan War, Satire. Consult the Department concerning the topic to be offered.

Three lectures; one term

Prerequisite: Six units of Classics

Cross-list: COMP LIT 3103

Alternates with CLASSICS 313.

CLASSICS 3103 may be repeated, if on a different topic, to a total of six units.

CLASSICS 3113

TOPICS IN GREEK AND ROMAN LITERATURE II

Topics include: Greek and Roman Epic. Consult the Department concerning the topic to be offered.

Three lectures; one term

Prerequisite: Six units of Classics

Cross-list: COMP LIT 3113

Alternates with CLASSICS 313.

CLASSICS 3113 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 2G06, 2K03, 2L03, 3L3, 3U3, and registration in Level III or IV of any Honours programme in Classics.
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 2G06, 2K03, 2L03, 3L3, 3U3, 3V3, and registration in Level III or IV of any Honours programme in Classics.
Antirequisite: CLASSICS 4C03, 4J03
Cross-list: PHILOS 4K03
Offered in alternate years.

CLASSICS 4T06 THESIS
Research and reading in Classics supervised by a Department member. A major paper is required as well as a formal oral examination.
Tutorials; two terms
Prerequisite: Registration in Level IV of any Honours programme in Classics, and permission of the Department.

GREEK ...

Notes:

1. Students should note that the Department has classified its Greek language courses under the following categories:
   - Introductory Level Language Course
     GREEK 1206
   - Intermediate Level Language Courses
     GREEK 2A03, 2AA3, 2R03
2. Students with OAC Ancient Greek should normally register in GREEK 2A03, but with special permission, may register in GREEK 1206.

Courses If no prerequisite is listed, the course is open.

GREEK 1206 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 a student's proficiency in reading Greek.
Three lectures; one term
Prerequisite: OAC Ancient Greek or GREEK 1206. Students using this course as a Humanities I requirement will register for GREEK 2A03 and 2R03 or for GREEK 2A03 and 2AA3.

GREEK 2AA3 INTERMEDIATE GREEK II
A study of selected passages from Greek authors designed to further the development of the student's proficiency in reading Greek.
Three lectures; one term
Prerequisite: GREEK 2A03

GREEK 2R03 GREEK LANGUAGE
A study of Greek grammar and style based chiefly upon reading selected passages from the works of Xenophon and translation from English to Greek.
Two lectures; two terms
Prerequisite: OAC Greek or GREEK 1206. Students using this course as a Humanities I requirement will also register for 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 4A03.

GREEK 3BB3  TOPICS IN GREEK LITERATURE I
Previous topics include: Homer, Aristophanes, Greek Tragedians. Consult the Department for the topic to be offered.
Three lectures; one term
Prerequisite: Six units of Level II Greek
Alternates with GREEK 4BB3.
GREEK 3BB3 may be repeated, if on a different topic, to a total of six units.

GREEK 4A03  ATTIC ORATORS
Selected readings from the speeches of Attic orators, such as Lysias and Demosthenes. The course will also include grammatical exercises.
Three lectures; one term
Prerequisite: Six units of Level II Greek
Alternates with GREEK 3A03.

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 GREEK 3BB3.
GREEK 4BB3 may be repeated, if on a different topic, to a total of six units.

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 3A03  ADVANCED LATIN
Readings from Latin authors. The course will also include grammatical exercises.
Three lectures; one term
Prerequisite: Six units of Level II Latin.
Alternates with LATIN 4A03.

LATIN 4BB3  TOPICS IN LATIN LITERATURE II
Consult the Department for the topic to be offered.
Three lectures; one term
Prerequisite: Six units of Level II Latin
Alternates with LATIN 3BB3.
LATIN 4BB3 may be repeated, if on a different topic, to a total of six units.

LATIN 4K03  GUIDED READING IN CLASSICAL LATIN AUTHORS
Selected readings from Classical 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.

LATIN 4R03  ADVANCED LATIN
Readings from Latin authors. The course will also include grammatical exercises.
Prerequisite: Six units of Level II Latin
Alternates with LATIN 3R03.

COMMERCE

Faculty as of January 15, 1998

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 Wissner

Chair, Management Science and Information Systems Area
Yufei Yuan

Professors Emeriti

Roy J. Adams/B.A. (Pennsylvania State), M.A., Ph.D. (Wisconsin)/Industrial Relations
Peter M. Balling/B.A., M.B.A. (McMaster), Ph.D. (Michigan State)/Marketing
Robert C. Joyner/B.A., M.A., Ph.D. (Toronto)/Organizational Behaviour
Winston H. Mahato/B.A. (London), B.Sc., M.Sc. (McGill), Ph.D. (Montreal)/Marketing
Randolph E. Ross/B.A. (Waterloo Lutheran), M.B.A., M.S., Ph.D. (Indiana)/Marketing
William J. Schlatter/A.B., A.M., Ph.D. (Illinois), CPA/Accounting
Andrew Z. Szendroviits/M.A., Ph.D. (Kolozsvar)/Production and Management Science
George W. Torrance/B.A., M.B.A. (Toronto), Ph.D. (SUNY-Buffalo), P. Eng./Management Science
William G. Truscott/B.S.E. (Princeton), M.B.A. (McMaster), D.B.A. (Indiana), P.Eng./Production and Management Science

Professors

Prakash L. Abad/B.Tech. (Indian Institute of Technology), M.S., M.B.A., Ph.D. (Cincinnati)/Management Science
Naresh 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, Innovation Research Centre/Director of the Management of Innovation and Technology Programme
**Courses**

**COMMERC 1503** 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.

Prerequisites: Registration in Business I or Engineering I

Antirequisites: BUSINESS 1A03, COMMERC 1A03

**COMMERC 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.

Prerequisites: ECON 1A05 or 1B05 (See Note 2 above.)

Antirequisites: BUSINESS 3W05

**COMMERC 2AB3** 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.

Prerequisites: COMMERC 2AA3 (See Note 2 above.)

Antirequisites: COMMERC 3AA3

**COMMERC 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.

(See Note 2 above.)

Antirequisites: KINESIOL 3L03
COMMERCE 2F3 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 1A05 or 1B03 and COMMERCE 2AA3 (See Note 2 above.)
Antirequisite: BUSINES3 3X03; ECONOMICS 2103

COMMERCE 2MA3 INTRODUCTION TO MARKETING
This course introduces the conceptual underpinnings and operational facets of marketing in a primarily consumer (as opposed to industrial) focus.
Prerequisite: ECON 1A05 or 1B03 (See Note 2 above.)
Antirequisite: BUSINESS 3Y03

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: OAC FINITE MATH or STATS 1L03 (See Note 2 above.)

COMMERCE 2KB3 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 1B03, 1S03, 1Z03 (See Note 2 above.)

COMMERCE 2Q03 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.

COMMERCE 3A3B3 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 2A3A

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 3A3B
Antirequisite: COMMERCE 3A4B

COMMERCE 3BC3 HUMAN RESOURCE MANAGEMENT AND LABOUR RELATIONS
This course builds on COMMERCE 2B3A, focusing on human resource management and labour relations issues and practices from a general management education perspective.
Prerequisite: COMMERCE 2B3A or KINESIOL 3L03 (See Note 2 above.)
Antirequisite: COMMERCE 3B3A, 3B3B, BUSINESS 3Z03

COMMERCE 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: COMMERCE 2F3A (See Note 2 above.)

COMMERCE 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: COMMERCE 2F3A

COMMERCE 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: COMMERCE 2FA3
Note: Not open to students with credit in COMMERCE 4FX3, SPECIAL TOPICS IN FINANCE, if taken in January 1994.

COMMERCE 3IN0 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 internship.

COMMERCE 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: COMMERCE 2MA3 and 2QA3 or STATS 3Y03

COMMERCE 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: COMMERCE 2MA3

COMMERCE 3MC3 APPLIED MARKETING MANAGEMENT
This course builds upon material in COMMERCE 2MA3 but is more applied in nature and covers the 4 P's in greater depth. It also has a heavier industrial and service sector component, and relies more on practical, real world cases. A major field project (student teams working with companies) is a critical part of the course.
Prerequisite: COMMERCE 2MA3 (See Note 2 above.)

COMMERCE 3QA3 MANAGEMENT SCIENCE FOR BUSINESS
This course is a study of analytical approaches that assist managerial decision-making; it provides coverage of decision theory and an introduction to optimization methods, computer simulation and the general approach of management science.
Prerequisite: COMMERCE 2QA3

COMMERCE 3QC3 PRODUCTION/OPERATIONS MANAGEMENT
An introduction to the production/operations function with emphasis on quantitative decision-making. Topics include: layout of facilities, aggregate planning, scheduling, inventory control and quality control.
Prerequisite: COMMERCE 3QA3, or registration in an Engineering and Management programme
Antirequisite: COMMERCE 4QA3, MECH ENG 4C03

LEVEL IV COMMERCE COURSES...

COMMERCE 4AA3 MANAGERIAL ACCOUNTING II
A consideration of advanced topics in management planning and control including cost behaviour determination, production planning, innovation in costing, cost allocations, variance analysis and performance evaluation for responsibility centres.
Prerequisite: COMMERCE 2B3A or 3A3A

COMMERCE 4AC3 FINANCIAL ACCOUNTING IV
An advanced accounting course considering specific problems of accounting for the corporate entity, such as, business combinations, intercorporate 'investments, and the trade-off in financing foreign operations.
Prerequisite: COMMERCE 3AC3 or 4AB3

COMMERCE 4AD3 INTRODUCTION TO AUDITING
An examination of the audit function in accounting including ethical, legal, and statutory influences in the development of auditing standards. Control structure and audit evidence will be examined.
Prerequisite: COMMERCE 3AB3

COMMERCE 4AE3 ACCOUNTING INFORMATION SYSTEMS
This course emphasizes the understanding of the roles of accounting information and information technology in managerial decision-making, operational support, stewardship, and organizational competitiveness.
Applications of concepts will be emphasized.
Prerequisite: COMMERCE 3AB3
COMMERCE 4AF3 ACCOUNTING THEORY
A review of accounting theory as a background for applying underlying concepts to current accounting problems. The course emphasizes current literature.
Prerequisite: Cred or registration in COMMERCE 3AC3 or 4AF3
Continuing Students refer to School of Business: Continuing Students.
COMMERCE 4AG3 ADVANCED ACCOUNTING TOPICS
This course extends the knowledge base of earlier accounting courses and deals with specific advanced accounting topics, such as the conceptual framework, standard setting, not-for-profit accounting and fiduciary accounting.
Prerequisite: COMMERCE 4AC3, 4AF3
Continuing Students refer to School of Business: Continuing Students.
COMMERCE 4AH3 ADVANCED AUDITING
This course considers a number of advanced topics concerning both the auditor and the audit profession. It builds on the knowledge of the audit task derived in earlier courses as well as on the technical skills and breadth of knowledge obtained in earlier accounting courses.
Prerequisite: COMMERCE 4AC3, 4AD3
Continuing Students refer to School of Business: Continuing Students.
COMMERCE 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: COMMERCE 4AC3, 4AD3
Continuing Students refer to School of Business: Continuing Students.
COMMERCE 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
COMMERCE 4AK3 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.
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
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
COMMERCE 4BD3 SETTLEMENT OF INDUSTRIAL DISPUTES
The nature and the role of industrial conflict as well as the techniques which have been developed to control the incidence of conflict in the workplace will be studied.
Prerequisite: COMMERCE 3BA3 or 3BC3, or LABR ST 2A03 or 2A06.
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
COMMERCE 4BF3 LABOUR LAW AND POLICY
An analysis of the conceptual framework and fundamentals of Canadian labour law and analysis of Canadian labour policy.
Prerequisite: COMMERCE 3BA3 or 3BC3, and subject to space availability
Cross-list: LABR ST 3C03
COMMERCE 4BG3 PUBLIC SECTOR COLLECTIVE BARGAINING
This course examines the current status of collective bargaining for public service employees in the public sector. Topics include: bargaining issues, bargaining outcomes and impasse resolution.
Prerequisite: COMMERCE 4BC3 and subject to space availability
Cross-list: LABR ST 4C03
COMMERCE 4BH3 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.
Prerequisite: COMMERCE 3BA3 or 3BC3 and subject to space availability
Cross-list: LABR ST 4D03
COMMERCE 4BJ3 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 3B03 or 3C03
Antirequisite: COMMERCE 4B3X, if taken in January 1994
COMMERCE 4BJ3 WOMEN IN BUSINESS
This course discusses the issues and challenges of women in business in an international context, across various professions and as entrepreneurs and business owners.
Cross-list: WOMEN ST 4BJ3
Not open to students with credit in COMMERCE 4G3X, SPECIAL TOPICS IN BUSINESS, if taken in January 1998.
COMMERCE 4BX3 SPECIAL TOPICS IN HUMAN RESOURCES/LABOUR RELATIONS
Various topics in Human Resources/Labour Relations are considered. They will vary depending upon recent developments in the field and upon the research interests of the instructor. The topics to be included are announced at the time of the course offering.
Prerequisite: Announced at time of offering
COMMERCE 4BX3 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 treatment of pricing, operational and personal factors which interact with financial factors.
Prerequisite: COMMERCE 3FA3
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
COMMERCE 4FE3 OPTIONS AND FUTURES
This course provides an integrated approach to understanding the relations between options, futures, and their underlying assets. The theory of pricing of options and futures and the application of the theory to instruments currently traded in financial markets are considered.
Prerequisite: COMMERCE 3FA3
COMMERCE 4FF3 PORTFOLIO THEORY AND MANAGEMENT
This course explores the roles and functions of financial institutions and their application to corporate finance and private wealth management. Topics covered include risk, return, performance measurement, and the role of information in financial decision-making.
Prerequisite: COMMERCE 3FA3
Antirequisite: COMMERCE 4FC3
COMMERCE 4FG3 FINANCIAL THEORY
This course is open to students who have completed a basic course in financial management and who are interested in advanced topics in financial management. Topics covered include financial management, capital budgeting, accounting and financial economics.
Prerequisite: COMMERCE 3FA3
Antirequisite: COMMERCE 4FB3
COMMERCE 4FX3 SPECIAL TOPICS IN FINANCE
Various topics in Finance are considered. They will vary depending on recent developments in the field and upon the research interests of the instructor. The topics to be included are announced at the time of the course offering.
Prerequisite: Announced at time of offering
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
COMMERCE 4MD3  BUSINESS MARKETING
An overview of business marketing including: derived demand, vendor analysis, the multiple buying unit, value analysis, competitive bidding, industrial design, key accounts, and trade shows.
Prerequisite: COMMERCE 3MC3

COMMERCE 4MX3  SPECIAL TOPICS IN MARKETING, POLICY AND INTERNATIONAL BUSINESS
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. The topics to be included are announced at the time of the course offering.
Prerequisite: Announced at the time of offering
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.

COMMERCE 4QB3  ANALYSIS OF PRODUCTION OPERATIONS PROBLEMS
An examination of mathematical 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 3GC3 or 3DA3, or MECHE ENG 4C03

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: COMMERCE 3QA3, or registration in an Engineering and Management programme

COMMERCE 4OD3  MANAGEMENT SUPPORT SYSTEMS
This course examines the database approach and model building, in supporting managerial decision making processes.
Prerequisite: COMMERCE 2OB3 or 3OB3

COMMERCE 4OE3  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: COMMERCE 2OB3 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 4OF3  PROJECT MANAGEMENT
Topics include: project selection, project organization structures, life cycles, planning, estimation, budgeting, resource allocation, contracting, project management software, reporting and controlling issues and conflict management.
Prerequisite: COMMERCE 2BA3 and 3QCA3 or registration in an Engineering and Management programme

COMMERCE 4OG3  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: COMMERCE 2QA3 and 3QCA3, or registration in an Engineering and Management programme

COMMERCE 4OX3  SPECIAL TOPICS IN MANAGEMENT SCIENCE/INFORMATION SYSTEMS
Various topics in Management Science/Information Systems are considered. They will vary depending upon recent developments in the field and upon the research interests of the instructor. The topics to be included are announced at the time of the course offering.
Prerequisite: Announced at the time of offering
COMMERCE 4OX3 may be repeated, if on a different topic, to a total of six units.

COMMERCE 4SA3  INTERNATIONAL BUSINESS
The key features of, and trends in, the global business environment. The implications of cultural and political differences. Comparative operational practices and multinational management.
Prerequisite: Registration in Level IV of a Commerce programme or Level V of an Engineering and Management programme
Antirequisite: COMMERCE 4PE3

COMMERCE 4SB3  INTRODUCTION TO CANADIAN TAXATION
The principles of Canadian federal income taxation are examined in detail, emphasizing the application of both statute and common law to individuals' and businesses' situations.
Prerequisite: COMMERCE 3AB3 and 3FA3
Antirequisite: COMMERCE 4PB3

COMMERCE 4SC3  ADVANCED CANADIAN TAXATION
This course continues the study of Canadian federal income taxation with an in-depth coverage of selected provisions of the Income Tax Act pertaining to business activities, particularly the activities of corporations.
Prerequisite: COMMERCE 4SB3 or 4PB3
Antirequisite: COMMERCE 4PC3

COMMERCE 4SD3  COMMERCIAL LAW
This course emphasizes those areas of law which are most relevant to business activity. Particular attention is given to the law relating to contracts and business organizations. Other areas of study include: sources of law, the judicial process, real and personal property, torts, agency, credit and negotiable instruments.
Antirequisite: COMMERCE 4PD3, BUSINESS 4V03

COMMERCE 4SE3  ENTREPRENEURSHIP
The problems and experiences encountered in starting and developing new enterprises will be studied. A cornerstone of the course is the development of a detailed business plan for a local entrepreneur.
Prerequisite: COMMERCE 3FA3 and one of Commerce 3MA3, 3MC3

COMMERCE 4SX3  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 4SX3 may be repeated, if on a different topic, to a total of six units.

COMMERCE 4SY3  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

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 July 1, 1998

Chair
Paul A. Taylor

Professor Emeritus
Gerald L. Keech/B.A.Sc. (Toronto), M.Sc., Ph.D. (McMaster)

Professors
J. Ryan! (Toronto), Gerald Janicki/B.A.Sc. (Warsaw), Ph.D., D.Hab. (Polish Acad. Sci.)

Peter E. Lauwer/B.A. (Alabatna), M.A. (Emory), Ph.D. (Queen's, Belfast)

David L. Parnes/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.

Patrick J. Ryan! B.Sc. (Toronto), Ph.D. (Brown)


Paul A. Taylor/B.Sc., Ph.D. (Univ. of Wales), P.Eng.
Associate Professors
Iven Bruhat/Dipl. Ing. (CVUT, Prague), RNDr (Charles, Prague), Ph.D. (CVUT, Prague)
Frantisek Fraenek/M.Sc., RNDr (Charles, Prague), Ph.D. (Toronto)
Tao Jiang/B.Sc. (Univ. of Sci. and Tech. of China, Hefei), Ph.D. (Minnesota)
W.F. Skipper Poehlman/B.S. (Niagara), B.Sc. (Brock), M.Sc., Ph.D. (McMaster), Ph.Eng.
Sanzheng Qiao/B.S., M.S. (Shanghai Teacher's College) M.S., Ph.D. (Cornell)
Jeffery I. Zucker/B.Sc. (Witwatersrand), Ph.D. (Stanford)

Assistant Professors
David G. Jones/B.Sc. (Western Ontario), Ph.D. (Stanford)
Barbara E. Ley/B.Sc. (Brock), M.Sc., Ph.D. (Toronto)/part-time
Emil Sekorinski/Dipl.Ing., Ph.D. (Karlsruhe)
Martin von Mohrenschildt/Dipl.Math., Dr.sc.Math. (ETH-Zürich)

COMPUTING AND SOFTWARE

Department Notes:
1. The Department of Computer Science and Systems will cease to exist effective July 1, 1998 and responsibility for all Computer Science courses will be transferred to the Department of Computing and Software housed within the Faculty of Engineering.

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, 3MC3, 3OB3, 3SD3, 3SE3
- **Business-oriented students:** COMP SCI 1BA3, 1MC3, 1MD3, 2ME3, 2SC3, 3SE3, 4EC3
- **Social Sciences and Humanities students:** COMP SCI 1SA3, 2SC3, 3SE3

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 1A03, 1A66, 1C06, 1N06 or 1N03 and 1NN3 or ARTS & SCI 1D06 can serve as an equivalent prerequisite for upper level Computer Science courses in which MATH 1A03, 1C03 or 1AA3 is a prerequisite.

5. COMP SCI 1MC3 can be used as a substitute for COMP SCI 1MC1, COMP SCI 1MB3 can be used as a substitute for 1MD3, and COMP SCI 2MC3 can be used as a substitute for COMP SCI 2SC3.

6. It is possible to take COMP SCI 1MD3 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

- **COMP SCI 1BA3** INTRODUCTION TO COMPUTING AND COMPUTER USE FOR BUSINESS
  - Organization of microcomputers; DOS and WINDOWS; problem solving using electronic spreadsheets, with business applications; basics of word processing/desktop publishing; elementary database concepts, computer communications.
  - Three lectures, one tutorial; one term
  - Prerequisite: Registration in the School of Business and one OAC Mathematics credit, or one of MATH 1K03, 1K03, STATS 1L03

- **COMP SCI 1MC3** COMPUTER SCIENCE I
  - Essentials of Computer Science: machine architecture, data structures, operating systems, problem solving and programming paradigms; programming language features; software engineering; artificial intelligence.
  - Three lectures, one tutorial; one term
  - Antirequisite: COMP SCI 1MA3, ENGINEER 1D04

- **COMP SCI 1MD3** COMPUTER SCIENCE II
  - A second course in Computer Science; abstract data models and data structures; virtual memory and memory allocation; advanced programming paradigms: recursion, functional programming, communication protocols; logic, finite-state machines and complexity.
  - Three lectures, one tutorial; one term
  - Prerequisite: One of COMP SCI 1MC3, ENGINEER 1D04, or a grade of at least B+ in COMP SCI 1SA3 and credit or registration in one of MATH 1A03, 1B03, 1C03, 1M03
  - Antirequisite: COMP SCI 1MB3

- **COMP SCI 1SA3** COMPUTING FUNDAMENTALS
  - Overview of the computer as a tool for problem solving; introduction to programming concepts; software tools; application packages; communication and networks; the Internet; free speech and privacy.
  - Three lectures, one tutorial; one term
  - Not open to students with credit or registration in COMP SCI 1MC3 or 1Z03 or 1BA3.

- **COMP SCI 2MD3** ADVANCED DATA STRUCTURES AND ALGORITHMS
  - Commonly used abstract data types such as lists, stacks, queues, sets, and trees and their applications and efficient implementations; fast sorting, matching, and graph algorithms and complexity; emphasis on theoretical analysis.
  - Three lectures, one term
  - Prerequisite: COMP SCI 1MD3

- **COMP SCI 2MF3** INTRODUCTION TO COMPUTER ARCHITECTURE
  - Introduction to the structure of computer systems; organization of central processing units, memory subsystems and input/output devices; introduction to machine language, assembler programming and system software.
  - Two lectures, one lab (two hours); one term
  - Prerequisite: One of COMP SCI 1MC3, ENGINEER 1D04 or a grade of at least B+ in COMP SCI 1SA3

- **COMP SCI 2MB3** DISCRETE STRUCTURES
  - Three lectures; one term
  - Prerequisite: One of MATH 1B03, 1H05, STATS 1CC3

- **COMP SCI 2SB3** COMPUTATIONAL METHODS FOR SCIENCE AND ENGINEERING
  - Three lectures; one term
  - Prerequisite: One of COMP SCI 1MC3, 1SA3, ENGINEER 1D04 and either MATH 1H05 and 1N06 or (1N03) or MATH 1A03 and 1B03
  - Antirequisite: COMP ENG 2K03
  - Offered in alternate years.

- **COMP SCI 2SC3** DESIGN AND IMPLEMENTATION OF C PROGRAMS
  - Data types, arithmetic/logical expressions, iterative constructs, pointers and pointer arithmetic. Modulatization. Linked data structures and their applications. Mathematics development and testing, programming style.
  - Three lectures, one tutorial; one term
  - Prerequisite: One of COMP SCI 1MC3, 1SA3, ENGINEER 1D04 and credit in one of MATH 1A03, 1B03, 1C03, 1H05, 1M03, 1N03 or 1N06

- **COMP SCI 3CB3** SYSTEM ARCHITECTURE FOR INTERACTIVE APPLICATIONS
  - A second course in computer architecture with special emphasis on the implementation of virtual-machine language processors (e.g. Forth, Java) and their use for implementing server-client software architecture.
  - Three lectures; one term
  - Prerequisite: COMP SCI 2MF3
  - Offered in alternate years.
  - Offered in 1998-99.
COMP SCI 3EA3  SELECTED TOPICS IN SOFTWARE ENGINEERING
Methodologies for the development and maintenance of large programs. Problem specification, program design, implementation, software reliability, testing and modularity. One large team project.
Three lectures; one term
Prerequisite: COMP SCI 2ME3, and either COMP SCI 2MD3 or COMP ENG 2SI4 or 2YA3
Antirequisite: COMP ENG 3VA3

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 or COMP ENG 2SI4 or 2YA3 and either one of MATH 2B06, 2J06, 2M06, 2Q04 or MATH 2R03 and one of MATH 2S03, 2T03

COMP SCI 3IA3  LIST PROCESSING AND LOGIC PROGRAMMING
Data and control structures for AI systems: symbolic expressions, lists, list processing functions, backtracking, matching procedures; LISP (including forms, arrays, loops); resolution principle; introduction to PROLOG.
Three lectures; one term
Prerequisite: COMP SCI 2MF3 or COMP ENG 2DI4 or 2HA3

COMP SCI 3MH3  PRINCIPLES OF OPERATING SYSTEMS
Concepts of operating systems; process coordination, memory management, file systems; introduction to distributed systems and computer networks.
Three lectures; one term
Prerequisite: COMP SCI 2MD3 or 3MG3 or COMP ENG 2SI4 or 2YA3 and 3ME3
Antirequisite: COMP ENG 4WA3

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 or COMP ENG 2SI4 or 2YA3

COMP SCI 3SD3  COMPUTER SIMULATION TECHNIQUES
Techniques for the application of computer simulation software to scientific and engineering problems, especially queueing and network problems.
Three lectures; one term
Prerequisite: One of COMP SCI 1MD3, 2SB3, COMP ENG 2SI4 or 2YA3

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: One of COMP SCI 1MC3, 1SA3, ENGINEER 1D04

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, 1A06, 1A07, 1C03, 1C06, 1N06 (or 1N03) ART & 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 COMP ENG 3HB3 or credit or registration in PHYSICS 4D6e or 4DA3, 4DB3

COMP SCI 4GC3  ADVANCED OPERATING SYSTEMS
Modern operating systems: large-scale distributed to small real-time operating systems; microcomputer/mainframe interconnections; message passing techniques; networks; distributed deadlock and shared memory models; extended file systems and shared resources.
Two lectures; one lab; one term
Prerequisite: COMP SCI 3MG3 or COMP ENG 3HB3 Offered in alternate years.

COMP SCI 4CD3  DISTRIBUTED SYSTEM ARCHITECTURES
Distributed systems: real-time, agent-oriented, heterogeneous, multi-computer, multi-processor; coupling schemes: leaky, tight; networking, ATM, frame relay, clustering, software protocols; communication strategies, client/server approaches.
Two lectures; one term
Prerequisite: COMP SCI 2MD3 or COMP ENG 2SI4 or 2YA3

COMP SCI 4EC3  OBJECT-ORIENTED SOFTWARE ENGINEERING
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 or COMP ENG 2SI4 or 2YA3

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 or COMP ENG 2SI4 or 2YA3

COMP SCI 4EE3  SOFTWARE ENGINEERING 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 or COMP ENG 3VA3

COMP SCI 4EA3  FORMAL TECHNIQUES IN SOFTWARE ENGINEERING
Software engineering principles: rigour and formality, separation of concerns, modularity, abstraction. Software design, specification and verification.
Three lectures; one term
Prerequisite: COMP SCI 3EA3 or COMP ENG 3VA3
Offered in alternate years.

COMP SCI 4GB3  COMPUTATIONAL GEOMETRY
Discrete geometry from an algorithmic point of view. Searching, subdivision, proximity and intersection. Applications to problems in object modelling, 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
Offered in alternate years.

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 or COMP ENG 2YA3 or COMP ENG 2SH
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: COMP SCI 2MD3, and either COMP SCI 2M3J or one of MATH 2M06, 2Q04, or MATH 2R03, and one of MATH 2S03, 2T03
Antirequisite: COMP SCI 4ZP6, COMP ENG 4JA4

COMP SCI 4T03 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 2M3J or one of MATH 2M06, 2Q04, or MATH 2R03, and one of MATH 2S03, 2T03
Antirequisite: MATH 4503
Offered in alternate years.

COMP SCI 4Z03 DIRECTED READINGS
Directed readings in an area of computer science of interest to the student and the instructor.
Prerequisite: Permission of the Chair of the Department and registration in Level IV of an Honours programme in Computer Science.
See the heading Courses Requiring Permission in the Faculty of Science section of the Calendar.

COMP SCI 4Z10 INQUIRY IN COMPUTER SCIENCE
Research and directed readings dealing with the impact of computers 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 3E3A is strongly recommended.
Antirequisite: COMP ENG 4JA4, COMP SCI 4MP6

Collaborative Course Offerings
The Department is participating in an experimental venture with the University of Guelph to provide courses over the Video Link. The enrolment in these courses is limited by the capacity of the Video Link room. COMP SCI 4T03 is given by McMaster University and will be offered as a regular course in the case that there will not be a sufficient interest by the students of the University of Guelph. COMP SCI 4EG3 and 4GG3 are given by the University of Guelph and may be cancelled for reasons outside of our control. The courses provided via the link are:

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 2ME3 and 3E3A
Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

COMP SCI 4G03 HUMAN COMPUTER INTERACTION
Methods for user software design, interface representations, testing; evaluation and design of sample application systems; design of computer-based information systems on individuals and organizations; implementation and testing tools.
Four hours (lectures and tutorials); one term
Prerequisite: COMP SCI 3E3A and 3M13
Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

COMP SCI 4T03 COMPILER CONSTRUCTION
Lexical analysis; scanner construction; syntax analysis and syntax-directed translation; compiler and syntax-directed optimization.
Two lectures, one lab or tutorial (three hours); second term
Prerequisite: Registration in Level IV of Computer Science programme or Level IV or V Computer Engineering
Cross-list: COMP ENG 4HF3
Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

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: ENGR 1D04
Corequisite: SFWR ENG 2E03, 2F03

SFWR ENG 2B04 SOFTWARE DESIGN II
Software system design, documentation, implementation, inspection and testing. Requirements documentation. Designing large sequential programs including precise documentation, modularization, module interface design, hierarchical structures; project organization.
Three lectures, one lab (three hours); second term
Prerequisite: SFWR ENG 2A04, 2E03, 2F03
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
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
Corequisite: SFWR ENG 2B04

SFWR ENG 2E03 APPLICATIONS OF DISCRETE MATHEMATICS IN SOFTWARE ENGINEERING
Three lectures; first term
Prerequisite: ENGR 1D04
Corequisite: SFWR ENG 2A04

SFWR ENG 2F03 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; Mechanized theorem-proving systems.
Three lectures; first term
Prerequisite: ENGR 1D04
Corequisite: SFWR ENG 2A04
EXPLAINING SOFTWARE

The following courses will be offered in 1999-2000 and are subject to change. The approved courses will appear in the 1999-2000 Calendar.

SFWR ENG 3B04 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; one term
Prerequisite: Completion of Level II of any Software Engineering programme

SFWR ENG 3G03 OPTIMIZATION METHODS, GRAPH THEORETIC MODELS, SEARCH AND MINING 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 term
Prerequisite: Completion of Level II of any Software Engineering programme

SFWR ENG 3E03 DESIGN AND SELECTION OF 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.
Three lectures; one term
Prerequisite: Completion of Level II of any Software Engineering programme

SFWR ENG 3F03 MACHINE-LEVEL COMPUTER PROGRAMMING
Three lectures; one term
Prerequisite: Completion of Level II of any Software Engineering programme

SFWR ENG 3G03 ARCHITECTURE OF COMPUTERS AND MULTI-PROCESSORS
Three lectures; one term
Prerequisite: Completion of Level II of any Software Engineering programme

SFWR ENG 3H03 DATA MANAGEMENT TECHNIQUES
Three lectures; one term
Prerequisite: Completion of Level II of any Software Engineering programme

SFWR ENG 3I03 COMMUNICATION SKILLS - EXPLAINING SOFTWARE
Writing technical (reference) documentation and user (introductory) software documentation. Explaning software to expert and user audiences. Document structure. Writing precise software contracts.
Three lectures; one term
Prerequisite: Completion of Level II of any Software Engineering programme

SFWR ENG 3J03 SOFTWARE AND SOCIAL RESPONSIBILITY
Historical development of engineering. Professional responsibilities of software engineers, privacy, effects of automation on jobs, software trustworthiness, computers and law enforcement, computers in public safety.
Three lectures; one term
Prerequisite: Completion of Level II of any Software Engineering programme

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

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 4G03 COMPUTER NETWORKS AND COMPUTER SECURITY
Three lectures; one term
Prerequisite: Completion of Level III of any Software Engineering programme

SFWR ENG 4H03 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

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

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

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
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DRAMA 2A06</td>
<td>THE ART OF ACTING</td>
<td>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. Three studio (two hours); two terms. Prerequisite: DRAMA 1A06, with a grade of at least B-. Enrolment is limited. Priority is given to students enrolled in Drama programmes.</td>
</tr>
<tr>
<td>DRAMA 2D06</td>
<td>THE DRAMATIC TEXT</td>
<td>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.</td>
</tr>
<tr>
<td>DRAMA 2M06</td>
<td>HISTORY OF THEATRICAL PERFORMANCE IN THE WESTERN WORLD</td>
<td>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.</td>
</tr>
<tr>
<td>DRAMA 2X06</td>
<td>THE ART OF THE FILM</td>
<td>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. Cross-list: ART HIST 2X06.</td>
</tr>
<tr>
<td>DRAMA 3A03</td>
<td>TOPICS IN ACTING</td>
<td>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 studio (three hours); one term. Prerequisite: DRAMA 2A06. Enrolment is limited. Drama 3A03 may be repeated, if on a different topic, to a total of six units.</td>
</tr>
<tr>
<td>DRAMA 3A03</td>
<td>ACTING SHAKESPEARE</td>
<td>The study and performance of scenes from the works of William Shakespeare. Extension of acting skills through specific voice, body and language techniques. Two studio (three hours); one term. Prerequisite: DRAMA 2A06. Enrolment is limited. Priority is given to students enrolled in Drama programmes.</td>
</tr>
<tr>
<td>DRAMA 3B03</td>
<td>INDEPENDENT STUDY IN DRAMA I</td>
<td>Prerequisite: Registration in a programme in Drama and permission of the instructor.</td>
</tr>
<tr>
<td>DRAMA 3C03</td>
<td>MODERN EUROPEAN DRAMA FROM IBSEN TO PIANARDELLO</td>
<td>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: CCOMP LIT 3E53. Offered in alternate years.</td>
</tr>
<tr>
<td>DRAMA 3C03</td>
<td>MODERN EUROPEAN DRAMA FROM BRECHT TO THE PRESENT</td>
<td>A study of representative plays by ten major dramatists, including Garcia Lorca, Cocteau, Frisch, Sartrt, Weiss, Genet, Dario Fo. One seminar (two hours); plus play readings; one term. Prerequisite: Six units of Level II Drama. Cross-list: CCOMP LIT 3C33. Offered in alternate years.</td>
</tr>
<tr>
<td>DRAMA 3D03</td>
<td>THEATRE PRODUCTIONS</td>
<td>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.</td>
</tr>
<tr>
<td>DRAMA 3F03</td>
<td>OPERA II: ROMANTIC TO MODERN</td>
<td>An analysis of selected operatic works from 1850 to the present, tracing the evolution of opera as a theatrical and musical form. Three lectures; one term. Prerequisite: Registration in Level II or above. One of DRAMA 3F03, 3I03 is recommended. Offered in alternate years. DRAMA 3F03 may be repeated, if on a different topic, to a total of six units.</td>
</tr>
<tr>
<td>DRAMA 3G03</td>
<td>PERFORMANCE HISTORY BEFORE 1600</td>
<td>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.</td>
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<tr>
<td>DRAMA 3H03</td>
<td>LITERATURE AND FILM</td>
<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. 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: ART HIST 3C33, COMP LIT 3L03, ENGLISH 3C33. Offered in alternate years.</td>
</tr>
<tr>
<td>DRAMA 3I03</td>
<td>OPERA I: RENAISSANCE TO ROMANTIC</td>
<td>An analysis of selected operatic works from 1600 to 1850, exploring the nature of opera as a theatrical and musical form. Three lectures; one term. Prerequisite: Registration in Level II or above. Offered in alternate years.</td>
</tr>
<tr>
<td>DRAMA 3J03</td>
<td>TOPICS IN FILM</td>
<td>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: Registration in Level III or IV of a programme in Drama or Literature or Art History. DRAMA 2X06 is recommended. Cross-list: ART HIST 4S03. DRAMA 3J03 may be repeated, if on a different topic, to a total of six units.</td>
</tr>
<tr>
<td>DRAMA 3L03</td>
<td>MODERN EUROPEAN THEATRE HISTORY</td>
<td>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: Registration in Level II or above. Offered in alternate years.</td>
</tr>
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<td>DRAMA 3L03</td>
<td>MODERN EUROPEAN THEATRE HISTORY</td>
<td>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: Registration in Level II or above. Offered in alternate years.</td>
</tr>
<tr>
<td>DRAMA 3L03</td>
<td>MODERN EUROPEAN THEATRE HISTORY</td>
<td>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: Registration in Level II or above. Offered in alternate years.</td>
</tr>
</tbody>
</table>
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
Cross-list: ART HIST 3F03

DRAMA 3R03 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
Cross-list: ART HIST 3F03

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: ART HIST 3T03 and Modern Languages 3T03
DRAMA 3T03 may be repeated, if on a different topic, to a total of six units.

DRAMA 3T13 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: ART HIST 3T13 and MOD LANG 3T13
DRAMA 3T13 may be repeated, if on a different topic, to a total of six units.

DRAMA 3203 INDEPENDENT STUDY IN PRACTICAL THEATRE
Prerequisite: Registration in a programme in Drama and permission of the instructor

DRAMA 4A03 INDEPENDENT STUDY IN DIRECTING
The preparation and production of a play in the context of the historical and theoretical principles of directing.
Prerequisite: DRAMA 2A06 and one of 3A03, 3A06, 3D03; and registration in Level IV of an Honours 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.
Prerequisite: DRAMA 4A06
Enrolment is limited and is based on academic achievement

DRAMA 4B03 INDEPENDENT STUDY IN DRAMA II
Prerequisite: Registration in a programme in Drama and permission of the instructor

DRAMA 4C03 STUDIES IN THEATRE AND FILM
Senior seminar: A comparative examination of the performance, visual, and narrative techniques of theatre and film, including specific examples of adaptation.
Seminar (two hours), plus weekly film screening; one term
Prerequisite: Registration in Level IV of an Honours programme in Drama
Cross-list: ART HIST 4C03
Offered in alternate years.
Enrolment is limited.

DRAMA 4C03 STUDIES IN THE THEORY AND PRACTICE OF DRAMA
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.

DRAMA 4E03 STUDIES IN THE THEORY OF DRAMA AND THEATRE
Senior seminar: An examination of theoretical documents from the Greeks to the present.
Seminar (two hours); one term
Prerequisite: Registration in Level IV of an Honours programme in Drama
Offered in alternate years.
Enrolment is limited.

DRAMA 4E03 STUDIES IN CONTEMPORARY DRAMA
Senior seminar: An examination of selected plays from western drama written since 1950.
Seminar (two hours); one term
Prerequisite: Registration in Level IV of an Honours programme in Drama
Offered in alternate years.
Enrolment is limited.

DRAMA 4E03 STUDIES IN FILM
Senior seminar: An examination of selected films.
Seminar (two hours); one term
Prerequisite: Registration in Level IV of an Honours programme in Drama.
DRAMA 2X06/ART HISTORY 2X06 is recommended.
Cross-list: ART HIST 4E03
Offered in alternate years.
Enrolment is limited.

ECONOMICS

Faculty as of January 15, 1998

Chair
Stuart Mestelman

Associate Chair
Stephen R.G. Jones

University Professor
Martin J. Browning/B.Sc., M.Sc. (London)

Professors Emeriti
Syed Ahmad/M.A., LL.B. (Aligarh), M.Sc., (Econ.), D.Sc. (Econ.) (London)
James A. Johnson/M.A., Ph.D. (Minnesota)
William R. Scammell/B.Comm.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)
ECONOMICS

Professors

John B. Burbidge/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)
Atif A. Kubursi/B.A. (American University, Beirut), M.A., Ph.D. (Purdue)
Peter J. Kuhn/B.A. (Calteleon), Ph.D. (Harvard)
John E. Leach/B.A. (Alberta), M.A., Ph.D. (Queen’s)
Wayne Lewchuk/M.A. (Toronto), Ph.D. (Cambridge)
Lonnie J. Magee/B.A. Math. (Waterloo), M.A., Ph.D. (Western Ontario)
Stuart Mestelman/B.A. (Pittsburgh), M.S., Ph.D. (Purdue)
R. Andrew Muller/B.A. (McGill), M.A., Ph.D. (Toronto)
Ernest H. Oksanen/M.A. (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.Sc. (Louvain)
A. Leslie Robb/B.A., M.A. (British Columbia), Ph.D. (Essex)
William M. Scarth/B.A. (Queen’s), M.A. (Essex), Ph.D. (Toronto)
Byron S. Spencer/B.A. (Queen’s), Ph.D. (Ryerson)
Michael R. Veall/B.A. (McMaster), M.A. (Western Ontario), Ph.D. (Michael T.)
J. Douglas Welland/B.A. (McMaster), M.A., Ph.D. (Minnesota)

Associate Professors

David W. Butterfield/B.S., M.S. Eng. (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

Alok 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 Girolomonti/(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. (Wisconsin-Madison)
I. Krinsky/(Business) B.A., M.A., Ph.D. (McMaster)
D.C. Mount/(Business) B.A. (McMaster), M.A., Ph.D. (Western Ontario)
Gregory L. Stockard/(Clinical Epidemiology and Biostatistics) B.A. (Western Ontario), Ph.D. (British Columbia)

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 counsellor is required. If approval is granted, the counsellor 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.

5. Students who complete ECON 2103 are well placed to enroll in the Canadian Securities Course (a correspondence course operated by the Canadian Securities Institute which represents the licensing requirement for individuals training to become investment advisors).

Courses

If no prerequisite is listed, the course is open.

ECON 1A06 INTRODUCTORY ECONOMICS
An introduction to the method and theory of economics, and their application to the analysis of contemporary economic problems.
Three hours; two terms
Antirequisite: ECON 1B03 and 1BB3

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 hours; one term
Prerequisite: Registration in an Engineering, Kinesiology or Science programme
Antirequisite: ECON 1A06

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 hours; 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 hours; one term
Prerequisite: ECON 1A06, or 1B03 and 1BB3
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 hours; one term
Prerequisite: ECON 1A06 or 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 3003, CHEM ENG 4C03, COMMERCE 2Q03, GEO 2S03, GEOG 2L03, 2N03, POL SCI 2P06, 3N06, PSYCH 2G03, 2R03, 2R73, SOC SCI 2R03, SOCIO 2Y03, 3H06, STATS 1C03, 2M03, 2M06, 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. 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 or 1B03 and 1BB3
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 hours; one term
Prerequisite: ECON 1A06 or 1B03 and 1BB3

ECON 2E03 DEFICIT REDUCTION AND THE NATIONAL DEBT
This course explores the ways in which monetary and fiscal policies affect national income and its distribution. Particular attention is paid to deficit reduction, tax reform, income-support measures and unemployment.
Three hours; one term
Prerequisite: ECON 1A06 or 1B03 and 1BB3

ECON 2F03 GLOBALIZATION AND ECONOMIC DEVELOPMENT
This course explores the political economy of development. Topics include: globalization, armaments and questions of equity and sustainability in the growth process.
Three hours; one term
Prerequisite: ECON 1A06 or 1B03 and 1BB3

ECON 2G03 INTERMEDIATE MICROECONOMICS I
Elements of production and cost; price and output determination under competitive and non-competitive market structures; the role of taxes and subsidies.
Three hours; 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
theory of consumer choice and applications to intertemporal choice and labour supply decisions; theory of exchange, welfare economics and general equilibrium analysis.

Three hours; 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 hours; 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 2H13 INTERMEDIATE INCOME AND EMPLOYMENT THEORY II
Selected topics from macroeconomics policies, issues in unemployment and inflation in open and closed economies, components of aggregate demand and supply and economic growth.

Three hours; 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 hours; one term
Prerequisite: ECON 1A06 or 1B03 and 1BB3
Antirequisite: COMMERCE 2FA3

ECON 2L03 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 hours; one term
Prerequisite: ECON 1A06 or 1B03

ECON 2M03 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 hours; one term
Prerequisite: ECON 1A06 or 1B03 and 1BB3

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 bailout activity on the Canadian business environment are also analyzed.

Three hours; one term
Prerequisite: ECON 1A06 or 1B03 and 1BB3
Antirequisite: ECON 2N06

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 hours; 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 hours; one term
Prerequisite: ECON 1A06 or 1B03 and 1BB3
Cross-list: LABR ST 3803
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 hours; one term
Prerequisites: 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 2X03.
Antirequisite: ECON 2L06

Not open to students registered in Economics programmes.

ECON 3A03 ADVANCED ECONOMIC THEORY I
Mathematically oriented approaches to the analysis of the behaviour of individual consumers, workers and firms.

Three hours; one term
Prerequisite: MATH 1M03 and an average of at least 7.0 in ECON 2G03 or 2X03, 2GG3 (or 2L06), 2H03, 2H13 (or 2M06) and ECON 3G03
Offered in 1998-99, 2000-2001 and alternate years thereafter.

ECON 3A03 ADVANCED ECONOMIC THEORY II
Analysis of dynamic macroeconomic models, including models of endogenous growth and other selected topics.

Three hours; one term
Prerequisite: MATH 1M03 and an average of at least 7.0 in ECON 2G03 or 2X03, 2GG3 (or 2L06), 2H03, 2H13 (or 2M06) and ECON 3G03
Offered in 1998-99, 1999-2000, and alternate years thereafter.

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 hours; 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 hours; 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 hours; one term
Prerequisite: One of ECON 2G03, 2X03, 2L06
Antirequisite: ECON 3C06

ECON 3E03 TOPICS IN LABOUR ECONOMICS
Topics will vary from year to year. The following are given as examples: economic goals and effects of unions; labour mobility; labour force participation; wage differentials; discrimination; unemployment.

Three hours; one term
Prerequisite: ECON 3D03, and 2B03 or 3C06 or an equivalent Statistics course

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 hours; one term
Prerequisite: One of OAC Finite Math, MATH 1B03, or STATS 1L03; MATH 1M03 or equivalent; and an average of at least 7.0 in ECON 2G03 or 2X03, 2GG3 (or 2L06), 2H03, 2H13 (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 3H03  INTERNATIONAL TRADE
Real theory of international trade; interregional and international specialization; effect of commercial and industrial policies.
Three hours; one term
Prerequisite: One of ECON 2G03, 2X03, 2L06

ECON 3J03  ECONOMIC HISTOR Y 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. ECON 2H03 or 2M06 is recommended.

ECON 3K03  TOPICS IN MONETARY ECONOMICS
Analysis of monetary theory and policy. Topics include money demand and supply, money and inflation, rational expectations, monetary policy and asset market analysis.
Three hours; one term
Prerequisite: One of ECON 2G03, 2X03, 2L06; and ECON 2H03 or 2M06

ECON 3L03  MARXIAN ECONOMICS
An examination of the foundations of Marxist economic thought; Marxism as a theory of the capitalist system; the place of Marxian doctrine in contemporary economic analysis.
Three lectures; one term
Prerequisite: One of ECON 2G03, 2X03, 2L06

ECON 3L3  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 hours; 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 coalition games. Applications in economics, political science and evolutionary biology are discussed.
Three hours; one term
Prerequisite: ECON 1A06 or 1B03 and MATH 1K03 (or equivalent)

ECON 3N06  ECONOMIC STATISTICS
Statistical analysis as a basic research technique in economics, emphasizing estimation and statistical inferences, including linear regression models. Applications are drawn from micro- and macroeconomics. Computer-oriented exercises are employed throughout the course.
Three lectures; two terms
Prerequisite: Registration in an Honours Economics programme. One of ECON 2G03, 2X03, 2L06; and ECON 2H03 or 2M06; one of OAC Finite Math, STATS 1L03 or 2D03
Antirequisite: STATS 3D06
Not open to students with credit in ECON 3Y03, SELECTED TOPICS I, if the topic was Introduction to Game Theory.

ECON 3R03  INDUSTRIAL ORGANIZATION
A study of the structure, conduct and performance of industrial markets.
Three lectures; one term
Prerequisite: One of ECON 2G03, 2X03, 2L06
Antirequisite: ECON 3N06

ECON 3T03  ECONOMIC DEVELOPMENT: AGRICULTURE AND POPULATION
Analysis of the economies of less developed countries. Topics include structural change and its measurement; dual economies; agriculture; technical change; institutional change; health, nutrition.
Three hours; one term
Prerequisite: One of ECON 2G03, 2X03, 2L06; and ECON 2H03 or 2M06
Antirequisite: ECON 3J06

ECON 3T3  ECONOMIC DEVELOPMENT: TRADE, FOREIGN INVESTMENT AND INTERNATIONAL FINANCE
Analysis of the economies of less developed countries. Topics include the role of exports, effective protection, commercial policy, financial development, direct investment, savings and income distribution.
Three hours; 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 hours; one term
Prerequisite: One of ECON 2G03, 2X03, 2L06; and ECON 2H03 or 2M06; and ECON 2B03 or one of CHEM ENG 4C03, COMMERCCE 2Q03, GEOG 2L03, 2N03, POL SCI 2F06, 3N06, PSYCH 2G03, 2R03, 2R05, SOC SCI 2J03, SOCIOL 2Y03, 3H06; STATS 1C03, 2A03, 2M03, 2R05 or another course that is approved by a departmental counselor as equivalent to ECON 2B03.
Not open to students with credit or registration in ECON 3006 or 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 GEOG 2B03 (formerly GEOG 2X03)
Cross-list: GEO 3H03 (formerly GEOG 3X03)

ECON 3Y03  SELECTED TOPICS I
Topics will vary from year to year depending on student interests and faculty availability. Students should consult the Department on topics to be offered.
Three hours; one term
Prerequisite: Permission of the Department.

ECON 3Y3  SELECTED TOPICS II
In 1997-98, the topic will be The Economics of Aging. A study of the demography of aging (including the effects of population aging on the labour force), the macroeconomic aspects of national pension and health plans in the context of an aging population, and the microeconomics of retirement and income security in old age.
Three hours; one term
Prerequisite: One of ECON 2G03, 2X03, 2L06

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 hours; 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; one term
Prerequisite: ECON 2G03, 2H03, 3F03, 3U03 or 3006

ECON 4E03  TOPICS IN MICROECONOMICS
Applications of advanced microeconomic theory. Consult the Economics Department for topics which will be examined.
Three hours; one term
Prerequisite: At least C- in ECON 3A03

ECON 4F03  TOPICS IN MACROECONOMICS
Applications of advanced macroeconomic theory. Consult the Economics Department for topics which will be examined.
Three hours; one term
Prerequisite: At least C- in ECON 3A43

ECON 4G03  ECONOMETRICS I
Development of regression models appropriate to economics. Illustrations from applied micro- and macroeconomics.
Three hours; one term
Prerequisite: ECON 2G03 or 2X03 (or 2L06), and ECON 2H03 (or 2M06), and at least C- in ECON 3006 or 3U03 or STATS 2D03 and 2M03 (or 2M03)
ECON 4GG3  ECONOMETRICS II
Special topics in econometrics, including identification in simultaneous equations models in micro- and macroeconomics and topics in the analysis of time series.
Three hours; one term
Prerequisite: ECON 4GG3

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 3X13 (formerly GEOG 3X03)
Cross-list: GEO 4X13 (formerly GEOG 4X03)

ELECTRICAL AND COMPUTER ENGINEERING

Faculty as of January 15, 1998

Chair
David R. Conn

Associate Chair
David W. Capson

University Professor
Simon Haykin/B.Sc., Ph.D., D.Sc. (Birmingham), F.R.S.C., F.I.E.E.

Professors Emeriti
Arthur S. Gladwin/D.Sc. (Glasgow), Ph.D. (London)

Professors
Charles R. Carter/B.A.Sc., M.A.Sc., (British Columbia), Ph.D. (McMaster), P.Eng.
David W. Capson/B.Sc., M.Sc., Ph.D. (Queen's), P.Eng.
Raymond D. Findlay/B.A.Sc., M.A.Sc., Ph.D. (Toronto), P.Eng. F.I.E.E.
John Lulio/B.Sc. (British Columbia), M.Sc., Ph.D. (Western Ontario)

Adjunct Professors
Radek M. Biernacki/B.Sc., Ph.D. (Warsaw)

Associate Professors
Stephen H. Chisholm/B.A.Sc. (Toronto), Ph.D. (London)
T.Z-Q. Luo/B.Sc. (Peking), Ph.D. (M.I.T.)

Adjunct Associate Professors
Eloi Bosse/B.Sc., M.Sc. (Laval), Ph.D. (Carleton, Ottawa, Laval)
Chandra M. Kudia/B.Sc. (Delhi), M.Eng. (McMaster), Ph.D. (Concordia), P.Eng.

Assistant Professors
Robert D. Dony/B.A.Sc., M.A.Sc. (Waterloo), Ph.D. (McMaster)/part-time
Denise Wulf/B.Math. Co-op, M.Math. (Waterloo), Ph.D. (Queen's)/part-time

Adjoint Assistant Professors
Youssel H. Dabeh/B.Sc., M.Eng. (New Brunswick), Ph.D. (McMaster), P.Eng.
Qu Jin/B.Eng., M.Eng. (Dalian Maritime), Ph.D. (McMaster)
Ke-Li Wu/B.Sc., M.Sc. (East China Institute of Technology), Ph.D. (Laval)

Associate Members
D.T. Cassidy/(Engineering Physics), B.Eng. (McMaster), M.Sc. (Queen's), Ph.D. (McMaster)
Jan Dirk Huizinga/(Biomedical Sciences), B.Sc., M.Sc., Ph.D. (Groningen)
Ryszard Janicki/(Computing and Software), M.Sc. (Warsaw), Ph.D., D.Hab. (Polish Acad. Sci.)
Paul E. Jessop/(Engineering Physics), B.Sc. (Waterloo), M.A., Ph.D. (Harvard)
Tao Jiang/(Computing and Software), B.Sc. (University of Science and Technology of China, Hefei), Ph.D. (Minnesota)
Markus V. Kamath/(Medicine), M.Sc., Ph.D. (Indian Inst. of Tech., Madras), P.Eng. (McMaster)
Peter E. Lauer/(Computing and Software), B.A. (Alabama), M.A. (Emory), Ph.D. (Queen's, Belfast)
Claude Nahmias/(Nuclear Medicine), B.Sc. ( Cairo), Ph.D. (Surrey)
David L. Parnas/(Computing and Software), B.S., M.S., Ph.D. (Carnegie, I.r.H. (ETH-Zurich), Dr.h.c. (Tebesib), Dr.h.c. (Louvain), F.R.S.C., F.A.C.M., NSERC/Beil Industrial Research Chair in Software Engineering, P.Eng.
Lionel David Pengelly/(Medicine), B.A.Sc. (Toronto), M.Sc., Ph.D. (McGill), P.Eng.
Skippor Poehliman/(Computing and Software), B.S. (Niagara), B.Sc. (Brook), M.Sc., Ph.D. (McMaster), P.Eng.
Sanzhong Qiao/(Computing and Software), B.S., M.S. (Shanghai Teacher's College), M.S., Ph.D. (Cornell)
Emil Sekerinski/(Computing and Software), Dipl.Inf., Ph.D. (Karlsruhe)
David A. Thompson/(Engineering Physics), B.Sc., M.Eng. (Reading)
Martin von Mohrenschildt/Dipl.Math., Dr.ssc.Math. (ETH-Zurich)
Patrick C. Yip/(Mathematics and Statistics), B.Sc. (Memorial), P.Eng. (McMaster)
Jeffery I. Zucker/(Computing and Software), B.Sc. (Witwatersrand), Ph.D. (Stanford)

COMPUTER ENGINEERING...

Department Note:
All Electrical and Computer Engineering courses are open to students registered in an Electrical or Computer Engineering programme, subject to prerequisite requirements. Prior permission of the Department is necessary for students from other Engineering departments or faculties.

Courses
If no prerequisite is listed, the course is open.

COMP ENG 2H43  INTRODUCTION TO COMPUTER ENGINEERING
Binary numbers and codes; Boolean algebra; combinational circuit design; electrical properties of logic circuits; sequential circuit design; computer arithmetic; organization and design of CPU.
Three lectures, one tutorial, one lab (every other week); second term
Prerequisite: Registration in a programme in Computer Engineering, Electrical Engineering, Electrical Engineering Physics or Physics Antirequisite: COMP ENG 2H43
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: ENGINEER 1 D04
Antirequisite: COMP ENG 2Y3A3

COMP ENG 3D14 DIGITAL SYSTEMS DESIGN
Computer-aided design tools for schematic capture, simulation, and hardware description language; programmable logic devices and their applications; memory systems; introduction to microprocessors, assembly language programming and peripheral interfacing.
Three lectures, one tutorial, one lab (every other week); first term
Prerequisite: COMP ENG 2D14
Antirequisite: COMP ENG 3H3B or COMP ENG 3H3C

COMP ENG 3S14 SOFTWARE DEVELOPMENT
Role of inspection and testing; foundations of specification and documentation; 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
Antirequisite: COMP ENG 3V3A

COMP ENG 3K14 COMPUTER-AIDED ENGINEERING I
CAE; numerical analysis; linear and nonlinear systems; least squares and QR factorization; optimization; numerical integration and differentiation; sensitivity analysis; finite differences and finite elements; design cycles, engineering applications and case studies.
Three lectures, one tutorial, one lab (every other week); second term
Prerequisite: COMP ENG 2D14, ELEC ENG 2C14, 2C4J, MATH 3K3D
Antirequisite: COMP ENG 3K3B

COMP ENG 3S14 DESIGN OF SOFTWARE SYSTEMS
Variables and relational specifications; software hierarchies and object-oriented methods; interface syntax, canonical representation of object states; systematic decomposition, determination and comparison of program function descriptions; incremental assembly and testing.
Three lectures, one lab (four hours every other week); second term
Prerequisite: COMP ENG 3S14
Antirequisite: COMP ENG 3V3A

COMP ENG 4H13 ADVANCED COMPUTER DESIGN
Advanced topics in computer design: processor control; I/O implementation; processor and memory acceleration; instruction set design for high level languages; virtual machines; multiprocessing.
Two lectures, one tutorial, one lab (every other week); second term
Prerequisite: COMP ENG 3H3B
Antirequisite: COMP SCI 3M3G

COMP ENG 4E13 ADVANCED REAL TIME COMPUTING SYSTEMS
Real-time systems, jobs and tasks; disk management; real-time implementation; multiprocessor systems.
Two lectures, one tutorial, one lab (every other week); first term
Prerequisite: COMP ENG 3H3B

COMP ENG 4H13 COMPIльLER DESIGN AND IMPLEMENTATION
Lexical analysis; scanner construction; syntax analysis and syntax-directed translation; compilers; intermediate code generation; code generation and optimization.
Two lectures, one tutorial, one lab (every other week); second term
Prerequisite: Registration in Level IV Computer Engineering or Computer Science
Cross-list: COMP SCI 4T3B
Enrolment is limited.

COMP ENG 4R14 THESS PROJECT
An experimental investigation and design project to be carried out by the student, to test initiative, grasp of the subject and capacity for independent work.
Either term
Prerequisite: Registration in Level IV of Computer Engineering or Level V of Computer Engineering and Management or Computer Engineering and Society
Antirequisite: COMP SCI 4ZP6

COMP ENG 4K13 SIMULATION AND OPTIMIZATION II
Analog IC and system simulation; advanced optimization techniques; design centering, tolerancing and tuning; use of professional CAD software; VLSI and MMIC applications.
Two lectures, one tutorial, one lab (every other week); first term
Prerequisite: COMP ENG 3K3B

COMP ENG 4M13 COMPUTER COMMUNICATION NETWORKS
Modern communication networks; switching methods; open systems interconnection architecture; design of communication subnetworks; local and metropolitan area networks; communication protocols; fiber optic systems; integrated services digital networks.
Two lectures, one tutorial, one lab (every other week); second term
Prerequisite: ELEC ENG 3AA3

COMP ENG 4A13 OPERATING SYSTEMS
Concepts of operating systems; process coordination, memory management, file systems; introduction to distributed systems and computer networks.
Two lectures, one tutorial; second term
Prerequisite: COMP ENG 2Y3A3 or COMP SCI 2M3D and 3M3G, and registration in a Computer Engineering programme.
Antirequisite: COMP SCI 3M3H and COMP ENG 3W3A

ELECTRICAL AND COMPUTER ENGINEERING

ELEC ENG 2C14 INTRODUCTION TO ELECTRICAL ENGINEERING
Electromagnetic fields, circuits, devices; SI units, current, potential difference, Kirchhoff's laws, single time constant circuits, active circuits, three phase circuits; semiconductor devices; rotating machines; analog/digital technology; communication signals.
Three lectures, one tutorial, one lab (every other week); first term
Prerequisite: Registration in a Computer Engineering or Electrical Engineering programme.
Antirequisite: ELEC ENG 2B3A

ELEC ENG 2C4J CIRCUITS, SYSTEMS AND NUMERICAL METHODS
Mesh/mesh analysis of circuits; Laplace transforms with applications; responses of linear systems; coupled circuits; power relationships; dependent sources; nonlinear circuits; numerical differentiation and integration.
Three lectures, one tutorial (two hours); second term
Prerequisite: ELEC ENG 2C14
Antirequisite: ELEC ENG 2A3

ELEC ENG 2E14 ELECTRONIC DEVICES AND CIRCUITS I
Semiconductor devices and electronic circuits; diodes, field-effect and bipolar transistors, and operational amplifiers: their electrical characteristics, principles of operation, and circuit models; analysis and design of basic application circuits.
Three lectures, one tutorial, one lab (every other week); second term
Prerequisite: ELEC ENG 2C14, ENGINEER 2C04
Corequisite: ELEC ENG 2C4J
Antirequisite: ELEC ENG 2F3A

ELEC ENG 3C13 CONTROL SYSTEMS I
Control system design; modeling 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 2C14
Antirequisite: ELEC ENG 3C3A

ELEC ENG 3J13 ELECTRONIC DEVICES AND CIRCUITS II
Analogue and digital electronics; operational amplifier application circuits; multistage amplifiers; analog and digital integrated circuits; data converters; amplifier frequency responses, feedback, stability, and oscillations; computer aids to analysis and design.
Three lectures, one tutorial, one lab (every other week); second term
Prerequisite: ELEC ENG 2C4J, 2E14
Antirequisite: ELEC ENG 3F3B, 3F3C

ELEC ENG 3F14 ELECTROMAGNETIC FIELDS
Electrostatics, magnetostatics, boundary conditions, ferromagnetics; Maxwell's equations, plane and spherical waves, wave and intrinsic impedance, phase and group velocity, energy, Poynting's theorem, propagation, polarization, reflection.
Three lectures, one tutorial, one lab (every other week); first term
Prerequisite: ELEC ENG 2C14
Antirequisite: ELEC ENG 3B3B
ELEC ENG 3PH4  POWER DEVICES AND SYSTEMS
Power circuits; transformers, magnetic circuits and three-phase connections; single phase motors; polyphase machines—synchronous generators and motors, induction motors; design of industrial systems; dc motors.
Three lectures, one tutorial, one lab (every other week); second term
Prerequisite: ELEC ENG 2CJ4
Antirequisite: ELEC ENG 3NA3 or 3SA3

ELEC ENG 3TI4  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
Corequisite: MATH 3K03
Antirequisite: ELEC ENG 3AA4

ELEC ENG 3TJ4  DISCRETE TIME SYSTEMS AND RANDOM PROCESSES
Discrete time systems, discretization, Z-transform, transfer functions; probability theory, random variables, expectations; random processes, auto-correlation, power spectral densities, filtering; applications of random processes, digital communication systems, noise.
Three lectures, one tutorial, one lab (every other week); second term
Prerequisite: ELEC ENG 3TJ4
Antirequisite: ELEC ENG 3DB3

ELEC ENG 4A01  PROFESSIONAL ETHICS, PUBLIC AND WORKER SAFETY AND HEALTH
Health and safety in the engineering workplace; occupational health and safety act and legislation; the engineering code of ethics; hazard recognition control, machine hazards, ergonomics, training and education; health and safety case studies.
One lecture; first term
Prerequisite: Registration in the final level of any Computer Engineering or Electrical Engineering programme

ELEC ENG 4AB3  COMMUNICATION SYSTEMS II
Communication systems in noisy and imperfect channels; random processes; noise in CW modulation systems including AM, DSBSC and SSB; digital signals and digital communications, multiplexing; technology issues.
Two lectures, one tutorial, one lab (every other week); first term
Prerequisite: ELEC ENG 3AA4, 3BB3 and STATS 3X03

ELEC ENG 4AC3  DIGITAL COMMUNICATIONS
Fundamental limits on performance; detection and estimation; digital modulation techniques; error control coding.
Two lectures, one tutorial, one lab (every other week); second term
Prerequisite: ELEC ENG 3AA4, 1AB3 and MATH 3K03

ELEC ENG 4CB3  FEEDBACK CONTROL SYSTEMS
Design and compensation of control systems using frequency response as well as s-plane methods; controllability and observability; state variable feed back; asymptotic observers; design of digital control systems; nonlinear systems analysis.
Two lectures, one tutorial, one lab (every other week); first term
Prerequisite: ELEC ENG 3CA3

ELEC ENG 4EA3  DIGITAL SIGNAL PROCESSING
Discrete time systems; Z-transforms; Fourier transforms; digital filters; effects of finite register length; least squares filters; matched filters.
Two lectures, one tutorial, one lab (every other week); second term
Prerequisite: ELEC ENG 3AA3 and 3BB3

ELEC ENG 4FD5  ELECTRONICS IV
Integrated circuits: fabrication technologies; design rules; passive and active components; analog and digital circuit design principles; amplifier and logic circuit limitations; computer software aids.
Two lectures, one tutorial, one lab (every other week); first term
Prerequisite: ELEC ENG 3FC3

ELEC ENG 4JA4  THESIS PROJECT
An experimental investigation and design project to be carried out by the student, to test initiative, grasp of the subject, and capacity for independent work.
Either term
Prerequisite: Registration in Level IV of Electrical Engineering or Level V of Electrical Engineering and Management or Electrical Engineering and Society

ELEC ENG 4NB3  POWER TRANSMISSION AND DISTRIBUTION
Transmission lines and cables; transformers and distribution stations; power flow control; voltage control; generation system economics; simulations.
Two lectures, one tutorial, one lab (every other week); first term
Prerequisite: ELEC ENG 3BB3 and 3NA3
Antirequisite: ELEC ENG 4PA3 or 4RA3

ELEC ENG 4QA3  TECHNICAL WRITING AND ORAL COMMUNICATION
Writing for, and speaking to, technical and management audiences: resumes, letters of inquiry, technical correspondence, technical description and definition; writing instructions; preparing audiovisual aids.
One lecture, one seminar, one tutorial (three hours); first term
Prerequisite: Registration in Level IV of Computer Engineering or Electrical Engineering

ELEC ENG 4RA3  TRANSMITTING AND RADIATING SYSTEMS
Principles of transmission lines, matching and Smith charts; waveguides and resonant cavities; antenna radiation; dipole antennas; antenna arrays.
Two lectures, one tutorial, one lab (every other week); first term
Prerequisite: ELEC ENG 3BB3

ELEC ENG 4SB3  POWER ELECTRONICS
Power circuits with switches; basic rectifier circuits; commutation; triodes; inverters; choppers; inverter control.
Two lectures, one tutorial, one lab (every other week); second term
Prerequisite: ELEC ENG 3FB3

ELEC ENG 4UA3  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 3FB3 or ENGINEER 3N03 or PHYSICS 3B05

ENGINEERING (GENERAL)

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
Problem solving using computational techniques. The development of algorithms and their application using a structured computer language to solve problems in analysis, design and elementary optimization. Software packages.
Three lectures, one tutorial (two hours); second term
Prerequisite: Registration in an Engineering programme
Antirequisite: COMP SCI 1MA3 or 1MC3

ENGINEER 2B03  ENGINEERING ECONOMICS
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 2003 ELECTRICITY, THERMOPHYSICS AND ENERGY
An exposure of electrical and thermophysical fundamentals having civil engineering applications. Topics: electrostatics, electric currents, circuits and transients, electrical power engineering, energy efficiency, heat transfer mechanisms.
Two lectures, one tutorial (two hours); second term
Prerequisite: PHYSICS 1E03, and registration in MATH 2M06
ENGINEER 2MM3 ELECTRICAL CIRCUITS AND POWER
Fundamentals of electromechanical energy conversion. Motors and generators, transformers, single and polyphase power circuits, synchronous and induction machines, power measurements.
Two lectures and one lab or tutorial; first term or second term
Prerequisite: PHYSICS 1E03, and registration in MATH 2M06, or MATH 2P04 and 2C04
Antirequisite: ENGINEER 3M03
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 2004, 3P03, MATLs I A03 , 2A02
ENGINEER 2004 STRUCTURE AND PROPERTIES OF ENGINEERING MATERIALS
Structure of materials as the basis of their behaviour. Basic approach to selection of materials in engineering design. Laboratory emphasis on electrical, magnetic and optical properties.
Two lectures, one tutorial, one laboratory; first term
Prerequisite: Completion of at least 12 units of Level I Chemistry, Mathematics or Physics
Antirequisites: ENGINEER 2003, 3P03, MATLs I A03
ENGINEER 2P04 ENGINEERING MECHANICS 'A'
Principles of statics as applied to deformable solid bodies. Stress and strain, elastic behaviour of simple members under axial force, bending and torsion. Principal stresses; deflection of beams; statical indeterminacy. Three lectures, plus one unit comprising tutorials or lectures devoted to applications, at the discretion of the instructor; first term
Prerequisite: PHYSICS 1D03
ENGINEER 2Q04 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 single degree of freedom systems.
Three lectures, plus one unit comprising tutorials or lectures devoted to applications, at the discretion of the instructor; first or 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 3N03 CO-OPERATIVE INDUSTRIAL INTERNSHIP
Orientation to the workplace, career planning, job search skills, application and presentation skills. Successful completion of a minimum of 12-months internship, work report and workplace evaluation.
Instructional/clinic sessions one evening per week for six weeks; first term or second term
12-16 months internship
Prerequisite: Completion of Level II of a four-level programme or Level III of a five-level programme in Engineering or Computer Science with a result of session May Continue
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 First offered in 1999-2000.
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 in any Software Engineering programme First offered in 1999-2000.
ENGINEER 3N03 ELECTRONICS AND INSTRUMENTATION
Two lectures, one tutorial (two hours) or one lab (three hours); second term
Prerequisite: ENGINEER 2004 or 2MM3 or 3M03
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 2C04, and ENGINEER 2P04
Antirequisite: ENGINEER 2003, 3D03, 3P03
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
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 INFLUENCE ON CIVILIZATION
Two lectures, one tutorial (two hours); second term
Prerequisite: Registration in Level III, IV, 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 theoretical 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 3P03
ENGINEER 4L03 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); first 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
ENGIN 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
Administrator
S.D. Vorhage

**Courses**

If no prerequisite is listed, the course is open.

**ENG MGT 2A02 COMMUNICATION SKILLS**
Writing and speaking; Interpersonal communications and skills, team-work, brainstorming, writing memos 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

**ENG 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

**ENG 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

**ENG 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

ENGINEERING 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, 1997:
M. Shoukri (Dean of Engineering)
R.G. Drysdale (Associate Dean of Engineering)
R.T.H. Alden (Electrical and Computer Engineering)
B.L. Allen (Civil Engineering)
S. Coe (Mechanical Engineering and Society, Student)
K. Coley (Materials Science and Engineering)
H. Haugen (Engineering Physics)
S. Leahy (Chemical Engineering and Society, Student)
T. E. Martin (Chemical Engineering)
J. Pawlooski (Mechanical Engineering and Society, Student)
T. Reeve (Civil Engineering and Society, Student)
A. Vaz (Mechanical Engineering)

**Courses**

If no prerequisite is listed, the course is open.

**ENGS0CTY 2X03 INQUIRY IN AN ENGINEERING CONTEXT I**
Inquiry seminars are non-disciplinary courses that develop an 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 seminar will involve teaching the students how to use the university and community resources in research, how to write a research paper, and how to express ideas orally.
Three hours (lectures, discussion, group work); first term
Prerequisite: Registration in an Engineering and Society programme
Antirequisite: STPP 2A06

**ENGS0CTY 2Y03 CASE STUDIES IN THE HISTORY OF TECHNOLOGY**
History and philosophy of technology, from antiquity to modern times, with a special emphasis on the cultural aspects of technology, are addressed on a case study basis.
Three hours (lectures, discussion, group work); second term
Prerequisite: Registration in an Engineering and Society programme

**ENGS0CTY 3X03 INQUIRY IN AN ENGINEERING CONTEXT II**
This inquiry seminar builds on the skills developed in the first seminar, focusing on a specific issue related to the role of engineering and technology in society. The seminar will be 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. Students will focus on specific aspects and share their findings in a seminar format.
Three hours (lectures, discussion, group presentations); second term
Prerequisite: ENGS0CTY 2X03

**ENGS0CTY 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: ENGS0CTY 2Y03
Antirequisite: STPP 2A06

**ENGS0CTY 3Z03 ENVIRONMENTAL STUDIES**
Course covers aspects of environmental studies such as: environmental assessment, energy and elemental cycles, sustainable development, solid and hazardous waste management, air and water quality control, and environmental legislation.
Three hours (lectures, discussion, group projects); first term
Prerequisite: Registration in Level IV of an Engineering and Society programme or the Honours Geography and Environmental Science (B.Sc.) Programme

**ENGS0CTY 4X03 INQUIRY IN AN ENGINEERING CONTEXT III**
Under the supervision of a faculty member, students write an inquiry paper and present their findings orally. Topics for inquiry must bear on the relation of technology to society and have implications for the practising engineer.
Prerequisite: ENGS0CTY 3X03

**ENGS0CTY 4Y03 THE SOCIAL CONTROL OF TECHNOLOGY**
The dominant mechanisms of the social control of technology will be studied, with a specific emphasis on the role of the engineering profession. Includes an examination of assessment methods and the role of ethics as one approach to social responsibility in engineering.
Three hours (lectures, discussion, group projects, seminars); first term
Prerequisite: ENGS0CTY 3Y03

ENGINEERING PHYSICS

Faculty as of January 15, 1998

Chair
P. Mescher

Professors Emeriti
Edward A. Ballik/B.Sc. (Queen's), D.Phil. (Oxford), P.Eng.
ENG PHYS 3E03 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 3F03 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 3Q03 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. Stagnation, 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

ENG PHYS 3W04 ACQUISITION AND ANALYSIS OF EXPERIMENTAL INFORMATION
A systems approach to measurement in which synthesis of topics such as Fourier transforms, signal processing and enhancement, data reduction, modelling and simulation is undertaken.
Two lectures; both terms
Prerequisite: Credit or registration in MATH 3C03 or 3C04 and 3D03

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 or Science programme
Antirequisite: BIOLOGY 3U03, 3U06, 3U09 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 thermalhydraulics; reactor design.
Three lectures (including field trip); first term
Prerequisite: ENGR 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, Reed diodes, charge coupled devices, integrated circuits, Josephson junctions.
Three lectures; second term
Prerequisite: Credit or registration in ENG PHYS 4E03
ENGINNEERING 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
Ordinary and partial differential equations; Laplace transforms; Fourier series; vector calculus; integral theorems; with engineering applications.
Three lectures, one term
Corequisite: ENG TECH 1MA3

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, Castagiano's theorem; columns; yield criteria.
Three lectures, one term
Corequisite: ENG TECH 1MA3

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 department chair, to carry out experiments and/or theoretical investigations. A written report and oral defence are required.
Two tutorials, one lab (three hours); both terms
Prerequisite: Registration in final level of an Engineering Physics programme and a CA of at least 9.5

ENG PHYS 4K03  OPTICAL COMMUNICATIONS SYSTEMS
Propagation of light in an optical fibre, semiconductor lasers and detectors for optical communications. Analogue and digital coding; Signal to noise considerations. System design.
Three lectures; second term
Prerequisite: ENG PHYS 3D03 and 3W04

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; one term
Prerequisite: ENG PHYS 3D03 and 3W04

ENG PHYS 4M04  LASERS AND ELECTRO-OPTICS
Two lectures; both terms
Prerequisite: PHYSICS 3N03 or ENG PHYS 3E03

ENG PHYS 4N04  MODERN AND APPLIED PHYSICS LABORATORY
Selected advanced experiments in two areas of applied physics, chosen from among: lasers and electro-optics; solid state electronics; nuclear engineering.
Two labs (three hours); both terms
Prerequisite: ENG PHYS 3W04 and PHYSICS 3B06

ENGLISH

Faculty as of January 15, 1998

Chair
Donald C. Goellnicht

University Professor
James King/B.A. (Toronto), M.A., Ph.D. (Princeton), F.R.S.C.

Professors Emeriti
Carl P.A. Ballstedt/B.A., M.A. (Western Ontario), Ph.D. (London)
Alwyn Berland/M.A. (Chicago), M.Litt. (Cambridge)
Andrew W. Brink/B.A., M.A. (Toronto), Ph.D. (London)
Thomas H. Cain/B.A., M.A., Ph.D. (Wisconsin)
Douglas J.M. Duncan/B.A. (Oxford), Ph.D. (Aberdeen)
Berners A.W. Jackson/B.A. (McMaster), D.Phil. (Oxford)
Alvin A. Lee/B.A., M.Div., M.A., Ph.D., D.Litt. (Toronto), D.Litt. (McMaster)
Laurel A. Means/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)
F. Norman Shrieve/C.D., B.A. (McMaster), M.A. (Toronto), Ph.D. (Queen's)
Ronald W. Vincent/B.A. (McMaster), M.A. (Rice), Ph.D. (Northwestern)
Chauncey D. Wood/A.B. (Union College), M.A., Ph.D. (Princeton)

Professors
David Bliswell/B.A., M.A. (Manitoba), Ph.D. (Toronto)
Anthony S. Brennan/B.A. (Oxford), M.A., Ph.D. (McMaster)
Donald C. Goellnicht/B.A. (Queen's), M.A., Ph.D. (McMaster)
Lorraine M. York/B.A., M.A., Ph.D. (McMaster)
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
Not available to students with credit or registration in ENGLISH 2H06.

ENGLISH 2G06  CANADIAN LITERATURE
Major aspects of the development of Canadian literature from the late 19th century to the mid-20th century. French-Canadian text 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 18th century to the present, which emphasizes the relationship 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 2106  MODERN BRITISH LITERATURE
A study of representative literature by British writers of the 20th century. Through analysis 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
Antirequisite: ENGLISH 3H06

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 popular forms of cultural analysis. 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 an historical period or national literature. Reversant feminist theory will be 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 Shakespeare's plays.
Three lectures; one term
Prerequisite: Registration in Level II and above
Antirequisite: ENGLISH 3E03
Not available 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: SOCIO/ 2X03

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
Antirequisite: ENGLISH 4E06
ENGLISH 3CC3 LITERATURE AND FILM
An examination of the particular characteristics of both literature and film and the relationship 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.
Prerequisites: Registration in Level II or above.
Cross-list: ART HIST 3CC3, COMP LIT 3103 and DRAMA 3H03

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 3H03

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.
Antirequisite: ENGLISH 3G06

ENGLISH 3H03 TOPICS IN POETRY
Previous topics include: Contemporary British Poetry, Women Poets of the 20th century, Lesbian Poetry. Consult the Departmental Counsellor concerning topics to be offered.
Three lectures; one term.
Prerequisite: Registration in Level II and above.
ENGLISH 3H03 may be repeated, if on a different topic, to a total of six units.

ENGLISH 3I06 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 3I03 or 3T03
Cross-list: COMP LIT 3J06

ENGLISH 3J03 TOPICS IN PROSE
Previous topics include: William Faulkner, James Joyce. Consult the Departmental Counsellor concerning topics to be offered.
Three lectures; one term.
Prerequisite: Registration in Level II and above.
ENGLISH 3J03 may be repeated, if on a different topic, to a total of six units.

ENGLISH 3J05 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: ENGLISH 2V06/2V06, 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 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.
Antirequisite: ENGLISH 3D03 or 3DD3

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; one term.
Prerequisite: Registration in a programme in English or permission of the Departmental Counsellor.
Antirequisite: ENGLISH 4L03

ENGLISH 3N06 THE BRITISH NOVEL
This course, in assessing and analyzing approximately 12 novels, will trace the history of English fiction to the 20th century. The course focuses on the variety of narrative forms, while also exploring the intellectual, cultural and psychological contexts of fiction.
Three lectures; two terms.
Prerequisite: Registration in a programme in English or permission of the Departmental Counsellor.
Antirequisite: ENGLISH 4N06

ENGLISH 3P03 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 relationship 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 3Q03 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.
Antirequisite: ENGLISH 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 3S03 BIBLICAL TRADITIONS IN LITERATURE
A study of the influence of the Bible on Western literature, especially English. Approaches may include the examination of symbolism, imagery, typology, doctrinal themes and narrative structures.
Three lectures; one term.
Prerequisite: Registration in Level II and above.
Cross-list: COMP LIT 2D03
Antirequisite: ENGLISH 2D03

ENGLISH 3T06 STUDIES IN 17TH-CENTURY LITERATURE
A detailed examination of poems 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: ENGLISH 2400 or permission of the instructor
Cross-list: INDIG ST 3003

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: ENGLISH 2400 or permission of the instructor
Cross-list: INDIG ST 3503

ENGLISH 3XX3  TOPICS IN DRAMA
Previous topics include: British Drama: 1950s to the Present, Modern Canadian Drama: Consult the Department concerning topic to be offered.
Three lectures; one term
Prerequisite: ENGLISH 2400

ENGLISH 3Z03  CONTEMPORARY CANADIAN POETRY
The development of Canadian poetry from the 1940's to the present. Parallel developments in French-Canadian poetry (studied in translation) will also be considered.
Three lectures; one term
Prerequisite: ENGLISH 2400

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 essay 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 II and above

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 4ER3  SEX AND SOCIETY IN ENGLISH RENAISSANCE LITERATURE
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.

ENGLISH 4BG3  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 4BL3  THE BIBLE AND LITERATURE
A critical discussion of the Bible's overall narrative structure, the typological correspondences between Old and New Testaments and the use made of the Bible by poets and other artists.
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.

ENGLISH 4EL3  ENVIRONMENTAL LITERATURE
A study of the ways in which literary texts mediate between culture and nature using traditional, scientific, environmentalist, eco-feminist, native American, and deep ecology approaches.
Seminar (two hours); one term
Prerequisite: Registration in Level IV of an Honours programme in English
Enrolment is limited. Departmental permission required.
Progres
A study of the interactions and displacements between discourses of gender and migration in contemporary Canadian multicultural fiction.

ENGLISH 4ML3 MARGARET
Seminar (two hours); one term
Prerequisite: Registration in Level IV of an Honours programme in English Enrolment is limited. Departmental permission required.

ENGLISH 4EW3 THE ART AND THOUGHT OF EVELYN WAUGH
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.

ENGLISH 4FT3 THE FAIRY TALE
A study of the fairy tale from the structuralist, psychoanalytic, and sociological points of view, concentrating on the tales of the Brothers Grimm in translation and considering the importance of fairy tales in acculturation and their symbolic significance.
Seminar (two hours); one term
Prerequisite: Registration in Level IV of an Honours programme in English Enrolment is limited. Departmental permission required.

ENGLISH 4FW3 FORMS OF CREATIVE WRITING
This seminar will combine a hands-on study of form with an opportunity for students to exercise and focus their own creative energies. In any given year, the course will concentrate on either verse or fictional form.
Seminar (two hours); one term
Prerequisite: Registration in Level IV of an Honours programme in English Enrolment is limited. Departmental permission required.

ENGLISH 4GH3 THE POETRY OF GEORGE HERBERT
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.

ENGLISH 4GM3 CANADIAN FICTIONS OF GENDER AND MIGRATION
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.

ENGLISH 4JD3 JOHN DONNE'S ANATOMY AND THE CRISES OF THE TIMES
The course explores Donne's witty, passionate contemplations on intellectual upheaval in the early modern world—the "Anatomic" and "Progress of the Soul"—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.

ENGLISH 4LL3 THE LYRIC OF LOVE AND LOSS: SHAKESPEARE, DONNE, HARDY AND YEATS
Headings 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.

ENGLISH 4ML3 MARGARET LAURENCE
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.

ENGLISH 4NH3 HAWTHORNE
This seminar will examine the works of Nathaniel Hawthorne, with special attention to structural and psychological aspects of his writings.
Seminar (two hours); one term
Prerequisite: Registration in Level IV of an Honours programme in English Enrolment is limited. Departmental permission required.

ENGLISH 4ON3 MICHAEL ONDAATJE
This course explores various approaches to Michael Ondaatje's poetry and prose: gender, postcolonialism, and interdisciplinarity (Ondaatje's engagement with film, photography, painting and music) are topics of particular interest.
Seminar (two hours); one term
Prerequisite: Registration in Level IV of an Honours programme in English Enrolment is limited. Departmental permission required.

ENGLISH 4PT3 PSYCHOANALYTIC AND OTHER CRITICAL APPROACHES TO FICTION
The application of psychoanalytic and other theories to several novels and short stories to explore the ways in which unconscious phantasy gives rise to and organizes such literary elements as conflict, character, symbol and form.
Seminar (two hours); one term
Prerequisite: Registration in Level IV of an Honours programme in English Enrolment is limited. Departmental permission required.

ENGLISH 4QP3 19TH- AND 20TH-CENTURY POETRY OF QUEBEC IN TRANSLATION
An examination of the work of the major québécois poets of the last two centuries, beginning with the poetry of the land and ending with "poets of the revolution".
Seminar (two hours); one term
Prerequisite: Registration in Level IV of an Honours programme in English Enrolment is limited. Departmental permission required.

ENGLISH 4RR3 THE ROMANCE OF ROMANCE
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.

ENGLISH 4TF3 TIMOTHY FINDLEY AND THE CONSTRUCTION OF MASCULINITIES
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.

ENGLISH 4UT3 UTOPIAN LITERATURE
A study of the genre through English literature, from its roots in Plato's Republic, through the Middle Ages and the Renaissance to contemporary literature.
Seminar (two hours); one term
Prerequisite: Registration in Level IV of an Honours programme in English Enrolment is limited. Departmental permission required.

ENGLISH 4WB3 WILLIAM BLAKE'S POETRY AND DESIGNS
A study of the work of William Blake, his prose tractates, letters, poems, illustrations and visual designs.
Seminar (two hours); one term
Prerequisite: Registration in Level IV of an Honours programme in English Enrolment is limited. Departmental permission required.

ENGLISH 4WC3 THE WITCHCRAFT CONTROVERSY IN PRINT AND ON STAGE, 1556-1656
An exploration of conflicting attitudes toward witches in England and Scotland, questioning ideological assumptions about gender, class, education, health, social welfare, marriage, and sexuality.
Seminar (two hours); one term
Prerequisite: Registration in Level IV of an Honours programme in English Enrolment is limited. Departmental permission required.

ENGLISH 4WH3 WRITERS IN HOLLYWOOD
The course will examine some of the relationships between literature and film by studying selected novels by William Faulkner, F. Scott Fitzgerald and Raymond Chandler, films based on these novels, and films for which these writers wrote the scripts.
Seminar (two hours); one term
Prerequisite: Registration in Level IV of an Honours programme in English Enrolment is limited. Departmental permission required.
ENGLISH 4W13  ISSUES IN CONTEMPORARY WORLD LITERATURE
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.

ENGLISH 4WN3  WOMEN AND NATURE IN CANADIAN LITERATURE
A study of fiction and poetry by Canadian women, exploring some of the issues raised by the long tradition of identifying nature as female.
Seminar (two hours); one term
Prerequisite: Registration in Level IV of an Honours programme in English
Enrolment is limited. Departmental permission required.

ENGLISH 4WP3  WAR AND PEACE IN LITERATURE
A close study of selected literary works in English that focus on the experience of war and the search for peace, especially in relation to the American Civil War, the First and Second World Wars and the Vietnam War.
Seminar (two hours); one term
Prerequisite: Registration in Level IV of an Honours programme in English
Enrolment is limited. Departmental permission required.

ENGLISH 4WS3  SHAKESPEARE: CHANGING STYLES OF INTERPRETATION OF SELECTED PLAYS
An examination of significant alterations in this century of critical attitudes to several Shakespeare's plays and the wide variation in their representation and reception.
Seminar (two hours); one term
Prerequisite: Registration in Level IV of an Honours programme in English
Enrolment is limited. Departmental permission required.

ENGLISH 4WW3  WOMEN WRITERS OF THE EIGHTEENTH CENTURY
An exploration of poetry and fiction written by women in the 18th century, with particular attention to the social and philosophical concerns of these writers.
Seminar (two hours); one term
Prerequisite: Registration in Level IV of an Honours programme in English
Enrolment is limited. Departmental permission required.

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 below. To determine the former Environmental designation of a Geo course, please see Geography and Geology in the Course Listings section of this Calendar.

Former Course  New Course  Course Title
ENVIR SC 1B03  GEO 1B03  Biosphere
ENVIR SC 1G03  GEO 1G03  Geosphere
ENVIR SC 1H03  GEO 1A03  Atmosphere And Hydrosphere
ENVIR SC 4A03  GEO 4K3  Inquiry: Minerals And Society

Courses  If no prerequisite is listed, the course is open.

ENVIR 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 CHEM 2ND3 and registration in Honours Science (Environmental Science Option) or a programme in Chemical Engineering
Antirequisite: CHEM 2M05, 3A03

FRENCH
Faculty as of January 15, 1998

Chair
Owen Morgan

Professors Emeriti
W. Norman Jeeves/M.A. (Cambridge), L. de L. (Bordeaux)
César Rouben/L. és S. (Paris-Sorbonne), B.A. (Sir George Williams), M.A., Ph. D. (McGill)
G. Derek West/M.A. (Oxford), Ph.D. (London)

Professors
Caroline Bayard/L. és L., M. és L. (Toulouse), M.A., Ph.D. (Toronto)
Madeleine Jaczy/L. és L. (Bordeaux), M.A., Ph.D. (Montreal)
Owen R. Morgan/B.A., M.A. (Nottingham)

Associate Professors
Marie-Madeleine Ahmed/L. és L., M. és L. (Paris-Sorbonne)
Suzanne Crosta/B.A., M.A. (McMaster), Ph.D. (Toronto)
Michael Klafter/B.A. (British Columbia), M.A. (Michigan), Ph.D. (Carnot)
Dominique Lepic/L. és L. (Caen), M.A. (Ottawa), Ph.D. (Toronto)
Gabriel Moya/B.A. (McGill), M.A., Ph.D. (Toronto)
Brian S. Pocknell/B.A., M.A. (Manchester), D. de l'U. (Paris-Sorbonne)

Anna S. Legar Lazc/B.A. (Nottingham), M.A. Ph.D. (British Columbia)
John C. Stout/B.A. (British Columbia), Ph.D. (Princeton)

Assistant Professors
Vincent A. Betts/B.A., L. és L. (Laval)
Jane A. Gauthier/B.A. (Toronto), M.A., Ph.D. (UCLA)

Programme Coordinator, Continuing Education
Pauline Pocknell/B.A., M.A.

Instructors
Pauline Pocknell/B.A. (Manchester), B.Ed. (Toronto), M.A. (McMaster)/part-time
Simonne Vanasse-Fam/L. és L., D.E.S. (Paris-Sorbonne), Ph.D. (Montreal)/part-time
Laura Willett/B.A. (California, Santa Barbara), L. és L. (Bordeaux), M.A., Ph.D. (UCLA)/part-time

ENTRY INTO LEVEL I COURSES AND FRENCH PROGRAMMES

<table>
<thead>
<tr>
<th>NO FRENCH</th>
<th>OAC FRENCH &lt; 80%</th>
<th>OAC FRENCH &gt; 80%</th>
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<tr>
<td>1206</td>
<td>Grade of at least A-</td>
<td>Grade of C or less</td>
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<tr>
<td>2206</td>
<td>Grade of at least C- &amp; B+ &amp;</td>
<td>Grade of at least CA of 3.5 &amp; CA of 6.0 &amp;</td>
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<tr>
<td>2M06</td>
<td>B.A. French</td>
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Courses  If no prerequisite is listed, the course is open.

FRENCH 1A06  INTRODUCTION TO FRENCH STUDIES: ADVANCED LEVEL
Review of grammar, oral and written practice, and introduction to literary analysis by 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 2M06  PROGRAMME IN FRENCH (British Columbia, M.A., Ph.D. (Oxford))
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. Written 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 2003 INTRODUCTION TO THE CIVILIZATION OF FRENCH CANADA
The study of the socio-political, cultural, religious, and linguistic evolution of early French Canada, of modern Quebec, and of the French-Canadian diaspora.
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 19TH-CENTURY FRENCH LITERATURE I
Selected novels, plays and poems representative of the main currents of 19th century French literature.
Three lectures; one term
Prerequisite: FRENCH 1A06 or 1N06 or 1NN6 or 2M06
FRENCH 2JJ3 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 2K06 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
Antirequisite: FRENCH 1A06
FRENCH 2N03 INTRODUCTION TO THE CIVILIZATION OF FRANCE
The study of contemporary France through a selection of texts and audio-visual 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 2206 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 Francophonie Studies.
Two tutorials, three computer labs; two terms
Prerequisite: FRENCH 1Z06
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 2B03
Alternates with FRENCH 3SS3.
FRENCH 3AA3 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 2Z06.
FRENCH 3BB3 CONTEMPORARY QUEBEC THEATRE
Contemporary experimental theatre, and representative playwrights such as Marcel Dubé and Michel Tremblay.
Three lectures; one term
Prerequisite: Six units of French beyond Level I, excluding FRENCH 2M06 and 2Z06
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 3CC3 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 inferring 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'Actualité.
Three lectures; one term
Prerequisite: FRENCH 2G03
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 2H03; FRENCH 2H03 and/or LINGUIST 1A06 are recommended.

FRENCH 3I03  FRENCH SOCIOLINGUISTICS
The study of linguistic variations within French-speaking communities with special emphasis on sociolinguistic issues arising in multilingual societies (Africa, America, Europe...). Three lectures; one term
Prerequisite: FRENCH 2H03

FRENCH 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 2206

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 Encyclopedia to the Revolution.
Three lectures; one term
Prerequisite: Six units of French beyond Level I, excluding FRENCH 2M06 and 2206

FRENCH 3Q03  17TH-CENTURY FRENCH LITERATURE I
A study of selected plays by Corneille, Molière and Racine.
Three lectures; one term
Prerequisite: Six units of French beyond Level I, excluding FRENCH 2M06 and 2206

FRENCH 3Q03  17TH-CENTURY FRENCH LITERATURE II
A consideration of selected themes as they appear in the works of major French writers of the 17th century.
Three lectures; one term
Prerequisite: Six units of French beyond Level I, excluding FRENCH 2M06 and 2206

FRENCH 3S3  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 2206; 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 4B53  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. Consult the Department concerning topic to be offered.
Seminar (two hours); one term
Prerequisite: 12 units of French beyond Level I, excluding FRENCH 2M06 and 2206
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 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: 12 units of French beyond Level I, excluding FRENCH 2M06 and 2206

FRENCH 4LL3  TOPICS IN FRENCH AFRICAN AND CARIBBEAN FRENCH LITERATURES
Previous topics include: Contemporary Writers. Consult the Department concerning topic to be offered.
Seminar (two hours); one term
Prerequisite: 12 units of French beyond Level I, excluding FRENCH 2M06 and 2206
FRENCH 4LL3 may be repeated, if on a different topic, to a total of six units.

FRENCH 4MM3  THE 18TH-CENTURY FRENCH NOVEL
A study of the genesis and themes of representative 18th-century novels.
Seminar (two hours); one term
Prerequisite: 12 units of French beyond Level I, excluding FRENCH 2M06 and 2206

FRENCH 4N03  TOPICS IN THE FRENCH NOVEL
Previous topics include: Emile Zola. Consult the Department concerning topic to be offered.
Seminar (two hours); one term
Prerequisite: 12 units of French beyond Level I, excluding FRENCH 2M06 and 2206
FRENCH 4N03 may be repeated, if on a different topic, to a total of six units.

FRENCH 4Q03  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: 12 units of French beyond Level I, excluding FRENCH 2M06 and 2206

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: 12 units of French beyond Level I, excluding FRENCH 2M06 and 2206

FRENCH 4Q03  TOPICS IN 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: Folktales of French Canada, Acadia, Women Writers of Quebec. Consult the Department concerning topic to be offered.
Seminar (two hours); one term.
Prerequisite: 12 units of French beyond Level I, excluding FRENCH 2M06 and 2206.
FRENCH 4U03 may be repeated, if on a different topic, to a total of six units.

FRENCH 4X03 
LINGUISTICS AND MODERN FRENCH LITERARY CRITICISM
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 2206.
FRENCH 4X03 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 3T03 
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
--- | --- | ---
ENVIR SC 1B03 | GEO 1B03 | Biosphere
ENVIR SC 1G03 | GEO 1G03 | Geosphere
ENVIR SC 1H03 | GEO 1A03 | Atmosphere and Hydrosphere
GEOG 1806 | GEO 1HB6 | Human Geography
GEOG 2A03 | GEO 2HA3 | Locational Analysis
GEOG 2B03 | GEO 2HB3 | Urban Economic Geography
GEOG 2D03 | GEO 2HD3 | Urban Historical Geography
GEOG 2E03 | GEO 2HC3 | Canada
GEOG 2F03 | GEO 2C03 | Surface Climate Processes and Environmental Interaction
GEOG 2N03 | GEO 2S03 | Practical Applications in Spatial Statistics
GEOG 2P03 | GEO 2HU3 | United States
GEOG 2R08 | GEO 2HR3 | Research Methods in Social Geography
GEOG 2T03 | GEO 2G03 | Fluvial Geomorphology
GEOG 2W03 | GEO 2W03 | Physical Hydrology: Surface
GEOG 2Y03 | GEO 2HY3 | Urban and Regional Development
GEOG 3D03 | GEO 3HD3 | Transportation Geography
GEOG 3E03 | GEO 3FE3 | Field Methods
GEOG 3E03 | 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 3SO3 | Multivariate Analysis in Geography
GEOG 3M03 | GEO 3GO3 | Glacial and Periglacial Geomorphology
GEOG 3N03 | GEO 3IO3 | Geomatics
GEOG 3S03 | GEO 3RO3 | Research Methods and Communication
GEOG 3P03 | GEO 3BO3 | Environmental Change and the Biosphere
GEOG 3R03 | GEO 3HR3 | Geography of A Selected World Region
GEOG 3T03 | GEO 3HT3 | Geography of Planning
GEOG 3U03 | GEO 3AO3 | Environmental Assessment
GEOG 3X03 | GEO 3HX3 | Urban Models and Policy Analysis
GEOG 3Z03 | GEO 3HZ3 | Urban Social Geography
GEOG 4B09 | GEO 4RO6 | Senior Thesis
GEOG 4C03 | GEO 4C03 | Review Paper
GEOG 4C06 | GEO 4RO6 | Senior Thesis
GEOG 4E03 | GEO 4FE3 | Field Course
GEOG 4F03 | GEO 4HY3 | Urban Development and Policy Issues
GEOG 4H03 | GEO 4DO3 | Land Use and Transportation
GEOG 4N03 | GEO 4IO3 | Advanced GIS and Spatial Analysis
GEOG 4P03 | GEO 4BO3 | Wetland Biogeochemistry
GEOG 4S03 | GEO 4HS3 | Geography of Health Care
GEOG 4T03 | GEO 4HT3 | Regional Analysis and Planning
GEOG 4U03 | GEO 4U03 | Selected Problems in Urban Planning
GEOG 4V06 | GEO 4RO6 | Senior Thesis
GEOG 4W03 | GEO 4WO3 | Hydrologic Modelling
GEOG 4X03 | GEO 4HX3 | Urban Models and Policy Analysis
GEOG 4Z03 | GEO 4HZ3 | The Landscape of Urban Housing

GEOGRAPHY AND GEOLOGY

Course

GEOG 4B09 | 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 4R06

GEOGRAPHY AND GEOLOGY

Faculty as of January 15, 1998

Director
Fred L. Hall

Associate Director
W. Jack Rink

Professors Emeriti
Brian J. Burley/B.Sc. (London), M.Sc. (British Columbia), Ph.D. (McGill)
Andrew F. Burghardt/A.B. (Harvard), M.A., Ph.D. (Wisconsin)
Brian T. Bunting/M.A. (Sheffield), Ph.D. (London)

Paul M. Clifford/B.Sc. (Southampton), Ph.D. (London)
James H. Crockett/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., D.Phil. (Oxford), F.R.S.C.

H. Douglas Grundy/B.Sc., Ph.D. (Manchester)

S. Brian McCann/B.Sc. (Wales), Ph.D. (Cambridge)
R. Lloyd G. Reeds/M.A., Ph.D. (Toronto)

Gerd E.G. Westermann/B.Sc. (Braunschweig), Dipl. Geol., Dr. rer. nat. (Tubingen)

University Professor
Henry P. Schwarzb/Ph.D. (California Institute of Technology), F.R.S.C.
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Professors
William P. Anderson/M.A., Ph.D. (Boston)
Alan P. Dickin/M.A. (Cambridge), D. Phil. (Oxford)
John J. Drake/M.A. (Oxford), M.Sc., Ph.D. (McMaster)
Frederick L. Hall/A.B. (Amherst), M.Sc. (M.I.T.), Ph.D. (Chicago) Professor of Civil Engineering and Engineering Mechanics
Richard S. Harris/B.A. (Cambridge), M.A. (Ohio), Ph.D. (Queen's)
Leslie J. King/M.A. (New Zealand), Ph.D. (Iowa), F.R.S.C.
Kao-Lee Liu/B.S. (National Taiwan), M.A. (Kansas State), Ph.D. (Clark)
Robert H. McNeil/B.Sc. (New Brunswick), Ph.D. (M.I.T.) part-time
Yorgos Y. Papageoglu/Dipl. Arch. Eng. (National Technical, Athens), M.C.P., Ph.D. (Ohio State), D.Sc. (Louvan) Professor of Economics
Michael J. Risk/B.Sc. (Toronto), M.Sc. (Western Ontario), Ph.D. (Southern California, L.A.)
Wayne R. Rousle/B.Sc. (McMaster), M.Sc., Ph.D. (McGill)
S. Martin Taylor/B.A. (Bristol), M.A., Ph.D. (British Columbia)
Roger G. Walker/B.A., B.Phil. (Oxford), F.R.S.C.
Ming-Lo Woor/M.A. (Hong Kong), Ph.D. (British Columbia)

Associate Professors
Vera Chouinard/B.A. (Western Ontario), M.A. (Toronto), Ph.D. (McMaster)
Susan J. Elliott/M.A., Ph.D. (McMaster)
Carolyn H. Eyles/B.Sc. (East Anglia), M.Sc. Ph.D. (Toronto)
Peter T. Kanaroglou/B.Sc. (Athens), M.A., M.Sc., Ph.D. (McMaster)
William A. Morris/B.Sc. (Leeds), Ph.D. (Open University)

Assistant Professors
Pierre Brassard/B.A., M.Sc. (Concordia), Ph.D. (INRS)
W. Jack Rink/B.Sc., Ph.D. (Florida State)
J. Michael Waddington/M.Sc., Ph.D. (York)

Associate Members
Donald C. Cole (Clinical Epidemiology and Biostatistics) B.Sc., M.D. (Toronto), DOHSC, FRCP (C), M.Sc. (McMaster)
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)

Instructor Assistant
Walter Peace/M.A., Ph.D. (McMaster)
Saman Vajoczki/M.Sc. (McMaster)

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 registration for Level III. 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

GEO 1A03  ATMOSPHERE AND HYDROSHERE
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 mandatory Saturday field trip will be held.
Two lectures, one tutorial, one lab; one term
Antirequisite: ENVIR SC 1A06, 1H03, GEOG 1C03

GEO 1B03  BIOSPHERE
Formerly: ENVIR SC 1B03
Characteristics of the biosphere and introduction to major environmental processes and issues. A mandatory Saturday field trip will be held.
Two lectures, one tutorial, one lab; one term
Antirequisite: ENVIR SC 1A06, 1B03

GEO 1G03  GOSPHERE
Formerly: ENVIR 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: ENVIR SC 1A06, 1G03, GEOG 1G03, GEOG 1C03

GEO 1H68  UAMEN HUMAN GEOGRAPHY
Formerly: GEOG 1B06
The spatial organization of people, their settlements and their activities. Topics range from global patterns of population and resources to individual spatial decisions.
Two lectures, one lab, alternate weeks, one tutorial (one hour) alternate weeks; two terms
Antirequisite: GEOG 1B06

GEO 2B03  SOILS AND THE ENVIRONMENT
An introduction to the physical, chemical and biological properties of soil. Application to environmental and land use impacts.
Two lectures, one lab (two hours); one term
Prerequisite: One of ENVIR SC 1A06 or 1B03, GEO 1B03, GEOG 1G03

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
Prerequisite: One of ENVI R SC 1A06, 1B03, 1G03, 1H03, GEO 1A06, 1B03, 1G03, GEOG 1C03
Antirequisite: GEOG 2F03

GEO 2E03  EARTH HISTORY
Formerly: GEOG 2C03
Geological evolution of the Earth, emphasizing North America, in the context of plate tectonics.
Two lectures, one lab (three hours); one term
Prerequisite: One of ENVIR SC 1A06, 1G03, GEO 1G03, GEOG 1C03
Antirequisite: GEOG 2C03

GEO 2G63  FLUVIAL GEOMORPHOLOGY
Formerly: GEOG 2G03
The effects of moving water on the earth's surface: principles of sediment transport and transport, fluvial flow, and analysis of the resulting landscapes.
Two lectures, one lab (two hours); one term
Prerequisite: One of ENVI R SC 1A06, 1G03, GEO 1G03, GEOG 1G03, GEOG 1C03
Antirequisite: GEOG 2G03

GEO 2G63  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: GEOG 2G63, GEOG 2T03

GEO 2H04  LOCATIONAL ANALYSIS
Formerly: GEOG 2A04
Spatial location theory and spatial analysis methods as related to the siting of resource, manufacturing, and service activities.
Two lectures, one lab (two hours); one term
Prerequisite: One of GEO 1H68, GEOG 1B06
Antirequisite: GEOG 2A03

GEO 2H05  URBAN ECONOMIC GEOGRAPHY
Formerly: GEOG 2B03
Economic-geographical analysis applied to urban problems at different scales of aggregation. Topics include urbanization, urban spatial structure, major urban externalities and urban size.
Three lectures; one term
Prerequisite: One of GEO 1H68, GEOG 1B06
Antirequisite: GEOG 2B03
GEOLOGY 2H03
Formerly: GEOG 2E03
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
Prerequisite: One of GEO 1H06, GEOG 1B06
Antirequisite: GEOG 2P03

GEO 2H03
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
Prerequisite: One of GEO 1H06, GEOG 1B06
Antirequisite: GEOG 2P03

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 1H06, 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
Prerequisite: Registration in a programme within the Social Sciences
Antirequisite: GEOG 2K03

GEO 2HY3
URBAN AND REGIONAL DEVELOPMENT
Formerly: GEOG 2Y03
Contemporary trends in urban and regional development, emphasizing debates on the cases of change and the policies used to address development problems.
Two lectures, one tutorial (one hour); one term
Prerequisite: One of GEO 1H06, GEOG 1B06
Antirequisite: GEOG 2Y03

GEO 2J03
INTRODUCTORY GEOGRAPHIC INFORMATION SYSTEMS
Raster GIS will be introduced using IDRISI while vector GIS will make use of ArcView.
Prerequisite: Registration in a programme within the School of Geography and Geology.

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, GEO 1G03, GEOG 1G03, GEOLOGY 1C03; 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 2D03
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, GEO 1G03, GEOG 1G03, GEOLOGY 1C03 or permission of the instructor
Antirequisite: GEOLOGY 2D03

GEO 2S03
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: STATS 1CC3, registration in a programme within the School of Geography and Geology
Antirequisite: GEOG 2N03

GEO 2W03
PHYSICAL HYDROLOGY: SURFACE
Formerly: GEOG 2W03
Hydrological processes including precipitation, snowmelt, slope runoff, streamflow and hydrological data analysis.
Two lectures, one lab (two hours); one term
Prerequisite: STATS 1CC3 and one of ENVIR SC 1A06, 1B03, 1G03, 1H03, GEO 1A03, 1B03, 1G03, GEOG 1G03, 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 2P03 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 3E03
SEDIMENTARY FACIES AND ENVIRONMENTS
Formerly: GEOLOGY 3F03
Sedimentary, stratigraphy and depositional environments of clastic and carbonate systems.
Three lectures; one term
Prerequisite: One of GEO 2E03, GEOLOGY 2C03
Antirequisite: GEOG 3F03

GEO 3F03
FIELD METHODS
Formerly: GEOLOGY 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 are announced in March. Students enrolling in this course must pay both the incidental fees, as prescribed by the Department, and the regular tuition fees.
Prerequisite: one of GEO 2S03, 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: Registration in a programme of the School of Geography and Geology or permission of the instructor
Antirequisite: GEOLOGY 2E01, 2EE2, 3E02
GEOG 2Y03: THE SEGREGATION, INNER-CITY GENTRIFICATION, SUBURBAN DEVELOPMENT

Prerequisites: One of GEO 2G03, GEOG 2T03

Antirequisites: GEOG 3M03

GEOG 3H03: TRANSPORTATION GEOGRAPHY

Prerequisites: GEOG 3D03

Two lectures, one lab (two hours); one term

Prerequisites: One of GEO 1H85, GEOG 1B06 or ECON 1A06

Antirequisite: GEOG 3D03

GEOG 3H53: FIELD STUDY IN HUMAN GEOGRAPHY

Prerequisites: GEOG 3E03

Introduction to field research in Human Geography, usually in the Hamilton area.

Prerequisites: One of GEO 2S03, GEOG 2N03 and one of GEO 2HR3, GEOG 2RR3

Antirequisite: GEOG 3E03

GEOG 3H03: POPULATION GROWTH AND DISTRIBUTION

Prerequisites: GEOG 3G03

Prerequisites: One of GEO 1H86, GEOG 1B06

Antirequisite: GEOG 3G03

GEOG 3H33: GEOGRAPHY OF JAPAN

Prerequisites: GEOG 3J03

Human and physical geography of Japan with emphasis on historical, international, demographic and economic aspects.

Three lectures; one term

Prerequisites: One of GEO 1H86, GEOG 1B06 or registration in a Japanese Studies programme.

Cross-list: JAPAN ST 3J03

Antirequisite: GEOG 3J03

GEOG 3H33: GEOGRAPHY OF A SELECTED WORLD REGION

Prerequisites: GEOG 3P03

The study of an area outside of North America which will include topics in physical and human geography.

Three lectures; one term

Prerequisites: GEOG 3P03

Antirequisites: GEOG 3P03

GEOG 3H33: GEOGRAPHY OF PLANNING

Prerequisites: GEOG 3T03

A review of historical and contemporary approaches to city and regional planning problems.

Two lectures, one lab (two hours); one term

Prerequisites: One of GEO 2HA3, 2HB3, 2HY3, GEOG 2A03, 2B03, 2Y03

Antirequisite: GEOG 3T03

GEOG 3H33: URBAN MODELS AND POLICY ANALYSIS I

Prerequisites: GEOG 3X03

A survey of modern literature on urban spatial structure. Topics include morphology, adjustments to change, and such phenomena as sudden urban growth and the decline of central cities.

Two lectures; one lab (two hours); one term

Prerequisites: One of GEO 2HR3, 2HR6, GEO 2H03, GEOG 2B03

Antirequisite: GEOG 3T03

GEOG 3H33: URBAN SOCIAL GEOGRAPHY

Prerequisites: GEOG 3Z03

The social geography of North American cities. Topics include commuting, segregation, inner-city gentrification, suburban development.

Lectures and seminars; one term

Prerequisites: One of GEO 2HR3, GEOG 2RR3, GEO 2HY3 and 2HD3 or GEOG 2Y03 and 2D03 are recommended.

Antirequisite: GEOG 3Z03

GEOG 3I03: APPLIED GIS

Prerequisites: GEOG 3N03

Building on GEO 2I03 this course will focus on issues surrounding GIS database creation and use. This topics will include spatial and aspatial query, map preparations and coordinate conversion, and GIS data output.

Two lectures, one lab (two hours); one term

Prerequisites: One of GEO 2I03, GEOG 2L03

Antirequisite: GEOG 3N03

GEOG 3K03: IGNEOUS AND METAMORPHIC PETROLOGY

Prerequisites: GEOG 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

Prerequisites: One of GEO 2K03, 2K03, GEOG 2B06

Antirequisite: GEOG 3C03, 3D03

GEOG 3L03: PALEONTOLOGY

Prerequisites: GEOG 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

Prerequisites: One of GEO 2P03, GEOG 2J03

Antirequisite: GEOG 3J03

GEOG 3M03: RESEARCH METHODS AND COMMUNICATION

Prerequisites: GEOG 3L03

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

Prerequisites: One of GEO 2S03, GEOG 2N03

Antirequisites: GEOG 3L03

GEOG 3N03: MULTIVARIABLE ANALYSIS IN GEOGRAPHY

Prerequisites: GEOG 3L03

Management and analysis of multivariable data sets in human and physical geography, with an emphasis on multiple regression.

Two lectures, one lab (two hours); one term

Prerequisites: One of GEO 2B03, GEOG 2N03

Antirequisites: GEOG 3L03

GEOG 3O03: ENVIRONMENTAL SYSTEMS

Prerequisites: GEOG 3L03

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.

Prerequisites: MATH 1A03, registration in B.Sc. Geoscience, or any Level III Honours programme in the Faculties of Science and Engineering

Antirequisite: CIV ENG 2103, GEOLOGY 2K03

GEOG 3P03: PHYSICAL HYDROLOGY: SUBSURFACE

A study of subsurface water movement and storage including soil moisture, groundwater flow, wells, and diffusional flow.

Two lectures, one lab (two hours); one term

Prerequisites: One of MATH 1A03 and one of GEO 2W03, GEOG 3W03

Antirequisites: GEOG 3P03

GEOG 3Q03: 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

Prerequisites: One of GEO 2Q03, GEOG 2N03 and one of GEO 2T03, GEOG 2L03 and registration in an Honours programme in the School of Geography and Geology

Antirequisite: GEOG 3P03

GEOG 3R03: STRUCTURAL GEOLOGY

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

Prerequisites: One of ENVIR SC 1A06, GEO 1G03, 1H03, GEOLOGY 1C03

Antirequisite: GEOLOGY 2B03
GEO 3Z23  GEODYNAMICS
Formerly: GEOLOGY 2103
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, 1B05, 1C03, 1C66
Antirequisite: GEOLOGY 2103, PHYSICS 2103

GEO 4A03  ENVIRONMENTAL ASSESSMENT
Formerly: GEOG 3UU3
Technological 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 3UU3

GEO 4B03  WETLAND BIOPHYSICAL CLIMATOLOGY
A discussion of biophysiological processes at the watershed level to examine the impact of natural and atmospheric disturbance on the environmental quality of stream and wetland ecosystems.
Two lectures, one lab (two hours); one term
Prerequisite: One of GEO 3B03, GEOG 3P03

GEO 4C03  ADVANCED PHYSICAL CLIMATOLOGY
This course develops energy and mass exchange processes in the near surface layer, the lower atmosphere and at the earth-atmosphere interface. Sensitivities of these processes to environmental change and feedback mechanisms are examined. Seminars and individual presentations are emphasized.
Two lectures; one lab (two hours) one term
Prerequisite: One of GEO 2C03, GEOG 2F03

GEO 4D03  REVIEW PAPER
Formerly: GEOG 4CC3
The student will conduct a comprehensive review of a selected topic. A review paper is due before the final examination period.
One seminar (two hours); first term
Prerequisite: One of GEO 3P03, GEOG 3S03 and registration in Level IV of an Honours programme in the School of Geography and Geology.
Antirequisite: GEOG 4D03

GEO 4E03  LAND USE AND TRANSPORTATION
Formerly: GEOG 4H03
Methods for the analysis and prediction of transportation and land use patterns in cities, with applications to urban planning and pollution problems.
Three lectures; one term
Prerequisite: one of GEO 2S03, GEOG 2N03
Cross-list: CIV ENG 4H03
Antirequisite: GEOG 4H03

GEO 4F03  BASIN ANALYSIS AND PETROLEUM GEOLOGY
Formerly: GEOLOGY 4M03
Formation and development of sedimentary basins, with applications to fossil fuels. Seismic and sequence stratigraphy of basin fill, as controlled by tectonics, eustasy and climate: thermal and diagenetic history of basins and rocks.
Three lectures; one term
Prerequisite: One of GEO 3F03, GEOG 3M03
Antirequisite: GEOLOGY 4M03

GEO 4G03  ADVANCED GIS AND SPATIAL ANALYSIS
Formerly: GEOG 4R03
Advanced methods in GIS using ARC/INFO. Topics will include raster based analysis, working with linear features, surface modelling and AML programming.
Two lectures, one lab (two hours); one term
Prerequisite: One of GEO 3I03, GEOG 3N03 with a grade of at least B+. or permission of the instructor
Antirequisite: GEOG 4R03

GEO 4H03  URBAN SEDIMENTS
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.
Two lectures, one lab (two hours); one term
Prerequisite: One of GEO 3G03, GEOG 3M03

GEO 4H03  THE LANDSCAPE OF URBAN HOUSING
Formerly: GEOG 4Z03
Historical-geographical patterns in the way housing landscapes are produced, occupied and used. The effects of planning and housing policy on the landscape.
Lectures and seminars; one term
Prerequisite: One of GEO 3H03, GEOG 3L03, GEOG 3M03 and one of GEO 3P03, GEOG 3N03 are recommended
Antirequisite: GEOG 4Z03

GEO 4I03  URBAN DEVELOPMENT AND POLICY ISSUES
Formerly: GEOG 4R03
Current debates on urban development and policy issues. Emphasis on the political economy of urban change.
Three lectures; one term
Prerequisite: One of GEO 2Y03, GEOG 2Y03, or permission of the instructor
Antirequisite: GEOG 4R03

GEO 4K03  MINERALOGY
Formerly: GEOLOGY 4G03
Advanced topics in crystal chemistry and mineralogy, with emphasis on mineral spectroscopies.
Two lectures, one tutorial; one term
Prerequisite: One of GEO 2K03, 2K03, GEOG 2B06
Antirequisite: GEOLOGY 3G03, 4G03
Offered in alternate years. Offered in 1998-99.
GEOL 4P03 INQUIRY: CORAL REEFS
Formerly: GEOLOGY 4D03
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.
Two lectures, one seminar, one term
Prerequisite: GEO 2P03 or GEOLOGY 2J03 and one of GEO 3P03 or GEOLOGY 3J03 or completion of at least 12 units of Level III Biology
Antirequisite: GEOLOGY 4D03

GEOL 4Q03 ENVIRONMENTAL GEOCHEMISTRY
Formerly: GEOLOGY 4Q03
Two lectures, one lab (two hours); one term
Prerequisite: One of GEO 3Q03, GEOLOGY 3Q03
Antirequisite: GEOLOGY 4Q03

GEOL 4R06 SENIOR THESIS
Formerly: GEOG 4C06, 4V06, GEOLOGY 4K06
Students will select research topics and prepare a thesis either individually or in teams. Students registered in the GIS specialist stream of the Honours Geography B.Sc. Program are required to include GIS work in their thesis.
One seminar (two hours); two terms
Prerequisite: A grade of B+ in GEO 3R03 or GEOLOGY 3Q03, a Cumulative Average of at least 6.0 or permission of the course coordinator
Antirequisite: GEO 4CC3, GEOG 4CC3, 4C06, 4V06, GEOLOGY 4K06

GEOL 4S03 SPATIAL AND GEOSTATISTICS
This course explores concepts and methods in visualisation, exploration and modelling of point pattern, spatially continuous data and area data.
Three hours, one term
Prerequisite: One of GEO 2S03, GEOLOGY 2H03

GEOL 4T03 PLATE TECTONICS AND ORE DEPOSITS
Formerly: GEOLOGY 4T03
Synthesis of plate tectonics, with application to crustal evolution and generation of ore deposits.
Three lectures; one term
Prerequisite: One of GEO 2E03, GEOLOGY 2C03; credit or registration in GEO 3K03 or GEOLOGY 3C03
Antirequisite: GEOLOGY 4T03

GEOL 4W03 HYDROLOGIC MODELLING
Formerly: GEOG 4W03
Principles of numerical modelling and examination of selected hydrologic models.
Two lectures, one lab (two hours); one term
Prerequisite: One of GEO 2W03, 3W03 or GEOG 3W03
Antirequisite: GEOG 4W03

GEOL 4X03 INQUIRY: CLIMATE CHANGE - A GEOSPHERIC PERSPECTIVE
Formerly: GEOLOGY 4C03
Ancient and recent changes in the Earth's climate recorded in natural materials. Geologic records of climatic catastrophism and cyclicity, natural causes of past change and human influences on climate.
Two lectures, one tutorial; one term
Prerequisite: Registration in Level IV of an Honours programme in the Faculty of Science
Antirequisite: GEOLOGY 4C03

Enrolment is limited. However, students enrolled in an Honours School of Geography and Geology programme will be admitted. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

GEO 4Z03 GEOPHYSICS - MINING EXPLORATION METHODS
Formerly: GEOLOGY 3A03
Interpretation of geophysical survey data for regional geological mapping. Techniques covered are magnetics, gravity and radiometrics. Introduction to image processing and model interpolation.
Two lectures, one lab (two hours); one term
Prerequisite: GEO 2E03 or GEOLOGY 2C03, GEO 3I03 or GEOG 3N03, and GEO 3M03 or GEOLOGY 2D03
Antirequisite: GEOLOGY 3A03
Alternates with GEO 4Z23.

GEO 4Z23 GEOPHYSICS - OIL EXPLORATION METHODS
Formerly: GEOLOGY 3B03
Introduction to seismic reflection and refraction, ground probing radar, EM; electrical methods for mapping rocks and fluids in the subsurface. Introduction to digital signal processing.
Two lectures, one lab (two hours); one term
Prerequisite: GEO 2E03 or GEOLOGY 2C03, GEO 3I03 or GEOG 3N03, and GEO 3Z03 or GEOLOGY 2D03,
Antirequisite: GEOLOGY 3B03
Alternates with GEO 4Z03.

GEOL 4Z33 GEOPHYSICS - MINING EXPLORATION METHODS
Formerly: GEOLOGY 3A03
Interpretation of geophysical survey data for regional geological mapping. Techniques covered are magnetics, gravity and radiometrics. Introduction to image processing and model interpolation.
Two lectures, one lab (two hours); one term
Prerequisite: GEO 2E03 or GEOLOGY 2C03, GEO 3I03 or GEOG 3N03, and GEO 3M03 or GEOLOGY 2D03,
Antirequisite: GEOLOGY 3A03
Alternates with GEO 4Z23.

GEOL 4Z23 GEOPHYSICS - OIL EXPLORATION METHODS
Formerly: GEOLOGY 3B03
Introduction to seismic reflection and refraction, ground probing radar, EM; electrical methods for mapping rocks and fluids in the subsurface. Introduction to digital signal processing.
Two lectures, one lab (two hours); one term
Prerequisite: GEO 2E03 or GEOLOGY 2C03, GEO 3I03 or GEOG 3N03, and GEO 3Z03 or GEOLOGY 2D03,
Antirequisite: GEOLOGY 3B03
Alternates with GEO 4Z03.

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 Geography 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
ENVIR SC 1G03 GEO 1G03 Geosphere
GEOLOGY 2B04 GEO 2M04 Optical Crystallography
GEOLOGY 2B06 GEO 2K03 Geology and Mineralogy
GEOLOGY 2B07 GEO 2J03 Crystallography and Environmental Geology
GEOLOGY 2C03 GEO 2E03 Earth History
GEOLOGY 2D03 GEO 3Z03 Structural Geology
GEOLOGY 2EE2 GEO 3F03 Field Camp
GEOLOGY 2F03 GEO 3Z03 Geodynamics
GEOLOGY 2I03 GEO 2P03 Introductory Palaeontology
GEOLOGY 2K03 GEO 3U03 Environmental Systems
GEOLOGY 3A03 GEO 4Z03 Geophysics
GEOLOGY 3B03 GEO 4Z23 Mining Exploration Methods
GEOLOGY 3C03 GEO 3K03 Geophysics
GEOLOGY 3F03 GEO 3E03 -Oil Exploration Methods
GEOLOGY 3G03 GEO 3P03 Igneous And Metamorphic Petrology
GEOLOGY 3J03 GEO 3P03 Sedimentary Facies And Environments
GEOLOGY 3Q03 GEO 3Q03 Palaeontology
GEOLOGY 4A03 GEO 4FE3 Geochemistry
GEOLOGY 4C03 GEO 4X03 Field Course
GEOLOGY 4D03 GEO 4P03 Inquiry: Climate Change
GEOLOGY 4E03 GEO 4K03 -A Geological Perspective
GEOLOGY 4G03 GEO 4K03 Inquiry: Coral Reefs
GEOLOGY 4H03 GEO 4K03 Mineralogy
GEOLOGY 4I03 GEO 4K03 Inquiry: Minerals And Society
GEOLOGY 4K06 GEO 4P06 Senior Thesis
GEOLOGY 4M03 GEO 4E03 Basin Analysis And Petroleum Geology
GEOLOGY 4Q03 GEO 4Z03 Environmental Geochemistry
GEOLOGY 4T03 GEO 4T03 Plate Tectonics And Ore Deposits
GERONTOLOGY

Faculty as of January 15, 1998

Director
C.J. Rosenthal

Professors
Michael J. MacLean(Gerontology/Social Work) B.A. (St. Thomas), M.A. (Saskatoon), Ph.D. (London) / part-time
Carolyn J. Rosenthal(Gerontology/Sociology) B.A. (Toronto), M.A., Ph.D. (McMaster)
Ellen B. Ryan(Psychiatry/Gerontology) B.A., M.A. (Brown), Ph.D. (Michigan)

Associate Professors
Margaret Denton(Gerontology/Sociology) B.A., M.A. (McMaster)
John Hirleau(Health Studies & Gerontology) B.Sc., M.A., Ph.D. (Waterloo) / part-time

Assistant Professors
Anju Joshi(Gerontology) B.A., M.A. (Dalhousie)
Christopher Justicel(Gerontology) B.A. (Simon Fraser), M.A., Ph.D. (McMaster)
Sheree D. Meredith(Gerontology/Social Work) B.A. (Trent), M.S.W. (Wilfrid Laurier)

Associate 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. Turpin (Medicine and Geriatric Medicine) (Student Representative)

Courses  If no prerequisite is listed, the course is open.

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 2A03  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 homoeostatic controls and the maintenance of optimal operation for various organs.
Three hours (lectures); one term
Prerequisite: GERONTOLOGY 1A06

GERONTOLOGY 2B03  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
Antirequisite: GERONTOLOGY 3D03, 2C03

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, 2AA3
Not open to students with credit in SOCIOLOGY 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  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 II 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 PSYCHOLOGY 3D03.

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.
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
Prerequisite: GERONTOL 2C03 or 3C03; and registration in any Gerontology Second Degree programme or Level III or IV of any Gerontology programme

GERONTOL 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

GERONTOL 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.

GERONTOL 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: Six units of Social/Cultural Anthropology or registration in any programme in Gerontology
Cross-list: ANTHROP 3Q03

GERONTOL 4A06 GERONTOLOGY THESIS
Research projects with individual faculty members.
Prerequisite: GERONTOL 3B03; and registration in any Gerontology Second Degree programme or Level III or IV of any Gerontology programme

GERONTOL 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 lectures, discussions and practice.

Three hours (lectures and discussion); one term
Prerequisite: GERONTOL 3B03; and registration in any Gerontology Second Degree programme or Level III or IV of any Gerontology programme

GERONTOL 4C03 SPECIAL TOPICS IN GERONTOLOGY
Topics may vary from year to year. Students should consult the Committee of Instruction prior to registration, concerning topics to be examined.
Prerequisite: Registration in Level IV of a Combined Honours Programme in Gerontology and Another Subject or any Gerontology as a Second Degree programme

GERONTOL 4D03 CURRENT ISSUES IN GERONTOLOGY
The content of the course will vary from year to year; please consult the Chair of the Gerontology Committee of Instruction for details.
Prerequisite: Registration in Level IV of a Combined Honours Programme in Gerontology and Another Subject or any Gerontology as a Second Degree programme

GERONTOL 4E03 ADVANCED SEMINAR IN GERONTOLOGY
This course will focus on issues related to aging research in gerontology.
Three hours (lectures and discussion); one term
Prerequisite: GERONTOL 2C03 or 3C03 and registration in Level IV of a Combined Honours programme in Gerontology and Another Subject or any Gerontology as a Second Degree programme

GERONTOL 4F06 DIRECTED RESEARCH FOR SECOND DEGREE 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.
Prerequisite: Registration in the B.A. Gerontology as a Second Degree programme

GERONTOL 4G03 INDEPENDENT STUDY IN GERONTOLOGY FOR SECOND 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.
Prerequisite: Registration in Gerontology as a Second Degree programme

GERONTOL 4S03 SOCIAL POLICY AND THE AGING POPULATION
Critical examination of the social and economic implications of the aging population and the nature of social welfare policy with respect to the elderly.
Three hours (seminar); one term
Prerequisite: Registration in Level IV of the Combined Honours Programme in Gerontology and Another Subject or any Gerontology as a Second Degree programme

Not open to students with credit in SOC WORK 4A03
Enrolment is limited

Course List: Other Designated Gerontology Courses
Students should check the prerequisites for these courses in the Course Listings section of the Calendar.

ANTHROP 3Q03 Medical Anthropology: The Biomedical Approach
ECO 3D03 Labour Economics
ECO 3YY3 Selected Topics II: The Economics of Aging
ECON 3Z03 Health Economics
GEO 4H03 Geography of Health Care (formerly GEOG 4S03)
HTH SCI 3B03 Science, Health and Society
PHILOS 3C03 Advanced Bioethics
PSYCH 3K03 Cognitive Neuropsychology of Aging
RELIB ST 2M03 Death and Dying: Comparative Views
RELIB ST 2N03 Death and Dying: Western Experience
RELIB ST 2W03 Health, Healing and Religion
SOC WORK 3C03 Social Aspects of Health and Disease
SOC WORK 4L03 Social Work with an Aging Population
SOCIOLOG 3C03 Special Topics in Sociology of the Family and the Life Cycle
SOCIOLOG 3G03 Sociology of Health Care
SOCIOLOG 3H03 Sociology of Health

Other courses may substitute for courses on this list. Students wishing to designate a course not in Course List 1 must consult the Chair of the Committee of Instruction, prior to registration.

GLOBALIZATION, SOCIAL CHANGE AND THE HUMAN EXPERIENCE
(SEE THEME 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, 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 1C7

HTH SCI 1B07 HUMAN BIOLOGICAL SCIENCE I
Term I examines cell structure, function and communication mechanisms and muscle-skeletal 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 1C08 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 1CC7 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, 1ZZ4

HTH SCI 1D06 TOPICS IN BIOLOGICAL SCIENCES
This course covers basic concepts of human structure and function,
genetics and embroylogy 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 the B.Sc.N. programme and permission of the
instructor

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 1CC7

HTH SCI 2A02 TOPICS IN HUMAN BIOLOGICAL SCIENCES I
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; second term
Prerequisite: HTH SCI 1A06 and 1B07, or 1A06, 1Z04 and 1ZZ4, and
registration in Level II of the B.Sc.N. (A) Stream; or HTH SCI 1A06 and
1ZZ4, and registration in Level IV of the B.Sc.N. (B) Stream; or permission
of the instructor
Antirequisite: HTH SCI 2B06

HTH SCI 2B08 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
mechanisms. 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 1A06, 1Z04 and 1ZZ4, and
registration in Level II of the B.Sc.N. (A) Stream; or HTH SCI 1A06 and
1ZZ4, 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 1ZZ4, and registration in Level II of the B.Sc.N. (A) Stream; or HTH SCI 1A06 and 1ZZ4, and registration in Level IV of the B.Sc.N. (B) Stream; or permission of the instructor
Antirequisite: HTH SCI 2B06

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 permission of the instructor
Antirequisite: HTH SCI 2B08

HTH SCI 2C02 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 1ZZ4, and
registration in Level II of the B.Sc.N. (A) Stream; or HTH SCI 1A06 and
1ZZ4, and registration in Level IV of the B.Sc.N. (B) Stream; or permission
of the instructor
Antirequisite: HTH SCI 2B08

HTH SCI 2D02 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 1ZZ4, and
registration in Level II of the B.Sc.N. (A) Stream; or HTH SCI 1A06 and
1ZZ4, and registration in Level IV of the B.Sc.N. (B) Stream; or permission
of the instructor
Antirequisite: HTH SCI 2B08

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 III 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 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 3L3 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
HISTORY

Courses

If no prerequisite is listed, the course is open.

HISTORY 1A06  EUROPE SINCE THE RENAISSANCE
An examination of the principal themes and issues of European history from the Renaissance to 1945.
Three hours (lectures and discussion groups): two terms

HISTORY 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
Prerequisite: Registration in Level II and above

HISTORY 2B06  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 sixteenth 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 2EA3 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 2E06, RELIG ST 2006
Cross-list: RELIG ST 2EA3

HISTORY 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: HISTORY 2E06, RELIG ST 2006
Cross-list: RELIG ST 2EB3

HISTORY 2GG3 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 2GG6

HISTORY 2H06 UNITED STATES HISTORY
The history of the United States from the Colonial Era to the Second World War.
Three lectures; two terms
Prerequisite: Registration in Level II and above

HISTORY 2I03 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 social organization which led to the birth of Europe.
Three lectures; two terms
Prerequisite: Registration in Level II and above

HISTORY 2L05 THE HISTORY OF CANADA
A study of the major social and political forces that have contributed to the development of modern Canada.
Three lectures; two terms
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: CLASSICS 2G06, HISTORY 2L06
Cross-list: CLASSICS 2L03

HISTORY 2L13 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: CLASSICS 2G06, HISTORY 2L06
Cross-list: CLASSICS 2L13

HISTORY 2N06 BRITISH HISTORY, 1500-1950
Emphasis will be placed on the main political, religious, economic and social developments.
Three hours (lectures and discussion groups); two terms
Prerequisite: Registration in Level II and above

HISTORY 3A03 IMPERIAL ISLAM: THE OTTOMANS
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
Prerequisite: Registration in Level II and above

HISTORY 3A13 THE MODERN MIDDLE EAST
A survey of the political and social history of the Middle East from 1800 to the present, with an emphasis on contemporary issues, such as the Islamic impulse and the Arab-Israeli conflict.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level II and above

HISTORY 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
Cross-list: JAPAN ST 3B03

HISTORY 3B13 THE TOWN IN UNITED STATES HISTORY
A survey 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
Prerequisite: Six units of History above Level I

HISTORY 3D03 THE JEWISH WORLD IN NEW TESTAMENT TIMES
A study of Judaism in the Greco-Roman World. The course will explore selected questions in political history, the development of sects and parties, the role of the temple, apocalypticism, and the Dead Sea Scrolls.
Two lectures, one tutorial; one term
Prerequisite: Registration in Level II and above
Cross-list: RELIG ST 3D03

HISTORY 3D06 THE FRENCH REVOLUTIONARY ERA
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
Prerequisite: Six units of History and registration in Level II or above

HISTORY 3G03 BUSINESS HISTORY: THE CANADIAN EXPERIENCE IN INTERNATIONAL PERSPECTIVE
An examination of major developments in the formation of the modern corporation and the international business system, including a consideration of the impact of the business system on Canadian society.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level II and above

HISTORY 3GG3 CHINA: THE REVOLUTIONARY CENTURY, 1895-1995
End of the imperial system; the Republic; the rise of the Communist Party; Communist China: the varieties of revolution.
Three lectures; one term
Prerequisite: Registration in Level II and above
Antirequisite: HISTORY 2GG6

HISTORY 3H06 THE HISTORY OF MODERN RUSSIA
A survey of the history of Russia with major emphasis on the 19th and 20th centuries.
Three lectures; two terms
Prerequisite: Registration in any programme in History or Honours Russian and East European Studies

HISTORY 3H13 THE INTERNATIONAL RELATIONS OF THE EUROPEAN POWERS, 1815-1914
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
Prerequisite: Registration in Level II and above

HISTORY 3I03 THE INTERNATIONAL RELATIONS OF THE EUROPEAN POWERS, 1914-1945
An examination of the German problem; the post-WWII settlement and its failure to prevent another world war; the shaping of present-day Europe by World War II.
Three lectures; one term
Prerequisite: Registration in Level II and above

HISTORY 3J03 CRIME, CRIMINAL JUSTICE AND PUNISHMENT IN MODERN HISTORY
A study of the changing face of the institutions of criminal justice, and of criminal behaviour, as revealed in statistical and conventional historical works. The focus will be on North America, Great Britain and France.
Three lectures; one term
Prerequisite: Registration in Level II and above, with a minimum of six units of History
Enrollment is limited.
HISTORY 3K03  CANADIAN POLITICAL
DEVELOPMENT SINCE 1840
An examination of the changing structure and role of Canadian state since
the Act of Union, with particular attention to the emergence of the modern
regulatory and welfare state.
Three hours (lectures and discussion groups); one term
Prerequisite: HISTORY 2J06
HISTORY 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: One of HISTORY 1L06, 2L06, 2L03, 2L06, RELIG ST 2E06,
or six units of Classics.
Cross-list: CLASSICS 3LL3
HISTORY 3MM3  TOPICS IN ROMAN HISTORY
Studies of Roman history and institutions during the Republic or the
Empire. Consult the Department for the topic to be offered.
Three lectures; one term
Prerequisite: One of HISTORY 1L06, 2L06, 2L03, 3VV3, CLASSICS 2K03
Cross-list: CLASSICS 3MM3
HISTORY 3NN3 may be repeated, if on a different
topic, to a total of six units.
HISTORY 3NO3  THE HISTORY OF THE
CANADIAN WORKING CLASS
An examination of social, political and economic issues shaping the
development of the Canadian working class. This includes investigation
of the ideological divisions, ethnic relations, and gender roles within the
working class and within the labour movement.
Three lectures; one term
Prerequisite: HISTORY 2J06, or registration in a Labour Studies program
Offered in alternate years.
HISTORY 3PO3  RELIGION AND SOCIETY IN CANADA
This course will examine the origin, nature and development of the major
Canadian religious denominations from the 17th to the mid-20th Century.
Three hours (lectures and discussion groups); one term
Prerequisite: Registration in Level II and above
Offered in alternate years.
HISTORY 3QQ3  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 lectures; one term
Prerequisite: Registration in Level II and above
Offered in alternate years.
HISTORY 3RR3  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
HISTORY 3SS3  MATERIAL LIFE IN ENGLAND, 1500-1800
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 3TT3  ASPECTS OF FRENCH CANADIAN HISTORY
Emphasis will be placed on Quebec from the 18th to mid-20th Century.
Three hours (lectures and discussion groups); one term
Prerequisite: Registration in Level II and above
Offered in alternate years.
HISTORY 3UU3  GREEK SOCIETY
Advanced study of selected aspects of the social life of Greece, based on
contemporary literature, documents and artifacts.
Three lectures; one term
Prerequisite: HISTORY 1L06 or 2L03 or 2L06 or six units of Classics, in-
cluding CLASSICS 2K03
Cross-list: CLASSICS 3UU3
Alternates with HISTORY 3VV3.
HISTORY 4B06 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 4C06 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 2D06 and registration in Level III or IV of any Honours programme in History
Students may take only two of HISTORY 4B06, 4C06, 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, 2L06, 3L3, 3U3, CLASSICS 2K03, and registration in Level III or IV of any Honours programme in History
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, 2G03 or 3G03 and registration in Level III or IV of any Honours programme in History
Alternates with HISTORY 4B06.
Enrolment is limited. Departmental permission required.

HISTORY 4G06 TOPICS IN MIDDLE EASTERN AND ISLAMIC HISTORY
Aspects of the social history of the Middle East and Islamic world, such as the Muslim-Christian encounter, gender and ethnicity.
Seminar (two hours); two terms
Prerequisite: One of HISTORY 2E06, 2A3, 2B3, 3A03, 3AA3, and registration in Level III or IV of any Honours programme in History
Enrolment is limited. Departmental permission required.

HISTORY 4H06 CANADIAN WOMEN'S HISTORY
An examination of historical changes in women's roles in Canadian society, particularly since Confederation. This includes investigation of family dynamics, women's work and women's political involvement.
Seminar (two hours); two terms
Prerequisite: HISTORY 2J06 or 3K03 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 4I06 SPECIAL TOPICS IN THE HISTORY OF THE UNITED STATES IN THE 20TH CENTURY
Seminar (two hours); two terms
Prerequisite: One of HISTORY 2H06 or 3E06 and registration in Level III or IV of any Honours programme in History
Enrolment is limited. Departmental permission required.

HISTORY 4J06 SPECIAL TOPICS IN THE HISTORY OF THE UNITED STATES BEFORE 1865
Seminar (two hours); two terms
Prerequisite: HISTORY 2H06 and registration in Level III or IV of any Honours programme in History
Enrolment is limited. Departmental permission required.

HISTORY 4K06 RUSSIA AND REVOLUTION
The impact of modernization upon the Soviet state and society.
Seminar (two hours); two terms
Prerequisite: HISTORY 3H06 and registration in Level III or IV of any Honours programme in History
Enrolment is limited. Departmental permission required.

HISTORY 4L06 SPECIAL TOPICS IN THE HISTORY OF LATE ANTIQUITY AND BYZANTIUM
An examination of the shift from pagan to Christian paradigms in the Mediterranean world, beginning with the conversion of Constantine in 313 and ending with the fall of Constantinople in 1453.
Seminar (two hours); two terms
Prerequisite: Six units from HISTORY 2W06, 3HH3, 3H03, 3J06, 3W03, and registration in Level III or IV of any Honours programme in History
Enrolment is limited. Departmental permission required.

HISTORY 4M06 THE PROGRESSIVE IMPULSE IN CANADA AND THE UNITED STATES
An examination of the social and political reform movements which swept across North America from the 1890's to the 1920's, as various social groups responded to the emergence of the modern corporate economy.
Seminar (two hours); two terms
Prerequisite: One of HISTORY 2H06, 2J06, 3G03, 3K03, 3L03 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 4N06 INDEPENDENT RESEARCH
A reading and/or research programme under the supervision of one member of the Department. A major paper is required, as well as a formal oral examination.
Prerequisite: Registration in Level IV of any Honours programme in History and the attainment of a CA of at least 9.0, and permission of the Department
Enrolment is limited. Departmental permission required.

HISTORY 4P06 THE NORTH AMERICAN CITY, 1700 TO THE PRESENT
An examination of: founders' designs; practices and influence of business communities; the impact of technologies and architecture; spatial organization of class and ethnicity; shelter and urban services; differences between Canadian and American cities.
Seminar (two hours); two terms
Prerequisite: HISTORY 2H06 or 2J06, and registration in Level III or IV of any Honours programme in History. HISTORY 3B03 is recommended.
Antirequisite: HISTORY 4CC6
Students may take only two of HISTORY 4B06, 4CC6, 4H06, 4T06 and 4W06.
Enrolment is limited. Departmental permission required.

HISTORY 4Q06 THE SECOND WORLD WAR
Emphasis will be placed on the military and diplomatic aspects of the subject.
Seminar (two hours); two terms
Prerequisite: HISTORY 3I03 or 3I16 and registration in Level III or IV of any Honours programme in History
Enrolment is limited. Departmental permission required.
HUMANITIES (GENERAL)

Lecturers
Joanne Buckley B.A., M.A., Ph.D. (Western Ontario)
Jill LeBlanc B.A. (McMaster), M.A., Ph.D. (Toronto)
Geoffrey Rockwall B.A. (Haverford College), M.A., Ph.D. (Toronto)

Courses
If no prerequisite is listed, the course is open.

INQUIRY1HU3 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
Enrolment is limited.

HUMAN 1A03 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.
Prerequisite: Registration in Level I or above of a programme in the Faculty of Humanities
HUMAN 1A03 is administered by the Humanities Communications Centre, Togo Salmon Hall, Room 205A or 314.
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 judgement.
Two lectures; one tutorial; one term
Prerequisite: Registration in Humanities I or above
Antirequisite: ARTS & SCI 1306, PHILOS 2R03
HUMAN 2C03 is administered by the Department of Philosophy.

HUMAN 2E03 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. In this context, students will also learn skills such as how to use Windows, word processing, electronic mail, electronic textbases, how to browse the Internet, how to search a database and how to create a WWW page. No previous experience with computers is necessary.
Prerequisite: Registration in the Faculty of Humanities. Humanities I students may select this course as an elective for their Level I programme.
HUMAN 2E03 is administered by the Humanities Communications Centre, Togo Salmon Hall, Room 205A or 314.
Enrolment is limited.

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 Department of English for 1998-99.

HUMAN 2H03 THE DIGITAL IMAGE: COMPUTER GRAPHICS AND DESIGN
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.
Prerequisite: Registration in Level II or above of a programme in the Faculty of Humanities
HUMAN 2H03 is administered by the Humanities Communications Centre, Togo Salmon Hall, Room 205A or 314.
Enrolment is limited.

HUMAN 2J03 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.
Prerequisite: Registration in Level II or above of a programme in the Faculty of Humanities
HUMAN 2J03 is administered by the Humanities Communications Centre, Togo Salmon Hall, Room 205A or 314.
Enrolment is limited.

HUMAN 3A03 TOPICS IN THE PHILOSOPHY AND HISTORY OF COMPUTING
Prerequisite: One of HUMAN 1A03 or 2E03
HUMAN 3A03 may be repeated, if on a different topic, to a total of six units.
HUMAN 3A03 is administered by the Humanities Communications Centre, Togo Salmon Hall, Room 205A or 314.

HUMAN 3B03 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.
Prerequisite: One of HUMAN 1A03 or 2J03
HUMAN 3B03 is administered by the Humanities Communications Centre, Togo Salmon Hall, Room 205A or 314.
Enrolment is limited.

HUMAN 3F03 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 their specific discipline.
Prerequisite: One of HUMAN 1A03, 2E03 or 2J03
HUMAN 3F03 is administered by the Humanities Communications Centre, Togo Salmon Hall, Room 205A or 314.
Enrolment is limited.

HUMAN 3G03 MULTIMEDIA IN THE HUMANITIES
For students in the humanities who want to study computer-based multimedia and create multimedia works. Students will read about and discuss how to critique multimedia works, create such works, and consider the application of multimedia technology to the humanities.
Prerequisite: One of HUMAN 2E03 or 2H03
HUMAN 3G03 is administered by the Humanities Communications Centre, Togo Salmon Hall, Room 205A or 314.
Enrolment is limited.

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.

Courses  If no prerequisite is listed, the course is open.

INDIGENOUS STUDIES ...

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
Prerequisite: INDIG ST 1A00

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 1A00

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 (lecture and seminars); one term
Prerequisite: INDIG ST 1A00

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 similar 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
1998-99: Traditional Indigenous Approaches to Healing and Wellness
An intensive examination of selected political, economic, or social problems faced by selected Indigenous peoples.
Three hours (lecture and seminar); one 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 1006 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 1006 or permission of the instructor
Cross-list: ENGLISH 3X03

INDIG ST 3F06  INDIGENOUS WOMEN'S ISSUES
This course will focus on Indigenous (First Nations, Métis, Inuit) women's issues using traditional Indigenous and western text-based approaches to explore historical, theoretical, social and ecological elements.
Prerequisite: INDIG ST 1A06 or WOMEN ST 1A06 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 CREATIVE ARTS & DRAMA
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.
Prerequisite: INDIG ST 2A06 or permission of the instructor

CAYUGA ...

CAYUGA 1Z06  INTRODUCTION TO CAYUGA LANGUAGE AND CULTURE
This course will study the Cayuga language, in its spoken and written forms, in the context of Iroquoian cultural traditions, values, beliefs and customs.
Three hours (lecture and seminars); two terms

CAYUGA 2Z06  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 ...

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 Iroquoian cultural traditions, values, beliefs and customs.
Three hours (lecture and seminars); two terms

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 1Z06

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
INQUIRY

OJIBWE 1206 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 1206

OJIBWE 2206 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 2206

OJIBWE 3206 ADVANCED OJIBWE
An in-depth study of the structure and the 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 2206

INQUIRY

Note:
Offered for the first time in 1998-99, these Level I courses will unite the expertise of the Faculties' scholars and researchers with the University's distinctive inquiry-based approach to instruction. Students will 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
Enrolment 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
Enrolment 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.

INTERNATIONAL JUSTICE AND HUMAN RIGHTS
(SEE THEME SCHOOL ON INTERNATIONAL JUSTICE AND HUMAN RIGHTS)

ITALIAN
(SEE MODERN LANGUAGES, ITALIAN)

JEWISH STUDIES
(SEE INTERDISCIPLINARY MINORS AND THEMATIC AREAS)

KINESIOLOGY

Faculty as of January 15, 1998
Chair
Janet L. Stakes

Professors Emeriti
Frank J. Haydon/B.A. (Western Ontario), M.A., Ph.D. (Illinois)
Alan J. Smith/B.S.A., M.Ed. (Toronto), D.Ed. (SUNY, Buffalo)

Professors
Cameron J. Blinkie/B.A., B.P.E. (McMaster), M.A., Ph.D. (Western Ontario)
Peter Donnelly/Dip.Ed. (City of Birmingham College), B.A. (Hunter College, N.Y.), M.S., Ph.D. (Massachusetts)
Digby Elliott/B.Sc., M.Sc., Ph.D. (Waterloo)
Timothy D. Lee/B.H.K., M.A. (Windows), Ph.D. (Louisiana State)
J. Duncan MacDougall/B.A., 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)

Janel L. Stakes/B.A. (Western Ontario), M.Sc., Ph.D. (Waterloo)

Associate Professors
Nicola Cipriano/B.P.H.E., M.Sc. (Lakehead)
James J. Dowling/B.H.K., M.H.K., Ph.D. (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. Keynes/B.A., M.A. (Western Ontario), Ph.D. (Ohio State)
Cindy Paci/B.A., B.P.H.E., B.E.I., M.Sc. (Queen's), Ph.D. (Waterloo)
Philip E. White/B.Sc. (London), B.Ed. (Carmegie), M.Sc., Ph.D. (Waterloo)

Davie C. Wilson/B.Ed. (Bristol), M.A. (York)

Assistant Professors
Nancy B. Bouchier/B.A., M.A., Ph.D. (Western Ontario)
Mark A. Tarnopolsky/B.P.E., M.D., Ph.D., F.R.C.P.(C), (McMaster)

Associate Members
Oded Bar-Or/(Paediaiatrics) M.D. (Hebrew Univ., Jerusalem)
Vicki Galea/Rehabilitation Science B.Sc., M.Sc. (Waterloo), Ph.D. (McMaster)

A.J. McCarron/Medicine B.Sc., M.B., B.S. (Durham), F.R.C.P.(C)

Robert S. McKelvie/Medicine B.Sc., M.Sc., M.D. (Western Ontario), Ph.D. (McMaster)
Michael Pyeiroynowski/Rehabilitation Science B.Sc, M.Sc. (Waterloo), Ph.D. (Simon Fraser)

Laurel Swanson/Rehabilitation Science Dip.P&OD, B.Sc. (Toronto), M.Sc. Ph.D. (McMaster)

Department Notes:
1. Kinesiology students may not register in Level III or IV Kinesiology courses until all required Level I and II Kinesiology courses have been successfully completed. (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. To facilitate Kinesiology students who wish to pursue a minor in Sociology, the kinesiology courses cross-listed with Sociology (KINESIO3303/SOIOI 3303 and KINESIO3603/SOIOI 6603) may be taken as elective credit. However, such students must meet the Sociology prerequisite (SOIOI 1A06).
4. The following courses are available for elective credit for students enrolled in Level III or above of a non-Kinesiology program: KINESIOI 3603, 3503, 3303, 3303, 3503, 3303, 4R03, 4J03, 4L03, 4M03, 4G03, 4T00 and 4Y03. Enrolment for such students is limited and places are assigned on a first come basis. All other Kinesiology courses are open only to students registered in the B. Kin. programme.
5. Enrolment in some Level III and IV Kinesiology courses is limited.
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

KINESIOL 1B03 INQUIRY IN KINESIOLOGY
An introduction to inquiry in Kinesiology including qualitative and quantitative research methods.
Three hours (lectures, tutorials, computer labs); one term
Antirequisite: KINESIOL 1B06, STATS 1C03

KINESIOL 1CA0 STANDARD FIRST AID/CPR
The Standard First Aid course meets industry, business and government requirements (13 hours). The CPR, Level C, is designed for individuals with specific health care responsibilities and is taught to the standard of the Heart and Stroke Foundation of Canada (12 hours).
Two hours; one term
Prerequisite: Registration in Kinesiology 1
This is a required non-credit course and must be completed in Level I.

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
Antirequisite: KINESIOL 1B06

KINESIOL 1E03 PSYCHOMOTOR BEHAVIOUR
The behavioural and psychological principles underlying motor control and motor learning.
Three hours (lectures, labs); one term
Antirequisite: KINESIOL 1E06

KINESIOL 2A03 BIOMECHANICS
An introduction to the concepts of kinematics and kinetics of the musculoskeletal system in humans and the forces of gravity, buoyancy and fluid dynamics.
Three hours (lectures, lab); one term
Antirequisite: KINESIOL 2A06

KINESIOL 2B03 SOCIOLOGY OF SPORT
Critical examination of contemporary issues and problems of sport in Canadian society.
Three hours; one term
Antirequisite: KINESIOL 2B06

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 program 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.

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 kinesics and kinetics of human movement, including electro myography, 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, including the elderly, 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 (or PR 69), which is a field placement with special populations.
This course may be taken as elective credit by undergraduates in Level III or above of a non-Kinesiology program; however, enrolment for such students is limited.

KINESIOL 3C03 STATISTICS AND RESEARCH DESIGN
Research design and descriptive and inferential statistics in Kinesiology.
Three hours (lectures); 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
This course may be taken as elective credit by undergraduates in Level III or above of a non-Kinesiology program; however, enrolment for such students is limited.
Antirequisite: KINESIOL 4E03

KINESIOL 3F03 MANAGEMENT CONCEPTS AND PROGRAMME DELIVERY IN HUMAN MOVEMENT WORK ENVIRONMENTS
A macro perspective of administration concepts, tasks and related issues in the delivery of programmes and services within human movement contexts of work, play, sport and athletics, rehabilitation, education and aesthetics.
Three hours (lectures, seminars, project); one term
This course may be taken as elective credit by undergraduates in Level III or above of a non-Kinesiology program; however, enrolment for such students is limited.
Antirequisite: KINESIOL 4F03

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 3JJ3 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 program; however, enrolment for such students is limited.
Antirequisite: KINESIOL 4JJ3

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 $20.00 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
Prerequisite: KINESIOL 3F03
Antirequisite: COMMERCE 2B03
This course may be taken as elective credit by undergraduates in Level III or above of a non-Kinesiology program.
Enrolment is limited.

KINESIOL 3M03 PHYSICAL ACTIVITY FOR THE PHYSIOTHERAPY WORK ENVIRONMENT
An introduction to special populations, including the elderly, 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 3M03 (or PR 69), which is a field placement with special populations.
This course may be taken as elective credit by undergraduates in Level III or above of a non-Kinesiology program; however, enrolment for such students is limited.
KINESIOLOGY 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

KINESIOLOGY 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
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.
Cross-list: SOCIOL 3DD3
Only Kinesiology students who are working towards a minor in Sociology may, if they meet the Sociology prerequisites and with permission of the instructor, register for this course as SOCIOL 3DD3. All other Kinesiology students must register for this course as KINESIOLOGY 3P03.

KINESIOLOGY 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
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.
Cross-list: SOCIOL 3EE3
Only Kinesiology students who are working towards a minor in Sociology may, if they meet the Sociology prerequisites and with permission of the instructor, register for this course as SOCIOL 3EE3. All other Kinesiology students must register for this course as KINESIOLOGY 3Q03.

KINESIOLOGY 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 contemporary perspectives on human potential. Course work includes experiential workshops.
Three hours (lectures and seminars); one term
This course may be taken as elective credit by undergraduates in Level III or above of a non-Kinesiology programme.
Enrolment is limited.

KINESIOLOGY 3T03 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.

KINESIOLOGY 4A06 ADVANCED BIOMECHANICS
In-depth study of the mechanics of human movement including the topics of multi-link 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
Enrolment is limited.

KINESIOLOGY 4A3 LEISURE IN SOCIETY
Investigation of modern leisure with particular emphasis on the social construction of leisure, democrtization 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 KINESIOLOGY 4F03, SELECTED TOPICS IN KINESIOLOGY, or the topic was Sociology of Leisure.

KINESIOLOGY 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

KINESIOLOGY 4C03 CARDIO-RESPIRATORY AND METABOLIC ASPECTS OF HUMAN PHYSICAL PERFORMANCE
Cardio-respiratory factors affecting human physical performance with emphasis upon procedures for maximizing sport performance.
Two lectures, one lab; one term
Antirequisite: KINESIOLOGY 4C06

KINESIOLOGY 4CC3 NEUROMUSCULAR EXERCISE PHYSIOLOGY
Neuromuscular physiology of strength, power, and speed performance, including adaptations to training and training methods.
Two lectures, one lab; one term
Antirequisite: KINESIOLOGY 4C06

KINESIOLOGY 4D03 OUTDOOR EDUCATION
An introduction to skills, pedagogy and perspectives of outdoor education. This course involves a 9 day canoe/camping field component before classes start.
Three hours (lectures, tutorials, field experiences); one term (Approximate cost of field component is $320.00)
Enrolment is limited.

KINESIOLOGY 4EE3 ADVANCED PLACEMENT
Students take part in a supervised practical experience that links classroom knowledge to professional practice. Placements are offered in 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 KINESIOLOGY 3B03, 3F03, 3M03, 4B03 and 4D03 including completion of the corresponding non-credit field placement (or practicum); registration in Level IV Kinesiology and permission of the Undergraduate Coordinator and supervising instructor.

KINESIOLOGY 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.

KINESIOLOGY 4G03 PEDAGOGY OF CONTEMPORARY AND TRADITIONAL WILDERNESS TRAVEL
An introduction to Canadian winter travel skills (traditional and contemporary), travel literature and pedagogy of travel guiding. Part of the course requirement is a mandatory five-day traditional winter travel experience during the February mid-term recess.
Three hours (lectures, tutorials, field experiences); one term
Prerequisite: KINESIOLOGY 4D03
(Approximate cost of field component is $50.00)
Enrolment is limited.

KINESIOLOGY 4H03 PHYSICAL ACTIVITY AND LIFESTYLE INFLUENCES ON CHRONIC DISEASE
The relationship between physical activity and lifestyle and associated lifestyle influences on selected chronic diseases is examined from a biological perspective.
Three hours (two lectures, poster presentation); one term

KINESIOLOGY 4H3 HOKEY 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 KINESIOLOGY 4F03, SELECTED TOPICS IN KINESIOLOGY, or the topic was Hockey in Canadian Culture.

KINESIOLOGY 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, and 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: KINESIOLOGY 4J03
Enrolment is limited.

KINESIOLOGY 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.

KINESIOLOGY 4K3 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: KINESIOLOGY 3K03
Not open to students with credit in KINESIOLOGY 4F03, SELECTED TOPICS IN KINESIOLOGY, or the topic was Rehabilitation Techniques.
Enrolment is limited.
KINESIOLOGY 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.
Enrolment is limited.

KINESIOLOGY 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.
Enrolment is limited.

KINESIOLOGY 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 scouting.
Three hours (lectures); one term
Prerequisite: KINIESIOLOGY 3M03

KINESIOLOGY 4O03 PAEDIATRIC EXERCISE PHYSIOLOGY
Physiologic aspects of physical activity in children and adolescents in health and disease.
Two lectures, one lab; one term
Prerequisite: KINESIOLOGY 3D03
This course may be taken as elective credit by undergraduates in Level III or above of a non-Kinesiology programme.
Enrolment is limited.

KINESIOLOGY 4R03 INDEPENDENT RESEARCH
Investigation of a selected theoretical or applied problem mutually acceptable to instructor and student.
Prerequisite: Registration in Level IV Kinesiology and permission of the Undergraduate Coordinator and supervising instructor by April 30.
Antirequisite: KINESIOLOGY 4RP6

KINESIOLOGY 4RR6 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 with a minimum CA of 7.0 and permission of the Undergraduate Coordinator and supervising faculty member by April 30.
Antirequisite: KINESIOLOGY 4RP3

KINESIOLOGY 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 (lectures/seminar); one term
Prerequisite: KINESIOLOGY 3B03 and one of KINESIOLOGY 3BPO or PR69
Enrolment is limited.

KINESIOLOGY 4S53 AGING, BIOLOGICAL FUNCTIONS 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

KINESIOLOGY 4T03 GENDER, SPORT AND LEISURE
The influence of sport and leisure on the social construction of masculinity and femininity.
Three hours (seminars); one term
This course may be taken as elective credit by undergraduates in Level III or above of a non-Kinesiology programme.
Enrolment is limited.

KINESIOLOGY 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.)

KINESIOLOGY 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
Enrolment is limited.

KINESIOLOGY 4W03 POSTURE AND GA IT
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: KINESIOLOGY 3E03 or 4E03
Not open to students with credit in KINESIOLOGY 4F03, SELECTED TOPICS
Enrolment is limited.

KINESIOLOGY 4X03 CONSUMERISM AND THE HEALTH
Skills necessary to critically evaluate health-related research will be developed with student investigations of topical controversies in health care.
Three hours (lectures and seminar presentations); one term
Not open to students with credit in KINESIOLOGY 4F03, SELECTED TOPICS
Enrolment is limited.

KINESIOLOGY 4Y03 NUTRITION AND METABOLISM
This course focuses on the interactions between metabolic pathways and their regulation and the impact of nutrition on human performance in health and disease.
Three hours (lectures, labs); 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.

KINESIOLOGY 4Z03 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: KINESIOLOGY 3F03 and 3L03

NON-CREDIT FIELD PLACEMENTS ...

KINESIOLOGY 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.
Corequisite: KINESIOLOGY 3B03
This placement must be completed in conjunction with KINESIOLOGY 3B03.

KINESIOLOGY 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 KINESIOLOGY 3F03.

KINESIOLOGY 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 KINESIOLOGY 3J03 or 4J03.

KINESIOLOGY 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 KINESIOLOGY 3M03 or 4M03.

KINESIOLOGY 4B03 CARDIAC REHABILITATION PLACEMENT
This placement is designed to supplement the student's classroom learning of the major issues in post-corporal exercise rehabilitation. Students serve as exercise leaders in the McMaster Cardiac Rehabilitation programme.
This placement may be completed in conjunction with KINESIOLOGY 4B03.

KINESIOLOGY 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 KINESIOLOGY 4D03.
LABOUR STUDIES

Faculty as of January 15, 1998

Director
W. Lewchuk

Profsessors
W. Lewchuk, B.A., M.A. (Toronto), Ph.D. (Cambridge)
R. Storey, B.A. (Western Ontario), M.A. (British Columbia), Ph.D. (Toronto)
D. Wells, B.A. (Dalhousie), Ph.D. (Toronto)
C. Yates, B.A. (Winnipeg), M.A. (Queen's), Ph.D. (Carleton)

Associate Professors
S. Palmer, B.A., M.A. (British Columbia), Ph.D. (McMaster)
A. Harrison, B.A., M.A. (Toronto), Ph.D. (Essex)
R. Storey, B.A. (Toronto), M.A., Ph.D. (Winnipeg)

Assistant Professors
O. Rafferty, B.A. (Western Ontario), M.A., Ph.D. (McMaster)

Associate Members
C. Yates, B.A., M.A. (McMaster)
W. Lewchuk, B.A., M.A. (Toronto), Ph.D. (Cambridge)
R. Storey, B.A. (Toronto), M.A., Ph.D. (Winnipeg)
P. Davenzer, B.A., M.S.W. (York), M.S.W., Ph.D. (Toronto)
A. Robb, B.A., M.A. (British Columbia), Ph.D. (Toronto)
P. Sugimura, B.A., M.A., Ph.D. (Toronto)

Registration in any programme, however, enrolment for such students is limited and permission of the instructor is required.

LABR ST 2A03 TRADE Unions
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
Antirequisite: LABR ST 2A05

LABR ST 2B03 SOCIAL WELFARE I
An examination of social welfare policy and the income security system in Canada in historical perspective.
Lectures and discussion; one term
Prerequisite: LABR ST 2A03
Cross-list: SOC WORK 2803.
Students in a Labour Studies programme must register for this course as LABR ST 2B03.

LABR ST 2B08 SOCIAL WELFARE II
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 2B08

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
Antirequisite: LABR ST 2B03

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 2E03 THE SOCIOLOGY OF ORGANIZATIONS
A theoretical and empirical analysis of formal and informal organizational structures and processes in the major sectors of modern industrial society.
Lectures and discussion; one term
Prerequisite: SOCIOI 1A03 and registration in a Labour Studies programme
Cross-list: SOCIOI 2003
Antirequisite: LABR ST 3003

LABR ST 2F03 ECONOMICS OF LABOUR MARKET ISSUES
This course applies economic analysis to issues of importance in the labour market. Topics vary and may include: women in the Canadian labour market; discrimination in hiring and promotion; unemployment; job loss and workplace closing; work sharing.
Prerequisite: ECON 1A00 or 1B03 and 1B83; registration in a Labour Studies programme or permission of the instructor
Cross-list: ECON 2A03

LABR ST 2G03 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 1A00 or 1B03 and 1B83, and registration in a Labour Studies programme
Cross-list: ECON 2G03

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 2A05 or 2A03; registration in a Labour Studies programme or permission of the instructor
Cross-list: COMMERCE 4B03
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 (seminary); 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.
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 4BC3 and registration in Level III or IV of a Labour Studies programme
Cross-list: COMMERCE 45G3

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 4BH3

LATIN
(SEE CLASSICS, LATIN)

LINGUISTICS
(SEE MODERN LANGUAGES, LINGUISTICS)
MATERIALS SCIENCE AND ENGINEERING

Faculty as of January 15, 1998

Chair
M.B. Ives

University Professor

Professors Emeriti
Wei-Kao Lu/B.Sc. (Queen’s), Ph.D. (Dipan), F.R.S.C., F.A.S.M., P.Eng.

Professors
C.H. Cheh/B.A.Sc. (Ottawa), M.A.Sc., Ph.D. (Toronto)/part-time
Michael J. Graham/B.Sc., Ph.D. (Liverpool), F.N.A.C.E./part-time
Gordon A. Irons/B.A.Sc. (Toronto), Ph.D. (McGill), F.C.I.M., P.Eng., Dolasco/ NSERC Senior Industrial Research Chair in Process Metallurgy
M. Brian Ives/B.Sc., Ph.D. (Bristol), F.A.S.M., P.Eng.
Barry A. Schabes/B.A.Sc., B.Sc., Ph.D. (Toronto), P.Eng./part-time
S.V. Mani Subramanian/B.Sc. (Bangalore), M.Sc., Ph.D. (Sheffield)/part-time

Adjunct Professors
Prasad A. Apte/B.Tech. (IIT, Bombay), Ph.D. (McMaster)
Zoran D. Popovic/Dipl.Eng., M.Sc. (Belgrade), Ph.D. (McMaster)
Gregory X. Zhang/B.Sc. (Beijing Inst. of Aeronautics), M.Sc., Ph.D. (Free University of Brussels)

Associate Professors
Ken S. Caley/B.Sc. (Strathclyde), Ph.D., D.I.C. (Imperial College, London)
Adrian Kitaka/B.Sc. (McMaster), Ph.D. (Cornell), P.Eng.
Gu Xu/M.Sc., Ph.D. (Pittsburgh), D.E.S. (Columbia)

Assistant Professors
Shuping Zhu/B.Eng. (Zhejiang), Ph.D. (McMaster)

Courses

If no prerequisite is listed, the course is open.

MATS 1A03 INTRODUCTION TO MATERIALS SCIENCE
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; first term.

Prerequisite: Registration in the Faculty of Engineering, or ENGINEER 2003, 2004

MATS 2B03 THERMODYNAMICS OF MATERIALS I
Thermodynamics of glasses and critical 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 1A06 or 1A06 or 1E03

Antirequisite: MATLS 2B06

MATS 2D03 THERMODYNAMICS OF MATERIALS II
Solution thermodynamics, reactions and equilibria. Gibbs phase rule; aqueous electrochemistry and Pourbaix diagrams.

Three lectures, one tutorial; second term.

Prerequisite: CHEM 1A03 or 1A06 or 1E03; MATLS 2D03

Antirequisite: MATLS 2D06

MATS 2H03 MEASUREMENTS AND COMMUNICATION
Methods of experimental communication, involving oral and written presentation, basic experimental methods of acquiring, analyzing and presenting data.

Two labs (three hours); first term: one lab (three hours); second term.

Prerequisite: COMP SCI 1A03 or 1MC3 or ENGINEER 1D04, and CHEM 1A01, 1A06 or 1E03, and registration in a programme administered by the Department of Materials Science and Engineering

Antirequisite: MATLS 2H02

MATS 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 2D03; or MATLS 2C04 and CHEM 2P06

MATS 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

Antirequisite: MATLS 3E06

MATS 3I05 THERMODYNAMICS OF MATERIALS III
Introduction to chemical kinetics. Solution thermodynamics and its relationship to binary and ternary equilibrium diagrams. Surface energy; aqueous and high temperature electrochemistry; use of computerized thermodynamics data bases.

Two lectures, one laboratory (three hours) alternating weeks, first term:

Two lectures, one tutorial; second term.

Prerequisite: MATLS 2B06 or 2D03

Antirequisite: MATLS 3D06

MATS 3P03 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.

Prerequisite: ENGINEER 2003 or MATLS 1A03 or 2A02 and ENGINEER 2P04

Antirequisite: ENGINEER 3P03, 3R03
MATLS 3T04 PHASE TRANSFORMATIONS
Review of thermodynamics, binary phase diagrams and solid state diffusion. Role of interfaces; solidification, diffusion and martensitic transformations; welding; oxidation. Materiallographic examination will be featured in laboratory work. Three lectures or tutorial, one lab (three hours); one term
Prerequisite: MATLS 2X02 and MATLS 2A02 or ENGINEER 2003
Corequisite: MATLS 3E04 (or 3E09), 3I05 (or 3D06)
Antirequisite: MATLS 4E03

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 3B03, 3E04

MATLS 4C03 MODERN IRON AND STEELMAKING
Theory and practice of iron making: Heat and material balances, iron making reactors, raw materials, direct reduction and new processes.
Thermodynamics and kinetics of steel making; Hot metal treatment; static and dynamic process control; deoxidation; casting; specially steel making; inclusion engineering.
Three lectures; second 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 project with a selected professor. 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 METHODS OF CHARACTERIZATION
One lecture, one lab (three hours); first term
Prerequisite: MATLS 3E04 (or 3E06), 3I05 (or 3D06), 3T04 (or 3G03)
Antirequisite: MATLS 4L04

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 2WW4, ENGINEER 2003, MATH 2M06 or equivalent

MATLS 4R04 CERAMIC SCIENCE
Microstructural development and properties of traditional ceramics. Acidic, basic, neutral and nonoxidizing refractories; ferro-electric, picoelectric and ferromagnetic ceramics; superionic and structural ceramics.
Three lectures, one laboratory; one term
Prerequisite: GEO 2M04 (formerly GEOLOGY 2B04), MATLS 3B03, 3I05, any of which may be taken concurrently
Antirequisite: CERAMICS 4R05
Offered in alternate years.

MATLS 4S04 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 laboratory; first term
Prerequisite: MATLS 3B03, 3I05 which may be taken concurrently
Antirequisite: CERAMICS 4S03
Offered in alternate years.
Offered in 1998-99.

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 3P03

MATLS 4U04 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 Materials Engineering

MATHMATICS AND STATISTICS

Faculty as of January 15, 1998

Chair
Ian Hambleton

Associate Chair
Ernest R. Mead

Professors Emeriti
Bernhard Banaschewski/Dipl. Math., Dr.reer.nat. (Hamburg), F.R.S.C., McKay Professor of Mathematics
Ernest A. Behrens/D.Phil. nat. (Hamburg)
Claude E. Billigheimer/B.A., B.Sc., M.A. (Melbourne), Ph.D. (Toronto)
Günther W.A. Bruns/Drer.nat. (Berlin)
Tae Ho Choe/B.S., B.Sc., M.A. (Kyungsuk), Ph.D. (Florida)
Joseph Camara/Dipl. Math., (Eotvos, Budapest), Ph.D. (Toronto)
Charles W.Durnet/M.B.E. BA (McMaster), M.A. (Toronto), D.Sc. (Aberdeen)
Gerard Fiel/B.Sc., Ph.D. (London)
Hans P. Heing/B.Sc. (McMaster), M.A. (Western Ontario), Ph.D. (Toronto)
Tagdir Hasain/B.A., M.A. (Aligarh), Ph.D. (Syracuse)
Norman D. Lane/B.A. (Queen's), M.A., Ph.D. (Toronto)
Rubens G. Luntz/B.A., Ph.D. (Sao Paolo)
William J. McCullough/B.A., M.A. (McMaster)
Bruno J.W. Mueller/B.Sc. (Görlingen), M.Sc., Ph.D. (Mainz)
Alexander Rosa/M.S. (Kiev State), Ph.D. (Slovak Acad. Sciences)
James P. Stewart/B.Sc. (Toronto), M.S. (Stanford), Ph.D. (Toronto)
Moti L. Tiku/B.A. (Kashmir), M.Sc. (Patna), Ph.D., Ph.D. (Aberdeen)

Professors
N. Balakrishnan/B.Sc., M.Sc., Ph.D. (Madras), Ph.D. (I.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., Ph.D. (Warwick), 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. Hurdi/B.Sc. (Queen's), D.Phil. (Oxford)/Undergraduate Advisor
Manfred Kolster/Dipl. (Hamburg), Dr. rer. nat. (Saarbruecken), Habili.
(Munster)/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.reer.nat., Habili. (Bonn)
S. Gopal Mohanty/B.A. (Utkal), M.A. (Panjib), Ph.D. (Alberta)
Gregory H. Moore/B.A. (Berkeley), M.A., M.Sc., Ph.D. (Toronto)
Andrew J. Nicas/B.Sc. (McGill), M.A., Ph.D. (Princeton)
Iarl R. Riehm/B.A. (Toronto), Ph.D. (Princeton)
Patrick C. Sawler/B.A., M.A. (Alberta)

Ph.D. (McGill), Ph.D. (Alberta)

Patrick C. Yip/B.Sc. (Memorial), Ph.D. (McMaster)
An introduction to differential and integral calculus.

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 1C03, 1N03, 1N06, ARTS&SCI 1D06

See Note 2 above.

MATH 1A03 CALCULUS I

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 1C03, 1N03, 1N06, 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 1N06

MATH 1H05 ENGINEERING MATHEMATICS I

Matrices and determinants, vectors and vector spaces, linear 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 Science do not retain credit for this course.
MATH 2M06  ENGINEERING MATHEMATICS II
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 one of 1N06 or 1N3

MATH 2P04  DIFFERENTIAL EQUATIONS FOR ENGINEERING
Three lectures and two tutorials; one term
Prerequisite: One of MATH 1H05 and MATH 1N06, or 1N3 and 1N3 or registration in Honours Neural Computation

MATH 2Q04  ADVANCED CALCULUS FOR ENGINEERING
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 or 1N06, or 1N3 and 1N3; or registration in Honours Neural Computation and credit or registration in MATH 1B03

MATH 2R03  LINEAR ALGEBRA II
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, 1A06, 1A07, 1C06, 1N06, 1N3, ARTS & SCI 1D16 and one of MATH 1B03, 1H05
Antirequisite: MATH 2B03, 2U03

MATH 2S03  LINEAR ALGEBRA III
Canonical forms, determinants, bilinear forms, groups of linear transformations, other topics selected by the instructor.
Three lectures; one term
Prerequisite: MATH 2R03
Antirequisite: MATH 2B00, 2J05, 2T03

MATH 2T03  APPLIED LINEAR ALGEBRA
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 2B06, 2J05, 2S03

MATH 3A03  REAL ANALYSIS I
The real number system, metric spaces, compactness, sequences and series, continuity, differentiability, the Riemann-Stieltjes integral, uniform convergence.
Three lectures; one term
Prerequisite: MATH 2C03, and one of MATH 2A03, 2A06, and one of MATH 2F03, 2G05
Prerequisite: (Effective 1999-2000): MATH 2AB3
Antirequisite: MATH 3A05

MATH 3A03  REAL ANALYSIS II
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
Antirequisite: MATH 3A05

MATH 3B03  INTRODUCTION TO DIFFERENTIAL GEOMETRY
Curves and surfaces, Gaussian curvature, geodesics, parallel transport, Gauss-Bonnet theorem, selected topics by the instructor.
Three lectures; one term
Prerequisite: One of MATH 2A03, 2A06, 2G03 and one of MATH 2B06, 2J05, 2R03

MATH 3C03  MATHEMATICAL PHYSICS I
Linear algebra and eigenvalue problems; partial differential equations, orthogonal functions, Fourier series, Legendre functions, spherical harmonics.
Three lectures; one term
Prerequisite: One of MATH 2A03, 2A05, 2G03, 2Q04; and one of MATH 2C03, 2G03, 2P04. One of PHYSICS 2B06, 2C03, 2D03, 2G03, or 2K03 is recommended.
Antirequisite: MATH 3V06
Not open to students with credit or registration in MATH 3F03, 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, 3V06
Not open to students with credit or registration in MATH 3J04, 3K03. Not open to students registered in Honours Mathematics and Physics.

MATH 3E03  ALGEBRA I
An introduction to group theory, including Sylow theorems and structure of finitely generated Abelian groups; applications of group theory.
Three lectures; one term
Prerequisite: One of MATH 2B06, 2S03

MATH 3E03  ALGEBRA II
Topics in ring and module theory, in particular principal ideal domains, unique factorization domains, Euclidean rings; field theory and Galois theory.
Three lectures; one term
Prerequisite: MATH 3E03

MATH 3F03  ADVANCED DIFFERENTIAL EQUATIONS
Three lectures; one term
Prerequisite: MATH 2C03, and one of MATH 2A03, 2A06, and credit or registration in one of MATH 2R03, 2B06, 2J06
Antirequisite: MATH 3F06

MATH 3F03  PARTIAL DIFFERENTIAL EQUATIONS I
First order equations, well-posedness, characteristics, wave equation, heat equation, Laplace equation, boundary conditions, Fourier series, applications.
Three lectures; one term
Prerequisite: MATH 2A03, 2C03, 2P03
Antirequisite: MATH 3F06

MATH 3H03  NUMBER THEORY
Selected topics from: congruence and residues, continued fractions, approximation of irrationals, arithmetic in selected quadratic number fields, Diophantine equations, partitions, geometry of numbers, quadratic reciprocity.
Three lectures; one term
Prerequisite: Credit in at least 12 units of Level II Mathematics or Statistics

MATH 3I03  PARTIAL DIFFERENTIAL EQUATIONS FOR ENGINEERING
Topics in partial differential equations of interest to mechanical, material and ceramic engineering, including the wave equation, the heat diffusion equation and Laplace equation, in various 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

MATH 3J04  ENGINEERING MATHEMATICS III
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

MATH 3K03  ENGINEERING MATHEMATICS III
Complex variable theory with applications to electrical and computer engineering.
Three lectures; one term
Prerequisite: MATH 2P04 and 2Q04
Antirequisite: MATH 3D03

MATH 3L03  INTRODUCTION TO MATHEMATICAL LOGIC
Propositional and first order logic, deduction systems, completeness and compactness theorems, model theory.
Three lectures; one term
Prerequisite: One of MATH 2B06, 2J05, 2S03, 2T03

MATH 3M03  MATHEMATICAL BIOLOGY
Three lectures; one term
Prerequisite: MATH 2E03 and 3F03
MATH 3Q03  NUMERICAL ANALYSIS
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, 2A06, 2G03, 2Q04 and one of MATH 2C03, 2F03, 2G04. One of COMP SCI 1MA3, 1MC3, 1SA3, 1ZA3, ENGINEER 1004 is recommended.

MATH 3R03*  LINEAR PROGRAMMING
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

MATH 3X03  COMPLEX ANALYSIS I
Analytic functions, Cauchy's theorem, Cauchy's integral formula, residues, zeroes of analytic functions; Laurent series, the maximum principle.
Three lectures; one term
Prerequisite: MATH 3A03,
Prerequisite (Effective 1999-2000): MATH 2AB3
Antirequisite: MATH 3T03, 4A06

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 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 one of MATH 2A03, 2A06 and one of MATH 2B06, 2S03

MATH 4BB3  DIFFERENTIAL GEOMETRY
Riemannian metrics, connections, curvature, topological and analytical properties of Riemannian manifolds.
Three lectures; one term
Prerequisite: MATH 4C03

MATH 4C03*  COMBINATORICS
Inversion formulae, systems of distinct representatives, block designs and other configurations, and other topics.
Three lectures; one term
Prerequisite: One of MATH 2A03, 2A06, 2G03 and one of MATH 2B06, 2G06, 2S03

MATH 4E03  ALGEBRA III
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 4E03  ALGEBRA IV
Selected topics in algebra, such as: representation theory, rings and modules, homological algebra.
Three lectures; one term
Prerequisite: MATH 4E03

MATH 4F03*  SET THEORY
Ordinal and cardinal arithmetic, equivalents of the axiom of choice, the Zermelo-Frankel axiom system, the continuum hypothesis, independence.
Three lectures; one term
Prerequisite: One of MATH 2B06, 2J06, 2S03, 2T03
Alternate with MATH 4G03*.
Not offered in 1999-00.

MATH 4G03*  DYNAMICAL SYSTEMS
Well-posedness for initial-value problems, linear systems theory, linearization, asymptotic and structural stability, introduction to nonlinear analysis and bifurcation theory.
Three lectures; one term
Prerequisite: MATH 3F03. MATH 3A03 is recommended.

MATH 4G03  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: One of MATH 2A03, 2A06, 2G03 and one of MATH 2B06, 2J06, 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: One of MATH 3AA3, 3A06 or a grade of at least A- in MATH 3C08

MATH 4Q03  NUMERICAL METHODS FOR ORDINARY AND PARTIAL DIFFERENTIAL EQUATIONS
Three lectures; second term
Prerequisite: Credit or registration in MATH 3F03 or 3B03, or permission of the instructor

MATH 4R03*  OPTIMIZATION
Nonlinear programming and unconstrained optimization; trust region methods. Constrained optimization and penalty methods. Characterizations of optimality, Lagrange multiplier techniques and quadratic programming.
Three lectures; one term
Prerequisite: One of MATH 3R03 and one of MATH 2A03, 2A08, 2G03, 2L03, 2N03

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 2B06, 2J06, 2S03, 2T03
Antirequisite: COMP SCI 4TC3
Alternate with MATH 4F03. Offered in 1999-00.

MATH 4T03  INTRODUCTION TO TOPOLOGY
Topological spaces, connectedness, compactness, metric spaces, separability, fundamental groups and covering spaces, topics selected by the instructor.
Three lectures; one term
Prerequisite: MATH 3A03, 3E03
Antirequisite: MATH 3P03

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 3C03, 3F03, 3F06
Antirequisite: MATH 4V06

MATH 4W03  DIRECTED READING
Directed reading in areas of mathematics of interest to the student and the instructor.
Prerequisite: Permission of the Chair of the Department
See the heading Courses Requiring Permission in the Faculty of Science section of the Calendar.

MATH 4X03  COMPLEX ANALYSIS II
Conformal maps, analytic continuation, harmonic functions, the Riemann mapping theorem, Riemann surfaces.
Three lectures; one term
Prerequisite: MATH 3X03
Antirequisite: MATH 4A06

MATH 4Z13  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 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.
STATISTICS AND MATHEMATICS 211

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 2A03, ECON 2B03, PSYCH 2R03, 2RR3, STATS 1CC3, 2003, 2MA3, 2MB3, 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 1M03

Antirequisite: COMMERCE 2A03, ECON 2B03, PSYCH 2R03, 2RR3, STATS 1CC3, 2003, 2MA3, 2MB3, STATS 2R06

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, 2003, 2MA3, 2MB3, 2R06.

Not open to students registered in the Faculty of Science.

STATS 2A03*

ADVANCED STATISTICAL REASONING

Statistical inference procedures and methods for describing the relationships between variables are explained through a variety of examples from different fields. Three lectures; one term

Prerequisite: STATS 1A03

Not open to students with credit or registration in STATS 1CC3, 2003, 2MA3, 2MB3, 2R06.

Not open to students registered in the Faculty of Science.

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, 1A06, 1AA6, 1C03, 1C06, 1M03 and credit or registration in MATH 1B03

Not open to students with credit or registration in STATS 2A03*, 2MA3, 2R06.

STATS 2MA3

PROBABILITY AND STATISTICAL METHODS FOR SCIENCE

Combinatorics, discrete and continuous probability distributions; expectations; central limit theorem; point and interval estimation; hypothesis testing; regression and correlation; analysis of variance. Three lectures; one term

Prerequisite: STATS 1CC3; one of MATH 1A03, 1A06, 1C03, 1C06, 1M03

Antirequisite: ECON 2B03, PSYCH 2R03

Not open to students with credit or registration in COMMERCE 2A03, STATS 2A03*, 2R06, 2D03, 2MB3

STATS 2MB3

STATISTICAL METHODS

Estimation; sampling distributions; confidence intervals; hypothesis testing; power; robustness; analysis of variance for one and two factor designs; linear regression; graphical methods; statistical computing. Three lectures; one term

Prerequisite: STATS 2003

Not open to students with credit or registration in COMMERCE 2A03, STATS 2A03*, 2MA3.

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, 2A06, 2G03, 2L03, 2N03, 2Q04

STATS 3Q03*

ACTUARIAL MATHEMATICS I

Survival distributions, life tables, life insurance, life annuities, net premiums and reserves. Three lectures; one term

Prerequisite: STATS 2003 and credit or registration in MATH 2K03

Offered in alternate years.

Offered in 1998-99.

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.

Offered in 1998-99.

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 Levels 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 3G03*

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 2003 and 2MB3

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 2003 and one of MATH 2A03, 2A06, 2G03, 2N03

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 2003 and one of MATH 3AA3, 3A06, 3S06

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
MECHANICAL ENGINEERING

Faculty as of January 15, 1998

Chair
M.A. Elbestawi

Professors Emeriti

Professors

Associate Professors
Albert C. Chan/B.Sc. (Alberta), M.Eng., Ph.D. (McMaster), part-time
M. E. M. Skladl M.S., Ph.D. (Manitoba)

Assistant Professors
Gary Bone/B.Sc. (London), M.Eng., Ph.D. (McMaster)
Den Ewing/B.A.Sc. (Waterloo), Ph.D. (SUNY, Buffalo)

Associate Member


Philip E. Wood/(Chemical Engineering) B.A.Sc. (Waterloo), Ph.D. (California Institute Tech.), 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 2003 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: ENGR 1C04, 1D04, 2P04

MANUFACT 3M02 MANUFACTURING LABORATORY I
Laboratory exercises in metalworking practices, 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. Introduction to coordinate measuring machines.
Two lectures, one lab (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 4N03 PROJECT
A major project in the area of manufacturing engineering. It may be of a design or experimental nature.
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 3M02 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 4-bar mechanisms. Cam design, gears and gear trains. Mechanical advantage.
Two lectures, one lab (three hours); first term
Prerequisite: MATH 1H05, 1N06 or 1M03 and 1NN3, and PHYSICS 1D03

MECH ENG 2B03 MECHANICAL ENGINEERING MEASUREMENTS
Introduction to the theory and practice of engineering measuring techniques. Theory of measurement, precision shop measurements and laser metrology; measurement 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 I
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: ENGR 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 1200, 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 centre. 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 handling, 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; first 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, bolted 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 modelling 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 3O04  FLUID MECHANICS I
Fluid properties and static, 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: MECH ENG 2W04, MATH 2M05, MECH ENG 3O04

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 3C03 or 3C04

MECH ENG 4K03  INTRODUCTION TO ROBOTIC MECHANICS
Spatial descriptions and transformations, manipulator kinematics, inverse kinematics, Jacobians, dynamics.
Three lectures; first term
Prerequisite: ENGINEER 2C04

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 2003 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.
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 2C04, MATH 3I03

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: MATH 3I03 and STATS 3Y03
Antirequisite: ELEC ENG 3C03 or 3C04

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 3O04

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 4R03

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 4203  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, 1998

Chair
Karyn Kaufman

Professor
Karyn Kaufman/B.S.N.  (Michigan), M.S. (New York), Dr.P.H. (North Carolina), R.M.
Eileen Hutton/B.N.Sc.  (Queens), M.N.Sc. (Toronto), R.M.
Helen McDonald/M.H.Sc.  (McMaster), R.M.
Patricia McNiven/B.Sc.  (Laurentian), M.H.Sc. (McMaster), Ph.D. (York)

Assistant Professors
Bruce Wainman/B.Sc.  (Laurentian), Midwifery, Ph.D. (Michigan), R.M.
Pamela Paré/B.N.Sc.  (York), R.M.
Patricia McNiven/B.Sc.  (Laurentian), M.H.Sc. (McMaster), R.M.
Karyn Kaufman/B.S.N.  (Laurentian), R.N. (Michigan), R.M.

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 nutrition, 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 2E12. Students will learn fundamental clinical skills and theoretical information.
Four weeks
Prerequisite: MIDWIF 1A06
Antirequisite: MIDWIF 1B03, 1B12

MIDWIF 2B15  MIDWIFERY CARE II
Students are provided with an extended period of clinical experiences 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 III
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 prenatals 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 3B12  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 2C12
Antirequisite: MIDWIF 3B15

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 are formed as 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 or 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, 1998

Chair
Nina Kolesnikoff

Professors Emeriti
Antonio G. Alessio/D.Litt (Genoa)
Samuel C. Craig/B.A. (McMaster), Ph.D. (Toronto)
Stefan Cro/L. on L. (Buenos Aires), Dott. Ling. e Lett. (Venice)
Karl Dennell/MA. (Kentucky), Ph.D. (Johns Hopkins)

Professors
John D. Browning/B.A., M.Phil. (London), Ph.D. (Essex)
Nina Kolesnikoff/B.A. (Moscow State), Ph.D. (Alberta)
Walter Smyth/B.A. (McMaster), M.A., Ph.D. (Toronto)
Gerhard Teutsch/Dipl.-Ubersetzter (Mainz-Germersheim), M.A. (Toronto), Ph.D. (SUNY, Buffalo)
George Thomas/B.A., Ph.D. (London)

Assistant Professors
Joseph Adamson/B.A. (Trent), M.A., Ph.D. (Toronto)
Maria del C. Coroza/B.A. (Puerto Rico), M.A. (McGill), Ph.D. (Toronto)
Gabrielle Erasm/B.A. (Yale), M.A., Ph.D. (Minnesota)
Fiorio Minelli/B.A., M.A. (Western Ontario), Ph.D. (Brown)
Hans H. Schulze-Assessor (Munich), Ph.D. (Augsburg)
Maria M. Stroinski/M.A. (Warsaw), Ph.D. (Edinburgh)
M. Jean Wilson/B.A. (McMaster), B.Ed., M.A., Ph.D. (Toronto)

Assistant Professors
Vittorina Cocchetto/B.A., M.A., Ph.D. (Toronto)
Inga Dolmina/B.A., Ph.D. (Leningrad)
Geoffrey Rockwell/B.A. (Haverford College), M.A., Ph.D. (Toronto)

Lecturers
Eiko Virginia Arioka/M.A. (Toronto), M.A. (Texas)
Tsuonko Iwai/B.A., M.Ed. (Toronto)
Ping-Mei Law/B.A., M.A. (Toronto)
Anna L. Moro/M.A. (Toronto)
Ruth Thomas/Staatsexamen (Bochum), M.A. (McMaster)

Research Associates
Branka Popovic/M.A., Ph.D. (Belgrade)

Associate Members
William M. Chandler/Political Science) B.A. (Cornell), Ph.D. (North Carolina)
Cyril H. Levitt (Sociology) B.A., M.A. (Waterloo), Dr. Phil. (Free Univ. Berlin)

Department Notes
1. The Department of Modern Languages administers all courses in Comparative Literature, German, Hispanic Studies, Italian, Japanese, Linguistics, Modern Languages, 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.

COMPARATIVE LITERATURE

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. Comparative Literature is the study of literature from the point of view of more than one national literature and/or in conjunction with other intellectual discipline. It is designed to meet the needs of those students who wish to study literary texts as an intercultural and often interdisciplinary phenomenon.

2. For additional courses which may be taken as part of a programme in Comparative Literature, see courses listed under Modern Languages.

3. No language other than English is required for courses listed under Comparative Literature.

4. 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.
Two lectures, one tutorial; two terms

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 2A13 MODERN EUROPEAN LITERATURE II
A study of the central themes and forms of major literary movements from Romanticism to Postmodernism through the reading of representative works.
Three lectures; one term
Prerequisite: COMP LIT 1A06

COMP LIT 2003 BIBLICAL TRADITIONS IN LITERATURE
A study of the influence of the Bible on Western literatures, especially English Approaches may include the examination of symbolism, imagery, typology, doctrinal themes and narrative structures.
Three lectures; one term
Prerequisite: Registration in Level II and above
Cross-list: ENGLISH 3503

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 2V03

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
Antirequisite: COMP LIT 2H00
Cross-list: CLASSICS 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
Cross-list: CLASSICS 2M03

COMP LIT 3CC3 MODERN EUROPEAN DRAMA FROM BRET HETO THE PRESENT
A study of representative plays by ten major dramatists, including Garcia Lorca, Cocteau, Frisch, Sartre, Weiss, Genel, Dario 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

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.

Notes on Courses:
1. Comparative Literature is the study of literature from the point of view of more than one national literature and/or in conjunction with other intellectual discipline. It is designed to meet the needs of those students who wish to study literary texts as an intercultural and often interdisciplinary phenomenon.

2. For additional courses which may be taken as part of a programme in Comparative Literature, see courses listed under Modern Languages.

3. No language other than English is required for courses listed under Comparative Literature.

4. 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.
Two lectures, one tutorial; two terms

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 2A13 MODERN EUROPEAN LITERATURE II
A study of the central themes and forms of major literary movements from Romanticism to Postmodernism through the reading of representative works.
Three lectures; one term
Prerequisite: COMP LIT 1A06

COMP LIT 2003 BIBLICAL TRADITIONS IN LITERATURE
A study of the influence of the Bible on Western literatures, especially English Approaches may include the examination of symbolism, imagery, typology, doctrinal themes and narrative structures.
Three lectures; one term
Prerequisite: Registration in Level II and above
Cross-list: ENGLISH 3503

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 2V03

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
Antirequisite: COMP LIT 2H00
Cross-list: CLASSICS 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
Cross-list: CLASSICS 2M03

COMP LIT 3CC3 MODERN EUROPEAN DRAMA FROM BRET HETO THE PRESENT
A study of representative plays by ten major dramatists, including Garcia Lorca, Cocteau, Frisch, Sartre, Weiss, Genel, Dario 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

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.

Notes on Courses:
1. Comparative Literature is the study of literature from the point of view of more than one national literature and/or in conjunction with other intellectual discipline. It is designed to meet the needs of those students who wish to study literary texts as an intercultural and often interdisciplinary phenomenon.

2. For additional courses which may be taken as part of a programme in Comparative Literature, see courses listed under Modern Languages.

3. No language other than English is required for courses listed under Comparative Literature.

4. Not all courses are offered on an annual basis. Students should consult the timetable for available courses.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Prerequisites</th>
<th>Antirequisite</th>
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</thead>
<tbody>
<tr>
<td>COMP LIT 3DD3</td>
<td>TOPICS IN LITERARY GENRES II</td>
<td>Previous topics include: Short Fiction, The Structure of Comedy. 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 II and above of a Comparative Literature programme</td>
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<td>COMP LIT 3DD3 may be repeated, if on a different topic, to a total of six units.</td>
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<tr>
<td>COMP LIT 3E03</td>
<td>MODERN EUROPEAN DRAMA FROM IBSEN TO PIRANDELLO</td>
<td>A study of representative plays by eight major dramatists, including Strindberg, Chekhov, Gorki, Wedekind and Kaiser.</td>
<td>Seminar (two hours), plus play readings; one term</td>
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<td>Prerequisite: Registration in Level III or IV of a Comparative Literature programme</td>
<td>Cross-list: ENGLISH 3R06</td>
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<td>COMP LIT 3E03 may be repeated, if on a different topic, to a total of six units.</td>
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<tr>
<td>COMP LIT 3I03</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.</td>
<td>Three lectures; one term</td>
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<td>Prerequisite: Registration in Level III or IV of a Comparative Literature programme</td>
<td>Cross-list: CLASSICS 3I03</td>
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<td>COMP LIT 3I03 may be repeated, if on a different topic, to a total of six units.</td>
<td>Alternates with COMP LIT 3I03</td>
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<tr>
<td>COMP LIT 3I03</td>
<td>TOPICS IN GREEK AND ROMAN LITERATURE II</td>
<td>Topics include: Greek and Roman Epic.</td>
<td>Three lectures; one term</td>
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<td>Prerequisite: Registration in Level III or IV of a Comparative Literature programme</td>
<td>Cross-list: CLASSICS 3I03</td>
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<td>COMP LIT 3I03 may be repeated, if on a different topic, to a total of six units.</td>
<td>Alternates with COMP LIT 3I03</td>
</tr>
<tr>
<td>COMP LIT 3J06</td>
<td>STUDIES IN SIXTEENTH-CENTURY LITERATURE</td>
<td>A critical study of the literature of the 1500s in England, particularly the second half of the century.</td>
<td>Three lectures; two terms</td>
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<td>Prerequisite: Registration in Level III or IV of a Comparative Literature programme</td>
<td>Cross-list: ENGLISH 3J06</td>
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<td>COMP LIT 3J06 may be repeated, if on a different topic, to a total of six units.</td>
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<tr>
<td>COMP LIT 3J03</td>
<td>LITERATURE AND FILM</td>
<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>
<td>Three lectures, plus one weekly film screening; one term</td>
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<td>Prerequisite: Registration in Level III or IV of a Comparative Literature programme</td>
<td>Cross-list: ART HIST 3CC3, DRAMA 3H03 and ENGLISH 3CC3</td>
</tr>
<tr>
<td>COMP LIT 3Q03</td>
<td>THE HISTORY AND THEORY OF CRITICISM</td>
<td>A survey of the main developments in the theory and practice of literary criticism from Plato to the early 20th century.</td>
<td>Three lectures; one term</td>
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<td>Prerequisite: Registration in Level III or IV of a Comparative Literature programme</td>
<td>Cross-list: ENGLISH 3Q03</td>
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<tr>
<td>COMP LIT 3Q03</td>
<td>MODERN CRITICAL THEORY</td>
<td>The theory and practice of literary criticism from Eliot to the present.</td>
<td>Three lectures; one term</td>
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<td>Prerequisite: Registration in Level III or IV of a Comparative Literature programme</td>
<td>Cross-list: ENGLISH 3Q03</td>
</tr>
<tr>
<td>COMP LIT 3R06</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>
<td>Three lectures; two terms</td>
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<td>Prerequisite: Registration in Level III or IV of a Comparative Literature programme</td>
<td>Cross-list: ENGLISH 3R06</td>
</tr>
<tr>
<td>COMP LIT 3T03</td>
<td>THE 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>
<td>Three lectures; one term</td>
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<td>Prerequisite: COMP LIT 2H03 or six units of Classics Antirequisite: COMP LIT 2H06</td>
<td>Cross-list: CLASSICS 3T03</td>
</tr>
<tr>
<td>COMP LIT 4A03</td>
<td>TOPICS IN LITERARY MOVEMENTS</td>
<td>Previous topics include: European Romanticism. Consult the Department concerning topic to be offered.</td>
<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>
<td>COMP LIT 4A03 may be repeated, if on a different topic, to a total of six units.</td>
</tr>
<tr>
<td>COMP LIT 4B03</td>
<td>TOPICS IN LITERARY METHODOLOGY</td>
<td>Previous topics include: Narrative and Psychoanalysis, Feminist Theory, Formalism and Structuralism, Semiotics. Consult the Department concerning topic to be offered.</td>
<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>
<td>COMP LIT 4B03 may be repeated, if on a different topic, to a total of six units.</td>
</tr>
<tr>
<td>COMP LIT 4C03</td>
<td>LITERATURE AND OTHER DISCIPLINES</td>
<td>Previous topics include: Literature and Philosophy, Literature and Politics. Consult the Department concerning topic to be offered.</td>
<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>
<td>COMP LIT 4C03 may be repeated, if on a different topic, to a total of six units.</td>
</tr>
<tr>
<td>COMP LIT 4E03</td>
<td>TOPICS IN COMPARATIVE LITERATURE</td>
<td>Previous topics include: Twentieth-Century Women Writers, Literature and Ideology. Consult the Department concerning topic to be offered.</td>
<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>
<td>COMP LIT 4E03 may be repeated, if on a different topic, to a total of six units.</td>
</tr>
<tr>
<td>COMP LIT 4H03</td>
<td>INDEPENDENT STUDY</td>
<td>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.</td>
<td>Prerequisite: Registration in Level IV of a Comparative Literature programme and permission of the Department</td>
</tr>
</tbody>
</table>

**GERMAN**

Courses and programmes in German are administered within the Department of Modern Languages of the Faculty of Humanities. For information and counseling, 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**
   - GERMAN 1Z05

   **Intermediate Level Language Courses**
   - GERMAN 1B06, 2H06

   **Advanced Level Language Courses**
   - GERMAN 2E03, 2G03, 2Z03, 3Z03, 4C03
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.

**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. Four hours (including lab); two terms  
Prerequisite: OAC German or permission of the Department  
Antirequisite: GERMAN 1A03, 1AA3 or 2AA3, 1A06 or 2Y06  
**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. Five hours (including lab practice); two terms  
Antirequisite: OAC German  
Enrollment is limited.  
Students with prior knowledge of the language as determined by an interview may be required to enrol in an appropriate alternative.  
**GERMAN 2A03  TWENTIETH-CENTURY LITERATURE**  
A discussion of works and authors from Naturalism to the 1980's, with emphasis on shorter prose texts. Three lectures; one term  
Prerequisite: GERMAN 1AA3 or 1B06 or 2AA3, or permission of the Department  
**GERMAN 2A3  INTRODUCTION TO GERMAN LITERATURE**  
Lectures outline the development of German literature against its cultural background and readings of literary texts. Three hours; one term  
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. Three hours; one term  
Prerequisite: One of GERMAN 1A03, 1B06 or 2Z06  
**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. Three hours; one term  
Prerequisite: GERMAN 1B06 or 2Z06  
Priority is given to students in a programme requiring German. Students with native or near native fluency may be required to enrol in an appropriate alternative. Enrollment is limited.  
**GERMAN 2Z06  INTERMEDIATE GERMAN**  
A course designed to further proficiency in spoken and written German. The course makes extensive use of unedited German materials for listening comprehension and reading. This course is enhanced by a CALL (Computer-Aided Language Learning) module. Four hours (including lab practice); two terms  
Prerequisite: GERMAN 1Z06  
**GERMAN 3A03  BAROQUE AND ENLIGHTENMENT LITERATURE**  
Discussion of selected works from the beginning of the 17th to the end of the 18th century within their historical and intellectual contexts. Three lectures; one term  
Prerequisite: Nine units of German above Level I  
**GERMAN 3B03  THE AGE OF GOETHE I**  
From Sturm und Drang to Weimar Classicism. Three lectures; one term  
Prerequisite: Nine units of German above Level I  
Offered in alternate years.

**GERMAN 3Z03  ADVANCED ORAL AND WRITTEN LANGUAGE PRACTICE I**  
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. Three lectures; one term  
Prerequisite: GERMAN 2E03  
**GERMAN 3Z23  ADVANCED ORAL AND WRITTEN LANGUAGE PRACTICE II**  
A continuation of the approach used in GERMAN 3Z03. Three lectures; one term  
Prerequisite: GERMAN 3Z23  
**GERMAN 4G03  THE AGE OF GOETHE II**  
Romanticism from Novalis to Heine. Three lectures; one term  
Prerequisite: Nine units of German above Level I  
Offered in alternate years.  
**GERMAN 4H03  HISTORY OF THE GERMAN LANGUAGE**  
Selected texts from major works on the development of the German language as well as selected texts from major writers of the Middle and Old High German periods. Three lectures; one term  
Prerequisite: Nine units of German above Level I  
Offered in alternate years.  
**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: 18 units of German above Level I and permission of the Department  
**GERMAN 4T03  SPECIAL TOPICS IN GERMAN LITERATURE**  
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. Three lectures; one term  
Prerequisite: Nine units of German above Level I  
GERMAN 4T03 may be repeated, if on a different topic, to a total of six units.  
**GERMAN 4T3  MODERN LITERATURE AND THE ARTS**  
An examination of the German literary Symbolism, Expressionism, and Surrealism in their wider artistic and European contexts, including painting, music and film. Seminar (two hours); one term  
Prerequisite: Nine units of German above Level I

**HISPANIC STUDIES ...**

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 511.

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  
2. 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: HISPANIC 1A06

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
Prerequisite: OAC Spanish or equivalent
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.

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 1206

HISPANIC 2L03  SPANISH AMERICAN LITERATURE AND CIVILIZATION I
A survey of Spanish American literature from the Middle Ages to the present. Discussions will focus on the historical, intellectual and aesthetic context in which this literature flourished.
Three lectures; one term
Prerequisite: HISPANIC 1A06 or 1206
Antirequisite: HISPANIC 2C03

HISPANIC 2L13  SPANISH AMERICAN LITERATURE AND CIVILIZATION II
A survey of Spanish American literature from the fifteenth to the nineteenth century. 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 2L03
Antirequisite: HISPANIC 2C03

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

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 3D03  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 precis writing.
Three hours; one term
Prerequisite: HISPANIC 3D03, or permission of the department
Antirequisite: HISPANIC 4DD3

HISPANIC 4I13  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: 18 units of Hispanic Studies above Level 1 and permission of the Department

HISPANIC 4L13  SPANISH AMERICAN NOVEL
A study of the novel of the Twentieth Century with emphasis on the Boom generation.
Three lectures; one term
Prerequisite: Nine units of Hispanic Studies above Level 1
Offered in alternate years.

HISPANIC 4M03  THE SPANISH NOVEL OF THE 20TH CENTURY
Representative Spanish novels of the post-civil war period.
Three lectures; one term
Prerequisite: Nine units of Hispanic Studies above Level 1
Offered in alternate years.

HISPANIC 4M3  CERVANTES AND HIS TIMES
An analytical study of the Quijote and of some of Cervantes' other works within the context of the intellectual history of the 16th century.
Three lectures; one term
Prerequisite: Nine units of Hispanic Studies above Level 1
Offered in alternate years.

HISPANIC 4N3  THE SPANISH NOVEL OF THE 19TH CENTURY
A study of the novels of the second half of the 19th century in the context of cultural, political and social context in which they flourished.
Three lectures; one term
Prerequisite: Nine units of Hispanic Studies above Level 1
Offered in alternate years.

HISPANIC 4S3  THE SPANISH-AMERICAN SHORT STORY
A study of the evolution of the Spanish-American short story from Quiroga to Garcia Marquez.
Three lectures; one term
Prerequisite: Nine units of Hispanic Studies above Level 1
Offered in alternate years.

HISPANIC 4T03  TOPICS IN HISPANIC LITERATURE
Previous topics include: The Enlightenment in Spain, The Spanish American Essay, Consult the Department concerning topic to be offered.
Three lectures; one term
Prerequisite: Nine units of Hispanic Studies above Level 1
HISPANIC 4T03 may be repeated, if on a different topic, to a total of six units.

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 1Z05, 1Z26; Intermediate Level Language Courses: ITALIAN 1A06, 2206; Advanced Level Language Courses: ITALIAN 2G03, 3D03, 4A03
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.

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 2206

ITALIAN 1Z26  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 practice 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
Enrollment 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 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 Cavino.
Three lectures; one term
Prerequisite: ITALIAN 1A06, or registration or credit in ITALIAN 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 2003

ITALIAN 2206  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 1206 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: Six units of Italian above Level I
Offered in alternate years.

ITALIAN 3R03  DANTE
This course will focus on the Divina Commedia, with special reference to its historical and literary significance.
Three lectures; one term
Prerequisite: Six units of Italian above Level I
Antirequisite: MOD LANG 3B03
Offered in alternate years.

ITALIAN 3RR3  BOCCACCIO AND PETRARCH
A study of Petrarch’s Canzoniere and Boccaccio’s Decameron.
Three lectures; one term
Prerequisite: Six units of Italian above Level I
Antirequisite: MOD LANG 3B03
Offered in alternate years.

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 4M03
Offered in alternate years.

ITALIAN 4G03  NINETEENTH-CENTURY ITALIAN LITERATURE AND CULTURE
This course will study Italian poetry, fiction and drama, with special emphasis on the works of Foscolo, Manzoni, Leopardi, Carducci, Verga, Fogazzaro and Pascoli.
Three lectures; one term
Prerequisite: Six units of Italian above Level I
Offered in alternate years.

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: Six units of Italian above Level I
Antirequisite: MOD LANG 3S03
Offered in alternate years.

ITALIAN 4T03  TOPICS IN ITALIAN LITERATURE
Previous topics include: Italian Criticism, Utopian Genres, Italian Theatre.
Consult the Department concerning topic to be offered.
Three lectures; one term
Prerequisite: Six units of Italian above Level I
Offered in alternate years.

ITALIAN 4T03 may be repeated, if on a different topic, to a total of six units.

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)
Tsuneko Isai (Modern Languages)
Elko Virginia Ariga (Modern Languages)
Kenneth S. Chan (Economics)
J.S. Chang (Engineering Physics)
Phyllis Granoff (Religious Studies)
K. L. Liew (Geography and Geology)
Richard Stubbs (Political Science)
Francoise 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 1206  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 are 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 2206 INTERMEDIATE INTENSIVE JAPANESE
This course aims to develop students' communicative skills in Japanese through conversational exercises, creative writing and other 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 1206, with a grade of at least B-, or permission of the instructor

JAPANESE 3B03 BUSINESS JAPANESE
Three hours; one term
Prerequisite: JAPANESE 2206
Enrollment is limited.

JAPANESE 3Z26 ADVANCED INTENSIVE JAPANESE
This course continues the study of written and spoken Japanese begun in JAPANESE 1206 and 2206. 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 2206, or permission of the instructor

JAPANESE 4L03 JAPANESE LITERATURE
Readings in the original of contemporary Japanese prose and poetry (Haiku and tanka). Previous readings include: Murakami Haruki, Akutagawa, Itsuki, Basho, Oe. Consult the Department for readings to be offered.
Three lectures; one term
Prerequisite: JAPANESE 3Z26, or permission of the instructor

JAPANESE 4Z03 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 3Z26, 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
Cross-list: HISTORY 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 2MM6 or JAPAN ST 2P06 is recommended.
Cross-list: RELIG ST 3E03

JAPAN ST 3H03 GUIDED READING IN JAPANESE STUDIES
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 1B05 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 III 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
Prerequisite: Registration in Level III or IV of a Japanese Studies programme and permission of the Director
Cross-list: 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

LINGUISTICS...
Linguistics courses and programmes 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.

LINGUIST 1A06 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 idioms. 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: ANTHROPOLOGY 2A03

LINGUIST 2A05 THE ORIGIN AND DEVELOPMENT OF THE EUROPEAN LANGUAGES
The phonetic, morphological, syntactic and lexical structures of Indo-European languages and the role of these features in the genesis and development of English, German, Russian, Latin and Romance and other Indo-European-based languages of Europe.
Three lectures; one term
Prerequisite: LINGUIST 1A06 or 2A03
Antirequisite: ANTHROPOLOGY 2A05, LINGUIST 3B03
LINGUIST 2L3  LANGUAGES OF THE WORLD
An introduction to linguistic typology. The course considers the diversity
of the languages of the world. It discusses three major classifications of
languages (genetic, areal and typological) and concentrates on linguistic
typology. It deals with 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 2L3
LINGUIST 3103  SYNTAX
A study of the human capacity to form words into sentences. The emphasis
will be upon generative transformational grammar.
Three lectures; one term
Prerequisite: LINGUIST 1A06
LINGUIST 3103  SEMANTICS
The study of patterns of meaning in language; a critical survey of theories
and issues.
Three lectures; one term
Prerequisite: LINGUIST 1A06
ANTIREQUISITE: ANTHROP 3103
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 1A06
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 2M03
ANTIREQUISITE: ANTHROP 3P03
Offered in alternate years.
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, the psycholinguist, 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 Programme Coordinator
ANTIREQUISITE: ANTHROP 4B03
LINGUIST 4II3  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 4X03  TOPICS IN THEORETICAL LINGUISTICS
Topics include: Advanced Computational Linguistics; Linguistic Typology;
Advanced Philology.
Seminar (two hours); one term
Prerequisite: Registration in Level III or IV of a Linguistics programme; or
permission of the Programme Coordinator
LINGUIST 4X03 may be repeated, if on a different topic, to a total of six units.

MODERN LANGUAGES... Courses in Modern Languages are administered within the Department of
Modern Languages of the Faculty of Humanities. For information and
advice, 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.
MOD LANG 2A03  INTRODUCTION TO LITERARY STUDIES
An examination of the fundamental questions about the nature of literature
and the purpose and methodology of literary studies, focusing on the
inter-disciplinary aspects of literature.
Three lectures; one term
Prerequisite: Registration in Level II and above
MOD LANG 2B03  SURVEY OF ITALIAN LITERATURE
(IN ENGLISH)
A survey of major works from a variety of genres, by Goethe, Kleist, Heine,
Büchner, Mann, Rilke, Brecht and others.
Three lectures; one term
Prerequisite: Registration in Level II and above
Offered in alternate years.
MOD LANG 2B03  MASTERWORKS OF GERMAN
LITERATURE (IN ENGLISH)
A study of major works from a variety of genres, by Goethe, Kleist, Heine,
BÜchner, Mann, Rilke, Brecht and others.
Three lectures; one term
Prerequisite: Registration in Level II and above
MOD LANG 2B03  TRECENTO (IN ENGLISH)
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
Offered in alternate years.
MOD LANG 3A03  LITERATURE AND POLITICS
IN GERMANY 1914-45 (IN ENGLISH)
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
MOD LANG 3B03  RUSSIAN DRAMA SINCE 1800 (IN ENGLISH)
An introduction to the major works of Russian theatre, in translation.
Three lectures; one term
Prerequisite: Registration in Level II and above
MOD LANG 3G03  GERMAN DRAMA (IN ENGLISH)
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
Offered in alternate years.
MOD LANG 3J03  THE METAMORPHOSES OF
DON JUAN (IN ENGLISH)
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
Offered in alternate years.
MOD LANG 3J03  THE LITERATURE OF THE
DELIQUENT (IN ENGLISH)
A study of the picaresque mode in European literature from 1550 to 1800.
This is tantamount to a study of the origins and early development of the
novel as a genre.
Three lectures; one term
Prerequisite: Registration in Level II and above
Offered in alternate years.
MOD LANG 3K03  20TH-CENTURY RUSSIAN LITERATURE (IN ENGLISH)
A study of Russian literature of the 1920s and 1930s with special attention to Akhmatova, Bulgakov and Sholokhov.
Three lectures; one term
Prerequisite: Registration in Level II and above
Alternates with MOD LANG 3RR3.

MOD LANG 3K3K  CONTEMPORARY RUSSIAN LITERATURE (IN ENGLISH)
A study of contemporary Russian literature since 1955, with special attention to Pasternak, Solzhenitsyn and Yevtushenko.
Three lectures; one term
Prerequisite: Registration in Level II and above
Alternates with MOD LANG 3RR3.

MOD LANG 3L03  SURVEY OF SPANISH THEATRE (IN ENGLISH)
A study of the development of Spanish drama and stage since Lope to Lorca.
Three lectures; one term
Prerequisite: Registration in Level II and above
Antirequisite: MOD LANG 4L03.

MOD LANG 3P03  LITERATURE AND POLITICS IN SPANISH AMERICA (IN ENGLISH)
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.
Three lectures; one term
Prerequisite: Registration in Level II and above
Offered in alternate years.

MOD LANG 3R03  19TH-CENTURY RUSSIAN LITERATURE I (IN ENGLISH)
A study of the major prose of Gogol and Turgenev.
Three lectures; one term
Prerequisite: Registration in Level II and above
Antirequisite: MOD LANG 2R03
Alternates with MOD LANG 3K03.

MOD LANG 3R3R  19TH-CENTURY RUSSIAN LITERATURE II (IN ENGLISH)
A study of the major novels by Dostoevsky and Tolstoy.
Three lectures; one term
Prerequisite: Registration in Level II and above
Antirequisite: MOD LANG 2R03
Alternates with MOD LANG 3K3K.

MOD LANG 3S5S  THE RENAISSANCE EPIC (IN ENGLISH)
An intensive beginner's course designed for students with no prior knowledge of the language to develop comprehension, writing and speaking skills.
Four hours; two terms
Prerequisite: RUSSIAN 1206
If no prerequisite is listed, the course is open.

MOD LANG 4113  INDEPENDENT STUDY
The student will prepare, under the supervision of a faculty member, a research paper involving independent study in an area where the student has already demonstrated competence.
Prerequisite: Registration in Level IV of an Honours programme in Modern Languages and permission of the Department

MOD LANG 4T03  SPECIAL TOPICS
Topics may include Literary Translation, Science Fiction, Humour in Literature. Consult the Department concerning the topic to be offered.
Seminar (two hours); one term
Prerequisite: Registration in Level II and above
MOD LANG 4T03 may be repeated, if on a different topic, to a total of six units.

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.

MOD LANG 1206  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 2206.

POLISH 2206  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 1206
Alternates with POLISH 1206.

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.

MOD LANG 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 1206
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.
MUSIC 1G03  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: Successful audition required

MUSIC 2AA3  POPULAR MUSIC
A study of 20th-century popular music from the late 1940's to the present. Topics include: rhythm and blues (Chuck Berry), hard rock (Led Zeppelin), and punk (Sex Pistols).
Three lectures; one term
Prerequisite: Registration in Level II or above

MUSIC 2B03  HISTORY OF WESTERN MUSIC (C. 1800-1914)
A survey of romantic and postromantic music.
Three lectures; one term
Prerequisite: MUSIC 1B06
Antirequisite: MUSIC 2B06

MUSIC 2B03  HISTORY OF WESTERN MUSIC (C. 1914 TO THE PRESENT)
A survey of 20th-century music.
Three lectures; one term
Prerequisite: MUSIC 2B03 or 2B06
Antirequisite: MUSIC 3Y03

MUSIC 2C03  MODAL COUNTERPOINT
The writing and analysis of modal counterpoint in the style of the late renaissance. Includes study of music by composers such as Palestrina and Lasso.
Two lectures, term one; one lecture, term two
Prerequisite: Registration in a Music programme, or qualifying tests

MUSIC 2CC3  HARMONY
A continuation of MUSIC 1CC3. Chromatic harmony and the completed major-minor system.
One lecture, term one; two lectures, term two
Prerequisite: MUSIC 1CC3

MUSIC 2D03  KEYBOARD HARMONY
Keyboard Harmony.
Two lectures; two terms
Prerequisite: Registration in a Music programme, or qualifying tests

MUSIC 2E06  SOLO PERFORMANCE
A continuation of MUSIC 1E06.
12 one-hour meetings per term; two terms
Prerequisite: MUSIC 1E03 or 1E06, registration in a Music programme or permission of the School of Art, Drama and Music.
Lesson fees are charged to students taking MUSIC 2E06 if the course is not a specific requirement for their music degree programme.

MUSIC 2G03  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 1G06 and successful audition

MUSIC 2H03  ANALYSIS
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 1GC3

MUSIC 3AA3  KODÁLY AND ORFF METHODS
A survey of the Kodály and Orff methods of music education.
Three lectures; one term
Prerequisite: MUSIC 1A06 or 18 units of Music

MUSIC 3B03  TOPICS IN MUSIC HISTORY: MEDIEVAL AND OR RENAISSANCE MUSIC
Previous topics include: Gregorian chant, The Renaissance Magidrel. 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 3BB3.

MUSIC 3B03 may be repeated, if on a different topic, to a total of six units.
Enrolment is limited.

MUSIC 3B53  TOPICS IN MUSIC HISTORY: MUSIC OF THE ROMANTIC ERA
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 2B03 or 2B06, registration in Honours Music, or permission of the School of Art, Drama and Music
Alternates with MUSIC 3B03.

MUSIC 3C03  MODAL COUNTERPOINT
The writing and analysis of modal counterpoint in Baroque style. Includes study of music by major composers of the 17th and early 18th centuries.
Seminar (two hours); one term
Prerequisite: MUSIC 2C03 and 2CC3, registration in Honours Music
Enrolment is limited.

MUSIC 3E03  SOLO PERFORMANCE
The technique and repertoire of any orchestral instrument, piano, organ, harpsichord, voice, recorder, saxophone or guitar.
12 one-hour meetings per term; two terms
Prerequisite: MUSIC 2E03 or 2E06
Antirequisite: MUSIC 3E06

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 2H03 and registration in Honours Music
Offered in alternate years.
Enrolment is limited.

MUSIC 3J03  CHROMATIC HARMONY
A study of major-minor system.
Two lectures, one lab; one term
Prerequisite: Registration in Honours Music or permission of the School of Art, Drama and Music

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 is 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 is 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 is 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 3003  CONDUCTING
Fundamental conducting techniques applied to works selected from the standard repertoire.
Three lectures; one term
Prerequisite: MUSIC 2D03, registration in Honours Music or permission of the School of Art, Drama and Music
Alternates with MUSIC 4N03.
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 2S06 or 2B03 and 2B83, 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. 1000 to the present.
Two lectures, one tutorial; one term
Prerequisite: Registration in Level II or above
Offered in alternate years.

MUSIC 3U03  JAZZ
An historical survey of jazz, focusing on selected performers and arrangers.
Two lectures; one 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 4B03  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 2B60, registration in Honours Music or permission of the School of Art, Drama and Music
Alternates with MUSIC 4B83.
MUSIC 4B03 may be repeated, if on a different topic, to a total of six units.
Enrolment is limited.

MUSIC 4B83  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: One of MUSIC 2B03, 2B80, 2B83 or 3Y03, 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 of an analysis of classical and romantic music.
Seminar (two hours); one term
Prerequisite: MUSIC 3E03 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 3E03 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 3E05 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 4H03  ANALYSIS
Advanced studies in analysis.
Seminar (two hours); one term
Prerequisite: MUSIC 2B05, 2B06, 2B83, 2CC3, 2H03 and registration in Honours Music
Offered in alternate years.
Enrolment is limited.

MUSIC 4I03  AESTHETICS AND CRITICISM
Philosophies of music. A discussion of major theories from the ancient Greeks to the present.
Seminar (two hours); one term
Prerequisite: MUSIC 2B03, 2B60, 2B83 or 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.

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.

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
Alternate with MUSIC 3N03.
Enrolment is limited.

MUSIC 4P03 ADVANCED CONDUCTING
A continuation of MUSIC 3P03.
One lecture, term one (choral); two lectures, term two (instrumental)
Prerequisite: MUSIC 3P03, and registration in Honours Music
Enrolment is limited.

MUSIC 4P03 PERCUSSION METHODS
A continuation of MUSIC 3P03.
Two lectures; one term
Prerequisite: MUSIC 3P03, registration in Honours Music, or permission of the School of Art, Drama and Music
Enrolment is limited.

MUSIC 4Q03 PIANO LITERATURE AND PEDAGOGY
Study of piano repertoire and teaching methods for various age groups.
Three lectures; one term
Prerequisite: Registration as a piano major in Level IV of an Honours Music programme
Enrolment is limited.

MUSIC 4Q03 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. Students requesting this course must submit a written proposal to the School of Art, Drama, and Music by April 16th.

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 4X03 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.

MUSIC 4Z23 ADVANCED COMPOSITION
The composition of various instrumental or vocal works.
Times to be arranged between the student and instructor; one term
Prerequisite: MUSIC 4Z03, registration in 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, 1A05, 1A66, 1C03, 1C06, 1N06 (or 1N03) ARTS & SCI 1D06. MATH 1B03 is strongly recommended.
Cross-list: PSYCH 4W03

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 2D03 Organic Chemistry
COMP SCI 3G03 Introduction to Computer Graphics
3SD3 Computer Simulation Techniques
3T03 Introduction to Automata and Formal Language
41B3 Artificial Intelligence and Knowledge-Based Systems
4TC3 Recursive Function Theory and Computability

MATH 2E03 Introduction to Modelling
2P04 Differential Equations for Engineering
4S04 Theory of Computation

PSYCH 2E03 Sensory Processes
2F03 Fundamentals of Neuroscience
2H03 Human Learning and Cognition
3FA3 The Neurobiology of Learning and Memory
3J03 Neurophysiology of Vision
3W03 Measuring the Mind
4I03 Models in Brain and Cognitive Sciences

STATS 3D06 Mathematical Statistics.

NURSE PRACTITIONER
(SEE NURSING, NURSE PRACTITIONER (C) STREAM)

NURSING
Faculty as of January 15, 1998
Associate Dean of Health Sciences (Nursing) and Director of the School of Nursing
Andrea Baumann

Professors Emeriti
E. Mary Buzzell/B.N. (McGill), M.Sc.N., M.Ed. (Boston), R.N.
Alina Reid/B.A. (Toronto), R.N.
Karín von Schilling/B.Sc.N. (Toronto), M.Sc.N. (California), R.N.

Professors
Andrea Baumann/B.Sc.N. (Windsor), 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.S. (Niagara), M.A. (Dalhousie), M.Sc. (McMaster), Ph.D. (Toronto), R.N.
Jo-Ann Fox-Threlkeld/B.N. (New Brunswick), R.N.
Susan French/B.N. (McGill), M.S. (Boston), Ph.D. (Toronto), R.N.
Leah Parks/B.S.N. (Ohio State), M.A. (Lindenwood), Ed.D. (Pepperdine), J.D. (Loyola), 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 Byrne/M.H.Sc. (McMaster), R.N.
Donna Gilkska/B.Sc.N., M.Sc.N. (Western Ontario), Ph.D. (Toronto), R.N.
Aiza DiCenso/B.Sc.N., M.Sc. (McMaster), Ph.D. (Waterloo), R.N.
Patrice Ellis/B.Sc.N. (Wagner), M.Sc. (Maryland), R.N.
Mary Pawlowski/B.Sc.N., M.H.Sc. (McMaster), CNN(C) (CNA), R.N.
Mabel Hunsberger/B.S. (Goshen), M.Sc.N. (Pennsylvania), R.N.
Basant Majumder/B.Sc.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.N. (New Brunswick), M.H.Sc. (McMaster), M.Sc. (Toronto), R.N.
Jackie Roberts/B.Sc.N., M.Sc., (McMaster), R.N.
Joan Wolfe/B.Sc.N. (McMaster), M.Sc.N. (Toronto), R.N.
Joanne Runions/B.N. (McGill), M.H.Sc. (McMaster), Ph.D. (Toronto), R.N.
Helen Thomas/B.N., Sc.(Queen's), M.Sc, (Waterloo), R.N.
Catherine Tompkins/B.Sc.N. (Western Ontario), M.Ed. (Toronto), Ph.D. (California), R.N.
Leslie Van Dover/B.N. (New Brunswick), M.Sc.N. (Western Ontario), Ph.D. (Michigan), R.N.
Patricia Walk/B.Sc.N. (Western Ontario), M.Sc. (McMaster), R.N.
Robin Weir/B.Sc.N. (Western Ontario), M.Sc. (Boston), M.Ed., Ph.D. (Toronto), 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)
Sheryl Bobbin-Cummins/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(T) (McMaster), R.N.
Dauna Crooks/B.Sc.N. (Toronto), M.Sc.N. (Western Ontario), D.N.S. (SUNY), R.N.
Michelle Drummond-Young/B.Sc.N., M.H.Sc. (McMaster), R.N.
Anne Ewrich/B.Sc.N. (Queen's), M.H.Sc. (Toronto), R.N.
Heather Howby/B.Sc.N., M.H.Sc. (McMaster), R.N.
Carolyn Ingram/B.Sc.N. (Pittsburgh), M.Sc.N. (Maryland), R.N.
Michael Ladouceur/B.S.N. (Victoria), M.P.H. (Boston), R.N.
Janet Landeen/B.Sc.N. (Connecticut), M.Ed. (Victoria), R.N.
Barbara Love/B.Sc.N. (Toronto), M.H.Sc. (McMaster), R.N.
Ola Luyuk-Child/B.Sc.N. (McMaster), M.Sc.N. (Toronto), R.N.
Charlotte Nonsigard/B.N. (McGill), M.Sc.N. (Western Ontario), R.N.
Linda O'Mara/B.N., M.Sc.N., (McGill), R.N.
Marilyn Parsons/B.N.Sc. (Queen's), M.H.Sc. (McMaster), R.N.
Chris Patterson/B.Sc.N. (Waterloo), B.Sc.N. (McMaster), M.Sc.N. (Western Ontario), R.N.
Dyanne Semogas/B.N. (McGill), M.N. (Washington), R.N.
Jennifer Skelly/M.H.Sc. (McMaster), Ph.D. (Toronto), R.N.
Wendy Sword/B.Sc.N., M.Sc.T. (McMaster), Ph.D. (Guelph), R.N.
Rita Valaitis/B.A., B.Sc.N. (Windsor), M.H.Sc. (McMaster), R.N.

Lecturers
Jeanette LeGris/B.N. (Manitoba), M.H.Sc. (McMaster), R.N.
Claire Malette/B.Sc.N. (McGill)

The Aga Khan University Based Faculty
Susan Beaton/B.A. (Newcastle), M.Ed. (Manchester)
Marlyn Lee/B.A., B.Sc.N.(St. Louis), M.N. (S. Carolina)
Johanna Majoor/B.Sc.N. (Western Ontario)
Lorraine Tinevez/B.Sc.N. (Alberta), M.P.H. (Hawaii)

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.


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.

2. 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.)

3. 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.

4. 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.

5. 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, in which students apply concepts related to nursing, teaching-learning and group processes to a variety of patient situations.
Three hours (lecture/problem-based tutorials); one term
Prerequisite: NURSING 1F04, 1G04
Normally to be taken concurrently with NURSING 2L03.

NURSING 2P03 GUIDED NURSING PRACTICE II
Planned and guided clinical practice in institutional settings. A continuation of NURSING 2L03. This course is evaluated on a Pass/Fail basis.
Nine hours (clinical lab); one term
Prerequisite: NURSING 2L03
Normally to be taken concurrently with NURSING 2M03.
NURSING 2002 POPULATION HEALTH
An introduction to the major factors that influence 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 related to nursing practice. Two hours (lecture/student presentations); one term
Prerequisite: NURSING 2P03; HTH SCI 2B03 (or HTH SCI 2AA2, 2BB2, 2CC2 and 2DD2); registration in Level III of the B.Sc.N. (A) Stream Normally to be taken concurrently with NURSING 3X04 or 3Y04.

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 3S03.

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 3T03 and NURSING 3U02.

NURSING 4J07 GUIDED NURSING PRACTICE I
This course focuses on the application of theory and concepts to clinical practice, including the introduction to the leadership role in patient care. Students are individually placed in a variety of health-care settings. This course is evaluated on a "Pass/Fail" basis.
Twenty-four hours (clinical lab, including tutorials); 12 weeks
Prerequisite: NURSING 3Y04, 3Y07 Normally to be taken concurrently with NURSING 4E03.

NURSING 4K07 GUIDED NURSING PRACTICE VI
A continuation of NURSING 4J07. This course is evaluated on a "Pass/Fail" basis.
Prerequisite: NURSING 4J07 Normally to be taken concurrently with NURSING 4F03.

DIPLOMA RN (B) STREAM...

NURSING 3L05 THEORIES AND SKILLS FOR PRIMARY HEALTH CARE
Advanced theories and skills in client assessment and therapeutic communication relevant to community-based primary health care are developed through small group tutorials, self-study packages, skills practice in the clinical skills lab and standardized patients. This course is evaluated on a "Pass/Fail" basis.
Five hours (problem-based tutorials); one term
Prerequisite: Registration in Level III of the B.Sc.N. (B) Stream Normally to be taken concurrently with NURSING 3S03.
Antirequisite: NURSING 3L04, 3L12, 3M03

NURSING 3L12 ADVANCED CLIENT ASSESSMENT SKILLS
Advanced skills in history-taking and client assessment relevant to community-based primary health care are developed through small group tutorials, self-study packages, skills practice in the clinical skills lab and use of standardized patients. This course is evaluated on a "Pass/Fail" basis.
Two hours (problem-based tutorials); one term
Prerequisite: Registration in Level III of the B.Sc.N. (B) Stream Normally to be taken concurrently with NURSING 3S03.
Antirequisite: NURSING 3L04, 3L05, 3V05

NURSING 3M05 GUIDED NURSING PRACTICE I
An applied nursing practice experience in a community-based health care setting with an emphasis on the development of expanded role skills in areas such as health promotion, health education, and community assessment. This course is evaluated on a "Pass/Fail" basis.
Eight hours (clinical lab), 2 hours (tutorial); one term
Prerequisite: NURSING 3L05, or NURSING 3L12 and 3M03 Normally to be taken concurrently with NURSING 3T03.

NURSING 3M03 ADVANCED COMMUNICATION SKILLS
Advanced therapeutic communication skills relevant to community-based primary health care are developed through small group tutorials and use of standardized patients. This course is evaluated on a Pass/Fail basis.
Three hours (problem-based tutorials); one term
Prerequisite: Registration in Level III of the B.Sc.N. (B) Stream Normally to be taken concurrently with NURSING 3S03.
Antirequisite: NURSING 3L04, 3L05, 3V05

NURSING 4S06 GUIDED NURSING PRACTICE III
An applied nursing practice course in which the focus is on the integration of theory and concepts in the delivery of interprofessional health care settings. This course will allow the development of independent decision-making capacity in a selected area of clinical practice. This course is evaluated on a "Pass/Fail" basis.
Twelve hours (clinical lab), two hours (tutorial); 13 weeks
Prerequisite: NURSING 3M05 Normally to be taken concurrently with NURSING 4E03.

NURSING 4T06 GUIDED NURSING PRACTICE IV
A continuation of NURSING 4S06. This course is evaluated on a "Pass/Fail" basis.
Twelve hours (clinical lab), two hours (tutorial); 13 weeks
Prerequisite: NURSING 4S06 Normally to be taken concurrently with NURSING 4F03.

NURSING 3S03 NURSING CONCEPTS IN HEALTH AND ILLNESS III
Biological, physical, psychological, social sciences, and nursing theory are integrated and applied to health care situations through problem-based learning.
Three hours (lecture/problem-based tutorials); one term
Prerequisite: NURSING 2N03 and 2P03 for B.Sc.N. (B) Stream or registration in Level III of the B.Sc.N. (B) or NP (C) Stream students Normally to be taken concurrently with NURSING 3X04 (for A Stream students) or NURSING 3L05 (for B Stream students).

NURSING 3T03 NURSING CONCEPTS IN HEALTH AND ILLNESS IV
A problem-based course in which students integrate theories from biological, physical, psychological, social sciences, and nursing theory and related to clinical practice issues. A continuation of NURSING 3S03.
Three hours (lecture/problem-based tutorials); one term
Prerequisite: NURSING 3S03 or registration in Level III of B.Sc.N. NP (C) Stream Normally to be taken concurrently with NURSING 3Y04 (for A Stream students) or NURSING 3M05 (for B Stream students).

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 presentations) 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) Normally taken concurrently with NURSING 4J07 (for (A) Stream) or NURSING 4S06 (for (B) 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 Normally taken concurrently with NURSING 4K07 (for (A) Stream) or NURSING 4T08 (for (B) Stream).

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
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.

Courses

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); one term
Prerequisite: Registration in Level IV of the B.Sc.N. NP (C) Stream; registration in or completion of NURSPRAC 4P03
Antirequisite: NURSPRAC 4A05, 4AA5

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.
20 hours (clinical lab); six hours (tutorial); 13 weeks
Prerequisite: NURSPRAC 4A10, 4P03, 4R03, 4T10; registration in Level IV of the B.Sc.N. NP (C) Stream
Antirequisite: NURSPRAC 4C10, 4S03

NURSPRAC 4P03  REQUIRED SELECTED TOPICS (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, interdisciplinarity, primary health policy formation are addressed.
Three hours (tutorial); one term
Prerequisite: NURSPRAC 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 advanced counselling, pharmacology and complementary modalities. The effectiveness and efficiency of these strategies are examined.
When taken with NURSPRAC 4B07, equivalent to NURSPRAC 4T10
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, 4TT5

NORTHERN COMMUNITY NURSING COURSES ...

Note:
The Northern Community Nursing Programmes are currently under review and admission is to them has been suspended for the 1998-99 Session. Accordingly, no Northern Community Nursing courses will be offered in 1998-99.

NURSING 3A01  PRIMARY HEALTH CARE IN NORTHERN COMMUNITIES
An introductory course to examine principles of primary health care, the concept of health and transcultural issues as the foundation for a holistic assessment which is relevant to First Nations people.
Twelve hours (lecture/problem-based tutorial) in seven weeks
Prerequisite: Registration in the Northern Clinical Programme
To be taken concurrently with NURSPRAC 3B07.
When taken with NURSPRAC 3B07, equivalent to NURSPRAC 3T03 and 3L05.

NURSING 3B07  ASSESSMENT AND MANAGEMENT OF HEALTH AND ILLNESS ACROSS THE LIFESPAN
A comprehensive approach to nursing practice through advanced interviewing, history taking, physical assessment, and clinical decision-making skills will be developed with the focus on the newborn, child, pregnant female, adult, and elderly. 78 hours (lecture/problem-based tutorial), 36 hours (clinical lab) in seven weeks
Prerequisite: Registration in the Northern Clinical Programme
To be taken concurrently with NURSPRAC 3A01.
When taken with NURSPRAC 3A01, equivalent to NURSPRAC 3T03 and 3L05.

NURSING 3C03  ADVANCED CLINICAL SKILLS FOR EMERGENCY CARE
The student will develop the advanced clinical and decision-making skills necessary to provide emergency care to the child and adult. Advanced knowledge and skills in the assessment and management of injuries, emergency conditions and acute start and illnesses will be developed throughout the course.
42 hours (lecture) in seven weeks
Prerequisite: Registration in the Northern Clinical Programme

NURSING 3D06  ADVANCED CLINICAL PRACTICE
The purpose of the six week supervised clinical practicum is to enable the nurse to apply and integrate knowledge and skills into nursing practice in Medical/Surgical, Paediatrics, Obstetrics and Emergency Care.
30 hours (clinical lab) per week for six weeks
Prerequisite: Registration in the Northern Clinical Programme
Equivalent to NURSPRAC 4S05.

NURSPRAC 4P03  REQUIRED SELECTED TOPICS (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
Antirequisite: NURSPRAC 4C10, 4S03

NURSPRAC 4R03  NURSE PRACTITIONER ROLES AND RESPONSIBILITIES
Historical development, legal and ethical considerations, scope of practice, interdisciplinarity, primary health policy formation are addressed.
Three hours (tutorial); one term
Prerequisite: NURSPRAC 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 advanced counselling, pharmacology and complementary modalities. The effectiveness and efficiency of these strategies are examined.
When taken with NURSPRAC 4B07, equivalent to NURSPRAC 4T10
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, 4TT5
NURSING 3K08  COMMUNITY HEALTH NURSING PRACTICUM
The purpose of this course is to provide nurses with the opportunity to consolidate the knowledge and skills of community health nursing in their own community.
Prerequisite: Registration in the Northern Community Nursing programme. Work Study practicum to be completed in the nurses' home community over the nine month programme.

PAEDIATRIC ONCOLOGY COURSES...

NURSING 3P03  NURSING CONCEPTS IN HEALTH AND ILLNESS III
Bio-psycho-social sciences and nursing theory are intergrated 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: Registration in Paediatric Oncology programme
Antirequisite: NURSING 3S04
Equivalent to NURSING 3L05

NURSING 3Q03  NURSING CONCEPTS IN HEALTH AND ILLNESS IV
A problem-based course in which students intergrate 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: NURSING 3P03; registration in the Paediatric Oncology programme
Antirequisite: NURSING 3703

NURSING 3V05  THEORIES AND SKILLS FOR PRIMARY HEALTH CARE
Advanced theories and skills in client assessment and therapeutic communication relevant to hospital-based secondary and tertiary care and community-based paediatric oncology health care. This course is evaluated on a Pass/Fail basis.
Five hours (problem-based tutorials); one term
Prerequisite: Registration in the Paediatric Oncology programme
Equivalent to NURSING 3L05

NURSING 3W05  GUIDED NURSING PRACTICE I
An applied 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 (tutorials); one term
Prerequisite: NURSING 3V05; registration in the Paediatric Oncology programme
Equivalent to NURSING 3M05.

ADULT ONCOLOGY COURSES...

NURSING 3CC3  CONCEPTS AND THEORIES IN ADULT ONCOLOGY NURSING I
Biological, psychological, physical, social sciences, and nursing theory are intergrated and applied to selected health care situations related to adult oncology through the problem-based format.
Three hours (problem-based tutorials, lectures, self-directed study); one term
Prerequisite: Registration in the Adult Oncology programme
Antirequisite: NURSING 3S04
Equivalent to NURSING 3L03

NURSING 3DD3  CONCEPTS AND THEORIES IN ADULT ONCOLOGY NURSING II
A problem-based course where students intergrate and apply theories from the biological, physical, psychological, social and nursing sciences to selected adult oncology situations. Within the cancer care continuum, the health care situations will focus on assisting clients, families and the community related continuation of 3CC3.
Three hours (problem-based tutorials, lectures, self-study); one term
Prerequisite: NURSING 3CC3; registration in the Adult Oncology programme
Equivalent to NURSING 3T03.

NURSING 3GG5  ADULT ONCOLOGY NURSING PRACTICE I
An applied nursing practice course with a focus on the acquisition of advanced theories and skills in client assessment and communication situations. This course is evaluated on a Pass/Fail basis.
Five hours (small group, clinical skills labs, standardized patients, self directed study)
Prerequisite: NURSING 3CC3; registration in the Adult Oncology programme
Equivalent to NURSING 3L05.

NURSING 3H05  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 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; registration in the Adult Oncology programme
Equivalent to NURSING 3M05.

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 with a minimum of one year clinical experience or permission of the instructor
Antirequisite: HTH SCL 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
Prerequisites: Registered Nurse or permission of the instructor

OCCUPATIONAL THERAPY AND PHYSIOTHERAPY

Faculty as of January 15, 1998

Associate Dean, Rehabilitation Science
M. Westmorland

Chair, Bachelor of Health Sciences (OT) Programme
P. Salvatori

Chair, Bachelor of Health Sciences (PT) Programme
P. Solomon

Associate Professors
Susan E. Baplise/Dip. OT (England), M.H.Sc. (McMaster)
Barbara A. Cooper/Dip. P&O (Toronto), B.A. Honours, M.H.Sc. (McMaster), Ph.D. (Wisconsin-Milwaukee)
Hallie M. Groves/Dip. RT (British Columbia), B.Sc. (British Columbia), M.Sc., Ph.D. (McMaster)
Michael R. Pierrynowski/B. Sc. (Waterloo), M.Sc. (Waterloo), Ph.D. (Simon Fraser)
OCCUPATIONAL THERAPY AND PHYSIOTHERAPY

Mary C. Law/B.Sc. OT (Queen's), M.Sc. (McMaster), Ph.D. (Waterloo)
Nancy A. Pollock/B.Sc. OT (Queen's), M.Sc. (McGill)
Penny S. Salvatori/Dip. PROT (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)
Muriel G. Westmorland/Dip. OT (England), M.H.Sc. (McMaster)

Assistant Professors
Beverley M. Clarke/Dip. PT (Manitoba), B.A., M.Sc. (McMaster)
Jean M. Crowe/Dip. PT (Australia), B.Sc. PT (Toronto), M.H.Sc. (McMaster)
Carol Dematteo/Dip. PROT (Toronto), M.Sc. (McMaster)
Elsie M. Finch/B.Sc. PROT (McGill), M.H.Sc. (McMaster)
Viole Gales/ B.Sc., M.Sc. (Waterloo), Ph.D. (McMaster)
Heidrun Linda B.Sc. PT (Montreal), M.Sc. (North Carolina), M.Ed., Ph.D. (Toronto)
Lori Letto/B.Sc. OT (Western Ontario), M.A. (Waterloo)
Julia A. Lockhart/B.Sc. OT (Queen's), M.Ed. (Brock)
Cheryl Mississiua/B.Sc. OT (Western Ontario), M.Sc., (Calgary), Ph.D. (Toronto)
Ellenore M.J. Palmer/B.Sc. (Western Ontario), B.Sc. PT (Toronto), M.Sc. (McMaster)
Laurie R. Wisthit/Dip. PROT (Toronto), B.Sc. PT (Toronto), M.Sc., Ph.D. (McMaster)
Joyce Tyssemer/B.Sc. OT (Western Ontario), M.Ed. (Brock)
Seanne Wilkins/Dip. PROT, B.Sc. OT, M.Sc. (Toronto)
Renee M. Williams/Dip. PROT (Toronto), M.Sc. (McMaster)
Linda Woodhouse/B.A. (Western Ontario), B.Sc. PT (Toronto), M.A. (Western Ontario)

Lecturers
Laura Babik/B.Sc. OT (Toronto), M.H.Sc. (McMaster)
Linda Barlow/B.A. (Toronto), B.Ed. (Queen's), B.H.Sc. PT (McMaster)
Elaine Foster-Sargeant/Dip. PT (Mohawk), B.H.Sc. PT (McMaster)
Maryn Genus/B.Sc. PT (McGill), M.Sc. PT (Western Ontario)
Lynne Geddes/B.Sc. PT (Western Ontario), M.R.E. (Toronto)
Bonny F.M. Jung/B.Sc. PT (Toronto), M.Ed. (Brock)

In addition, a number of part-time faculty teaching in the B.H.Sc. (O.T. and P.T.) programmes have appointments in the School of Rehabilitation Science. 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 I - Occupation and Health Across the Life Span

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, an 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 determination of health, health policy, the history, development, and future directions of occupational therapy.
Three hours (large group discussion/seminar); 14 weeks
OCCUP TH 2553 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
Priorities of 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); 10 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; 3 weeks
Antirequisite: OCCUP TH 2L83

OCCUP TH 2T65 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

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; 10 weeks

OCCUP TH 2C66 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 explored.
35-40 hours (fieldwork); six weeks, full-time
Antirequisite: OCCUP TH 2C76

PHYSIOTHERAPY ...

Unit I Musculoskeletal I

PHYSIOT 1T15 PROBLEM-BASED TUTORIAL
The problem-based tutorials in Unit I are designed to introduce the student to the anatomy, physiology, pathology, and physiotherapy assessment and treatment of peripheral musculoskeletal systems. In addition, students acquire a basic level of knowledge of psychological and sociological determinants of health.
Five hours (tutorial); 14 weeks

PHYSIOT 1L17 CLINICAL SKILLS LAB I
The clinical skills labs focus on the clinical assessment, diagnosis and introduction to treatment of peripheral joints. The lab integrates relevant human biology, biomechanics, clinical skills and measurement concepts.
Seven hours (lab); 14 weeks

PHYSIOT 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 physiologist, gait analysis and clinical decision making.
Three hours (lecture/seminar); 14 weeks

Unit II Musculoskeletal II

PHYSIOT 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

PHYSIOT 1L24 CLINICAL SKILLS LAB II
Students acquire basic level competencies in the assessment and treatment of spinal conditions. Students are responsible for completing further electrotherapy modules. Effectiveness of physiotherapy interventions in spinal and musculoskeletal conditions are considered.
Seven hours (lab); eight weeks

PHYSIOT 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

PHYSIOT 1C25 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

PHYSIOT 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

PHYSIOT 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

PHYSIOT 1L36 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

PHYSIOT 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

PHYSIOT 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

PHYSIOT 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

PHYSIOT 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

PHYSIOT 2C46 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-pathophysiology, neuro-plasticity, motor control and learning, WHO classification, related psychosocial issues, client-centred practice, health measurement, and evidence-based practice.
Five hours (lecture/seminar); eight weeks

PHYSIOTH 2C56 CLINICAL EDUCATION
Students participate 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; 3 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; 3 weeks
Antirequisite: PHYSIOTH 2T64, 2L63

PHYSIOTH 2A63 ADULT HEALTH
Students explore a variety of multi-system, complex 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; 4 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; 3 weeks
Antirequisite: PHYSIOTH 2T64, 2L63

PHYSIOTH 2C56 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 Coordinator.
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, 4AA3, 4C03, 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 effects of drugs in vitro (such as organ baths, ligand binding, and electrophysiological actions) and analysis of pharmacological data.
One lab (nine hours); two terms
Prerequisite: Credit or registration in P HARMAC 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 4AA3 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 BIOL OGY 3AA3

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 EPIDEMIOLOGY OF EFFECTS OF DRUGS AND TOXICANTS
Methods for collection of data and its analysis regarding action of drugs, toxicants and environmental chemicals in animal and human populations.
One tutorial (one hour), one tutorial (two hours); one term
Prerequisite: PHARMAC 3A06

PHARMAC 4F09 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, 1998

Chair
Willard Waluchow

Professors Emeriti
Horace A. Dulmage/B.A., B.D. (McMaster), Ph.D. (Chicago)
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)

Professors
Nicholas Griffin/B.A. (Leicester), Ph.D. (Australian National)
Evan Simpson/A.B. (Amherst), Ph.D. (Duke)
Willard Waluchow/B.A., M.A. (Western Ontario), D.Phil. (Oxford)

Associate Professors
Samuel Agenstat/B.A., M.A. (Toronto), Ph.D. (Pennsylvania)
Catherine Beattie/B.A. (McMaster), M.A. (Guelph), Ph.D. (London)
David L. Hilchuk/B.A. (McMaster), Ph.D. (Claremont)
Sam M. Najm/A.A. (Beirut), B.A. (Wesleyan), M.A., Ph.D. (Yale)
Spino Panagiotou/B.Sc., M.A. (Guelph), Ph.D. (St. Andrews)
Mark Vorobij/B.A. (Carleton), M.A., Ph.D. (Toronto)

Assistant Professors
Jill Lecario/B.A. (McMaster), M.A., Ph.D. (Toronto)

Associate Members
Caroline Bayard/French) L. ès L., M. ès L. (Toukouse), 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/Classics), B.A. (London), M.A., Ph.D. (Indiana)

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 Counsellor by the end of May of the preceding 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 rival views of human nature and the state, social conflict, inequality and justice.
Two lectures, one tutorial; two terms
Prerequisite: PHILOS 1D06

PHILOS 1D06 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

PHILOS 2I03 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 2J03 Reasoning
An introduction to important types of reasoning, including philosophical reasoning, with emphasis on concepts rather than techniques and some exposure to commonly used symbolic notation.
Three lectures; one term
Prerequisite: Registration in a programme in Philosophy

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 2D06

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 an Honours programme in Philosophy
Offered in alternate years.

PHILOS 3D03 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 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 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 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 THEORY OF KNOWLEDGE
A study of scepticism and certainty, knowledge and belief, perception, memory, and truth.
Three lectures; one term
Prerequisite: PHILOS 2C06

PHILOS 3P03 PHILOSOPHIES OF WAR AND PEACE
A philosophical appraisal of the rationality and morality of the conduct of war and proposals for fostering peace among nations.
Three lectures; one term
Prerequisite: At least six units of Philosophy, and registration in Level III or IV of any programme
Offered in alternate years.

PHILOS 3Q03 PHILOSOPHY OF LAW
An investigation of the nature of law and of issues arising within legal systems. These issues include legal reasoning, equality, legal insanity, punishment, and the Charter of Rights and Freedoms.
Three lectures; one term
Prerequisite: At least six units of Philosophy and registration in Level III or IV of any programme

PHILOS 3W03 READING COURSE
A tutorial course in which individual students meet regularly with an instructor on a list of readings outside normally available course offerings. It is the student's responsibility to secure the agreement of an instructor and to complete a proposal form (available in the Philosophy Department Office), before attempting to register in the course.
Prerequisite: Registration in Level III or IV of any programme in Philosophy, with a Cumulative Average of at least 8.5 and permission of the Department.

PHILOS 4A03 EARLY MODERN PHILOSOPHY
A critical study of one or more 17th or 18th-Century European or British philosophers, such as Descartes, Leibniz, Hume.
Seminar (Two hours); one term
Prerequisite: PHILOS 2C06, and registration in Level III or IV of any programme
Offered in alternate years.

PHILOS 4B03 THEORY OF VALUE
A study of human practices of evaluation in morality, politics, art, religion, and economics.
Seminar (Two hours); one term
Prerequisite: PHILOS 3G03, and registration in Level III or IV of any programme
Offered in alternate years.

PHILOS 4D03 20TH-CENTURY ANALYTIC PHILOSOPHY
A study of some main currents of 20th-Century philosophy, including the work of such figures as Russell, Wittgenstein, Quine, and Davidson.
Seminar (two hours); one term
Prerequisite: At least six units of Philosophy, and registration in Level III or 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 4H03 METAPHYSICS
An investigation of metaphysical concepts, such as essence, identity, being, essence, entity, process, mind, body and causality.
Seminar (two hours); one term
Prerequisite: PHILOS 2A06 and 2C06, and registration in Level III or IV of a programme in Philosophy

PHILOS 4J03 MEDIEVAL PHILOSOPHY
A study of one or more central medieval philosophers, such as Augustine, Aquinas, or William of Ockham.
Seminar (Two hours); one term
Prerequisite: 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 4C03, 4J03
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 INDEPENDENT STUDY
In consultation with a member of the Department of Philosophy, students will prepare an essay on an approved topic, on the basis of a list of readings outside normally available course offerings. It is the student's responsibility to secure the agreement of an instructor and to complete a proposal form (available in the Philosophy Department Office), before attempting to register in the course.
Prerequisite: Registration in Level IV of any Honours programme in Philosophy, with a Cumulative Average of at least 8.5 and permission of the Department.
Antirequisite: PHILOS 4206
PHYSICS AND ASTRONOMY

PHYSICS 4Z06
THESIS
Reading and research under the supervision of two members of the Department. 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 complete a proposal form (available in the Philosophy Department office), before attempting to register in the course.
Prerequisite: Registration in Level IV of any Honours program in Philosophy, with a Cumulative Average of at least 8.5 and permission of the Department.
Antirequisite: PHYSICS 4W03

PHYSICS AND ASTRONOMY

Faculty as of January 15, 1998

Chair
D.L. Welch

University Professor
Jules P. Carbotte/B.Sc. (Manitoba), M.Mc., Ph.D. (Alberta), Ph.D. (Waterloo), F.R.S.C.

Associate Chair
H.K. Haugen

Professors Emeriti
Bertram N. Brockhouse/B.A. (British Columbia), M.A., Ph.D. (Toronto), D.Sc. (Waterloo, McMaster), F.R.S.C., F.R.S., Nobel Laureate
I. David Brown/B.Sc. (Toronto), Ph.D. (McMaster)
Dennis G. Burke/B.E., M.Sc. (Saskatchewan), Ph.D. (McMaster)
W. Brian Clarke/B.A. (Dublin), Ph.D. (Mcmaster)
W. Ross Datars/M.Sc. (McMaster), Ph.D. (Wisconsin), F.R.S.C.
David A. Goodings/B.A. (Toronto), Ph.D. (Cambridge)
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.
Carmen C. McMullen/M.Sc., Ph.D. (McMaster)
Yukihisa Negami/B.Sc., D.Sc. (Kyoto)
Melvin A. Preston/B.A., M.A. (Toronto), Ph.D. (Birmingham), D.Sc. (McMaster), C.D., F.R.S.C.
Donald W.L. Sprung/B.A. (Toronto), Ph.D., D.Sc. (Birmingham), F.R.S.C.
Carl V. Stager/B.Sc. (McMaster), Ph.D. (C.I.T.)
Robert G. Summers-Gill/M.A. (Saskatchewan), Ph.D. (California)
Antalec B. Volkov/B.S. (North Carolina), M.Sc., Ph.D. (Wisconsin)
Derek Waton/B.Sc.A. (Toronto), Ph.D. (Harvard)

Professors
A. John Berinsky/B.Sc. (Fordham), M.Sc., Ph.D. (Pennsylvania)
Rajat K. Bhaduri/B.Sc. (Calcutta), Ph.D. (McMaster)
John A. Cameron/B.Sc. (Toronto), Ph.D. (McMaster)
David F. Chettle/B.Sc., M.Sc., Ph.D. (Birmingham)
Malcolm F. Collins/M.A., Ph.D. (Cambridge)
Bruce D. Gaulin/B.Sc. (McGill), Ph.D. (McMaster)
William E. Harris/B.Sc. (Alberta), M.Sc., Ph.D. (Toronto)
Harold K. Haugen/M.Sc. (Acadia), M.Eng. (McMaster), Ph.D. (Aarhus)
Catherine Kallin/B.Sc. (British Columbia), A.M., Ph.D. (Harvard)
William V. Prestwick/B.Sc., Ph.D. (McMaster)
Ralph E. Pudritz/B.Sc. (British Columbia), M.Sc. (McMaster), Ph.D. (British Columbia)
Peter G. Sutherland/P.D. (McGill), M.Sc., Ph.D. (Illinois)
David W. Taylor/B.A., D.Phil. (Oxford)
Thomas Timusk/B.A. (Toronto), Ph.D. (Cornell), F.R.S.C.
James C. Waddington/B.Sc. (Queen's), Ph.D. (McMaster)
Douglas L. Welch/B.Sc., Ph.D. (Toronto)

Associate Professors
Stephanie Filbelle/B.Sc., M.Sc., Ph.D. (Montreal)
David E. Venius/B.Sc. (Queen's), Ph.D. (Toronto)
Christine D. Villeneuve/B.Sc. (Toronto), Ph.D. (California Institute of Technology)
Francoise M. Winnik/Dipl. d'Eng, Chicime (Mulhouse), M.Sc., Ph.D. (Toronto)

Assistant Professors
Neil McKay/B.Sc. (Queen's), M.Sc., Ph.D. (McMaster) part-time
Fiona E. McNeil/B.Sc. (Edinburgh), Ph.D. (Birmingham)

Associate Members
Thomas J. Farrell/(Radiology) B.Sc., B.Ed. (Toronto), M.Sc. (Western Ontario), Ph.D. (McMaster)
Michael S. Pattinson/(Radiology) B.Sc. (Queen's), M.Sc. (McMaster), Ph.D. (Toronto)
Andrew J. Rainbow/(Biology) B.Sc. (Manchester), M.Sc. (London), Ph.D. (McMaster)
David A. Thompson/(Engineering Physics) B.Sc., Ph.D. (Reading)
Douglas R. Wyma/(Radiology) B.Math. (Waterloo), Ph.D. (McMaster)

Senior Demonstrator
J. Everett Cairns/B.Eng., M.Sc. (McMaster)

Department Notes:
1. The Department reserves the right to withdraw a Level III or IV course which is not specifically required in a Physics programme 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 or equivalent
Antirequisite: PHYSICS 2F03, SCIENCE 2D03
Intended for Science students. Non-science students interested in these topics are directed to SCIENCE 2D03.

ASTRON 2E03 ASTRONOMY AND THE SOLAR SYSTEM

Basic observational astronomy. Historical development of ideas about the solar system. A modern view of the planets; the origin and evolution of the solar system.
Three lectures; one term
Prerequisite: One of PHYSICS 1A05, 1B05, 1C06, 1A3 (or 1B3), and one of MATH 1A06, 1B06, 1C06, or ARTS & SCI 1D06
Antirequisite: PHYSICS 2E05
Offered in alternate years.

ASTRON 3X03 GALAXIES AND COSMOLOGY

Galaxies and cosmology. 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 2D03, 2G03, 2K03 and one of PHYSICS 2A03, 2B06, and either one of PHYSICS 2H03, 2H04, CHEM 2P06, 2P03 or both CHEM 2P03 and 2P05.
Antirequisite: PHYSICS 3X03
Alternates with ASTRON 3Y03.

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 one of PHYSICS 2H03, 2H04, CHEM 2P06, 2P03 or both CHEM 2P03 and 2P05.
Antirequisite: PHYSICS 3X03
Alternates with ASTRON 3X03.
Offered in 1998-99.
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 1A05, 1B06, 1C06

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 1A05, 1B05, 1B06, 1C06

PHYSICS 1BB3

INTRODUCTION TO MODERN PHYSICS B


Three lectures, one lab (three hours) every other week; one term
Prerequisite: Registration in Engineering I

PHYSICS 1E03

WAVES, ELECTRICITY AND MAGNETIC FIELDS

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 1P03

INTRODUCTORY PHYSICS

Classical mechanics and waves for students without OAC Physics. Topics include kinematics, Newton's Laws, work, energy, momentum, interference and diffraction. Some topics in modern physics will be discussed.

Three lectures; one term
Prerequisite: OAC Mathematics
Antirequisite: At least 60% in OAC Physics

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 1A05, 1B03, 1B06, 1C03, 1C06, and one of MATH 1A06, 1A93, 1AA6, 1C06, ARTS&SCI 1C06
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 1A05, 1B03, 1B06, 1C03, 1C06
Consequence: MATH 2A03 and either 2C03 or 2O03
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 PHYSICS 2C03 or 2O03; either one of PHYSICS 1A06, 1B06, 1C06 or both PHYSICS 1B03 (or 1C03) and credit or registration in PHYSICS 1B05 (or 1B03)
Antirequisite: CHEM 2P06, 2P07, 2R03, ENGINEER 2V04, PHYSICS 2H04
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 1A05, 1B06, 1C06, 1B03, 1C03
Antirequisite: PHYSICS 2C03, 2D03, 2G03

PHYSICS 2L03

DYNAMICAL SYSTEMS

The continuation of PHYSICS 2K03, including rigidbody motion and chaos.

Three lectures, second term
Prerequisite: PHYSICS 2K03, and credit or registration in either MATH 2C03 or 2G03

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.
Offered in 1988-89.

PHYSICS 3B06

ELECTRONICS

Circuit theorems, principles of semiconductors and devices, bipolar junction transistor (DC biasing and AC model), amplifier circuits (single and multistage), field effect transistors and circuits, difference amplifier, feedback, oscillators, operational amplifier and applications.

Two lectures, both terms; one lab (two hours); two terms
Prerequisite: PHYSICS 2B06 or both ENG PHYS 2A03 and 2E04
Antirequisite: PHYSICS 3B03, 3B06

PHYSICS 3B03

ELECTRONICS II

Field effect transistors and circuits, difference amplifier, feedback, oscillators, operational amplifier and applications.

Two lectures, one lab (two hours); second term
Prerequisite: PHYSICS 3B03
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.
Not offered in 1988-89.

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 3O03

PHYSICS 3HA2

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 3O03, and registration in Level III of Honours Medical and Health Physics Co-op

PHYSICS 3HB2

INTERMEDIATE LABORATORY (CO-OP) II

The continuation of PHYSICS 3HA2.

One lab (three hours); second term
Prerequisite: PHYSICS 3HA2
PHYSICS 3G03 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 2G03 and one of MATH 2A03, 2A04, 2B03 or 2C03; or registration in Honours Chemistry and Physics
Anti-requisite: CHEM 4Y03, PHYSICS 3K04

PHYSICS 3K03 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 2M04, 2M30 or both ENG PHYS 2A03 and 2E04; or registration in Honours Mathematics and Physics. MATH 3C03 or 3I03 may be taken concurrently.

PHYSICS 3M03 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, 2A06, 2G03, 2Q04 and one of MATH 2C03, 2Q01, or either PHYSICS 2B06 or both ENG PHYS 2A03 and 2E04

PHYSICS 3P03 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 iv of Honours Medical and Health Physics or Level ii or iv of Honours Medical and Health Co-op

PHYSICS 3T03 RADIOACTIVITY AND RADIATION INTERACTIONS
Radioactivity and radiation phenomenology; 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, 1B1A3, 1B1B3, 1C06 or permission of the instructor.
Cross-list: BIOLOGY 3L03

PHYSICS 3Z23 GEODYNAMICS
Application of physical methods to understand large scale processes in the Earth. Plate tectonics, structure of the Earth's interior, rock magnetism, seismology, gravitational, natural radioactivity, heat flow.
Two lectures; one tutorial; one term
Prerequisite: One of PHYSICS 1A06, 1B06, 1B05, 1C03, 1C06
Cross-list: GEO 3Z23
Anti-requisite: PHYSICS 2I03

MATH 3G03 MATHEMATICAL PHYSICS I
Linear algebra and eigenvalue problems; partial differential equations, orthogonal functions, Fourier series, Legendre functions, spherical harmonics.
Three lectures; one term
Prerequisite: MATH 2A03, 2B03, 2F06
Not open to students with credit or registration in MATH 3F03, 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
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, electrodynamics, electromagnetic waves and wave guides, radiation from dipoles; Special Relativity and electromagnetism.
Two lectures; two terms
Prerequisite: PHYSICS 2B06 or ENG PHYS 2A03 and 2E04, and MATH 3D03; or registration in Honours Mathematics and Physics

PHYSICS 4D04 DIGITAL LOGIC AND COMPUTER SYSTEMS I
The design and use of digital logic systems and their application to control and computation. 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
Anti-requisite: COMP ENG 3H03, PHYSICS 4DA3, 4DB3

PHYSICS 4DA3 DIGITAL LOGIC AND COMPUTER SYSTEMS II
The continuation of PHYSICS 4DA3
Two lectures, one lab (three hours); second term
Prerequisite: PHYSICS 4DA3
Anti-requisite: PHYSICS 4D06

PHYSICS 4E03 NUCLEAR PHYSICS
Nuclear masses and stability; radioactivity and nuclear reactions; elementary nuclear models.
Three lectures; one term
Prerequisite: PHYSICS 3M03 or a grade of at least B- in PHYSICS 3Q03 or registration in Level 4 of an Honours Medical and Health Physics programme

PHYSICS 4F03 QUANTUM MECHANICS
A sequel to Physics 3M03, including general structure of quantum mechanics, matrix mechanics, scattering, perturbation theory and the variational method.
Three lectures; one term
Prerequisite: PHYSICS 3M03, 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 3M03
PHYSICS 4001  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.

PHYSICS 4J04  Antirequisite:
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 3M03 or a grade of at least B- in 3Q03 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
See the heading Courses Requiring Permission in the Faculty of Science
section of the Calendar.

PHYSICS 4R06  RADIATION AND RADIOISOTOPE
METODOLOGY
Techniques and theory of the measurement of radiation. Includes radio­
activity and radioactive decay, solid state dosimetry, principles of radio­
active detectors, counting statistics and data reduction, advanced
multi-detector 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
Antirequisites: PHYSICS 4R03, 4R04

PHYSICS 4T03  INTRODUCTION TO MEDICAL PHYSICS
Basic concepts in radiology, nuclear medicine, radiotheraphy, physiological
measurements and laser applications.
Three lectures; one term
Prerequisite: One of MATH 2A03, 2A06, 2G03, 2Q04 and one of
MATH 2C03, 2C03, 2P04; and either PHYSICS 3T03 or ENG PHYS 3C03

PHYSICS 4Z13  QUIRKY: ENERGY, PHYSICS
AND THE ENVIRONMENT
Inquiry seminars are designed to develop skills basic to the systematic
investigation of public issues related to Science.
Three lectures or seminars; one term
Prerequisite: Enrollment in Level IV of an Honours (Complementary Studies
Option) programme in the Faculty of Science. One of PHYSICS 1A06, 1C06,
1C06, or 1C03 (or 1C03) and 1B03 (or 1B03) is recommended.
Antirequisites: PHYSICS 2H03, 2H04, SCIENCE 4I03
Enrollment is limited. See the heading Limited Enrollment Courses in the
Faculty of Science section of the Calendar.

PHYSICS 4Z23  QUIRKY: RELATIVITY AND GRAVITATION
To acquire a qualitative understanding of Einstein's Special and General
Theories of Relativity.
Lectures and tutorials (three hours); one term
Prerequisite: Enrollment in Level IV of an Honours (Complementary Studies
Option) programme in the Faculty of Science.
Antirequisites: SCIENCE 4J03
Enrollment is limited. See the heading Limited Enrollment Courses in the
Faculty of Science section of the Calendar.

PHYSIO THERAPY
(SEE OCCUPATIONAL THERAPY AND PHYSIOTHERAPY)

POLISH
(SEE MODERN LANGUAGES, POLISH)
8. With the exception of 4206, enrolment in all Level IV courses is limited. In courses cross-listed in the Graduate Calendar (4BB6, 4E06, 4006), 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:

- Level IV Honours and Combined Honours Political Science
- Continuing Students
- Level III Honours and Combined Honours Political Science
- B.A. in Political Science
- 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 627) no later than May 1, regardingballoting for the following academic year. Permission from the Department will be required to complete registration in Level IV limited-enrolment courses.

### Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Terms</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>POL SCI 1G06</td>
<td>Politics and Government</td>
<td>3</td>
<td>Three hours</td>
<td>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</td>
</tr>
<tr>
<td>POL SCI 2AD6</td>
<td>Comparative Politics</td>
<td>3</td>
<td>Three hours</td>
<td>An introduction to comparative politics with emphasis on the different forms of government in advanced industrial states including Canada. Three hours (lectures and tutorials); two terms</td>
</tr>
<tr>
<td>POL SCI 2B06</td>
<td>U.S. Politics</td>
<td>3</td>
<td>Three hours</td>
<td>A study of the development, nature, and functioning of the political system of the U.S.A. Three hours (lectures and tutorials); two terms</td>
</tr>
<tr>
<td>POL SCI 2E06</td>
<td>Global Politics</td>
<td>3</td>
<td>Three hours</td>
<td>A study of the institutions and processes of the international political system. Three hours (lectures and tutorials); two terms</td>
</tr>
<tr>
<td>POL SCI 2F06</td>
<td>Political Theory</td>
<td>3</td>
<td>Three hours</td>
<td>An introduction to political theory that includes Classical Greek thought, early modern natural right theory and contemporary political theory. Three hours (lectures and tutorials); two terms (See Note 4 above.)</td>
</tr>
<tr>
<td>POL SCI 3A06</td>
<td>History of Political Ideas</td>
<td>3</td>
<td>Three hours</td>
<td>A study of the political ideas of some eminent thinkers from classical times to the 19th century. Three hours; two terms Enrolment is limited.</td>
</tr>
<tr>
<td>POL SCI 3A33</td>
<td>International Politics in the Postwar Period</td>
<td>3</td>
<td>Three hours</td>
<td>A survey of international relations from 1945 focusing on the various approaches to international politics. Three hours; one term Enrolment is limited.</td>
</tr>
<tr>
<td>POL SCI 3D03</td>
<td>Government and Politics of Indigenous Peoples</td>
<td>3</td>
<td>Three hours</td>
<td>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.</td>
</tr>
<tr>
<td>POL SCI 3D63</td>
<td>Politics of Restructuring: The State and the Economy</td>
<td>3</td>
<td>Three hours</td>
<td>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.</td>
</tr>
<tr>
<td>POL SCI 3D63</td>
<td>Participation and Elitist Politics in Canada</td>
<td>3</td>
<td>Three hours</td>
<td>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 2D6 Enrolment is limited.</td>
</tr>
<tr>
<td>POL SCI 3E03</td>
<td>The Politics of International Economic Organizations</td>
<td>3</td>
<td>Three hours</td>
<td>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.</td>
</tr>
<tr>
<td>POL SCI 3E33</td>
<td>International Relations: North-South</td>
<td>3</td>
<td>Three hours</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. Three hours; one term Enrolment is limited.</td>
</tr>
<tr>
<td>POL SCI 3F03</td>
<td>Contemporary Social Movements</td>
<td>3</td>
<td>Three hours</td>
<td>An examination of selected social movements, primarily in Canada and the United States, including the labour, environmental, peace, feminist, indigenous rights, and religious fundamentalist movements. Three hours; one term Enrolment is limited.</td>
</tr>
<tr>
<td>POL SCI 3G03</td>
<td>Federalism: Theoretical, Constitutional and Institutional Issues</td>
<td>3</td>
<td>Three hours</td>
<td>An analysis of the constitutional framework, evolution, and structure of the federal system in Canada and/or other Western countries. Three hours; one term Enrolment is limited.</td>
</tr>
<tr>
<td>POL SCI 3H03</td>
<td>Intergovernmental Policy Issues in Canada</td>
<td>3</td>
<td>Three hours</td>
<td>An analysis of selected policy areas focusing on governmental resources, strategies, tactics and the outcomes of bargaining between governments in Canada. Three hours; one term Enrolment is limited.</td>
</tr>
<tr>
<td>POL SCI 3I03</td>
<td>Topics in American Politics</td>
<td>3</td>
<td>Three hours</td>
<td>The study of a central component of the U.S. political system. Three hours; one term Enrolment is limited.</td>
</tr>
<tr>
<td>POL SCI 3I13</td>
<td>Elections and Electoral Behaviour in Canada</td>
<td>3</td>
<td>Three hours</td>
<td>A study of the development, nature and functioning of the electoral process in Canada and the basis of voters’ decisions. Three hours; one term Enrolment is limited.</td>
</tr>
<tr>
<td>POL SCI 3J06</td>
<td>Communications and Politics</td>
<td>3</td>
<td>Three hours</td>
<td>An examination of the impact of the media and culture on contemporary politics. Three hours; two terms Enrolment is limited.</td>
</tr>
<tr>
<td>POL SCI 3J33</td>
<td>Provincial Politics in Canada</td>
<td>3</td>
<td>Three hours</td>
<td>A study of the development, nature and functioning of the political systems of the Canadian provinces. Three hours; one term Enrolment is limited.</td>
</tr>
<tr>
<td>POL SCI 3L03</td>
<td>The American Presidency</td>
<td>3</td>
<td>Three hours</td>
<td>An examination of the office of the American presidency and the ideological and institutional environment within which it functions. Three hours; one term Enrolment is limited.</td>
</tr>
<tr>
<td>POL SCI 3M06</td>
<td>Research Methods, Statistics and Political Analysis</td>
<td>3</td>
<td>Three hours</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. Three hours; two terms Antirequisite: POL SCI 2F06 (See Note 4 above.)</td>
</tr>
</tbody>
</table>
POL SCI 3NN6 PUBLIC LAW
A study of the nature and function of public law, with special reference to constitutional law and judicial behavior.
Three hours; two terms
Enrollment is limited.

POL SCI 3006 MODERN POLITICAL THOUGHT
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.
Three hours; two terms
Enrollment is limited.

POL SCI 3PP3 POLITICS IN GERMANY
A study of the development of the German political system, including analysis of political culture, ideological traditions, parties, elites and the policy process.
Three hours; one term
Enrollment is limited.

POL SCI 3QQ3 POLITICS IN FRANCE
A study of the development and functioning of the French political system, including analysis of political culture, ideological traditions, parties, elites and the policy process.
Three hours; one term
Enrollment is limited.

POL SCI 3RR3 POLITICS IN ITALY
A study of the development and functioning of the Italian political system, including analysis of political culture, ideological traditions, parties, elites and the policy process.
Three hours; one term
Enrollment is limited.

POL SCI 3S03 LOCAL GOVERNMENT AND POLITICS IN CANADA
A description of the laws and institutions of local government; examination of relationships with citizens and other levels of government; the dynamics of local politics.
Three hours; one term
Enrollment is limited.

POL SCI 3T03 PROBLEMS OF POSTCOMMUNIST TRANSITION
An examination of the legacy of communism and system transformation in Eastern European countries such as Poland, the Czech Republic and Slovakia.
Three hours; one term
Antirequisite: POL SCI 3W06, 4J06
Enrollment is limited.

POL SCI 3TT3 POLITICS OF POSTCOMMUNIST RUSSIA
An examination of the legacy of the Soviet communist system and the system transformation in Russia.
Three hours; one term
Antirequisite: POL SCI 3K05, 4J06
Enrollment is limited.

POL SCI 3UU3 READING COURSE
Topics to be arranged between an individual student and instructor. One term
Prerequisite: Registration in Level III or IV of any programme in Political Science, and the written permission of an Undergraduate Advisor on behalf of the Department. A written proposal must be submitted to the Department prior to the term in which the course is to be taken.

POL SCI 3W03 POLITICS IN BRITAIN
A study of the development and functioning of the British political system, including political culture, political parties and parliamentary institutions.
Three hours; one term
Enrollment is limited.

POL SCI 3WW3 ISSUES IN COMPARATIVE POLITICS
An examination of emerging theoretical and substantive issues in a comparative context.
Three hours; one term
Enrollment is limited.

POL SCI 3X03 POLITICS AND SOCIETY IN AFRICA
An examination of the problems of democratic institutions in Sub-Saharan Africa.
Three hours; one term
Enrollment is limited.

POL SCI 3XX3 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; one term
Enrollment is limited.

POL SCI 3Y03 ISSUES IN PUBLIC POLICY
An examination of the role of public administration in seeking collective solutions to common problems at all levels of government in Canada.
Three hours; two terms
Enrollment is limited.

POL SCI 3Z06 PUBLIC ADMINISTRATION
An examination of the development and functioning of the British political system, including analysis of political culture, ideological traditions, parties, elites and the policy process.
Three hours; one term
Enrollment 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, 303, 3L03 and permission of the Department
Enrollment is limited.

POL SCI 4B06 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
Enrollment is limited.

POL SCI 4C06 SELECTED PROBLEMS IN COMMUNICATIONS AND POLITICS
An examination of selected issues in communications and politics from a theoretical and comparative perspective.
Three hours (seminar); two terms
Antirequisite: POL SCI 3J06 and permission of the Department
Enrollment is limited.

POL SCI 4D03 HUMAN RIGHTS AND INTERNATIONAL POLITICS
An examination of the concept of human rights as reflected in international declarations and practices.
Three hours (seminar); one term
Prerequisite: POL SCI 2B06 and permission of the Department
Antirequisite: POL SCI 4F06
Enrollment is limited.

POL SCI 4E06 ISSUES IN LIBERAL-DEMOCRATIC THEORY
An analysis of liberal and liberal-democratic approaches to select issues, 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 1985/86.
Enrollment is limited.

POL SCI 4F06 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
Enrollment is limited.

POL SCI 4G06 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 3N08 and permission of the Department
Antirequisite: SOCIO/4Z03

POL SCI 4H06 ADVANCED TOPICS IN PUBLIC ADMINISTRATION
An examination in depth of one or more of the important topics, problems, or perspectives in the study of public administration.
Three hours (seminar); two terms
Prerequisite: POL SCI 3Z06 or six units of Comparative Politics and permission of the Department
Enrollment is limited.
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 4M15 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 4O06 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 4O06 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 9XX3 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 4U05 PROBLEMS OF POLITICAL PHILOSOPHY
A study in detail and in depth of writings by a limited number of political thinkers, focusing upon one of the central problems of political philosophy.
Three hours (seminar); two terms
Prerequisite: A course in Political Theory and permission of the Department
Enrolment is limited.

POL SCI 4W05 QUEBEC POLITICS
The political ideology of Quebec-based parties and movements, the impact of industrialization upon Quebec culture, and the economic implications of separatism.
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, 1998

Chair
Betty A. Levy

Professors Emeriti
D. William Carment/B.A., M.A., Ph.D. (Toronto)
Herbert M. Jenkins/A.B. (Oberlin), Ph.D. (Harvard)
Alfred B. Kristoferson/B.S., M.A., Ph.D. (Michigan)
G. Rolfe Morrison/E.Sc., M.Sc. (McGill), Ph.D. (Brown)
Grant K. Smith/B.Sc., Ph.D. (McGill)

Lorraine G. Allan/B.A., M.A., Ph.D. (Toronto)
Ian M. Begg/B.A., M.A., Ph.D. (Western Ontario)
Lee R. Brooks/A.B. (Columbia), M.S., Ph.D. (Brown)
Merlce M. Clark/B.A., Ph.D. (McMaster)part-time
Martin Daly/B.A. (Toronto), M.A., Ph.D. (Toronto)
Derys deCatalanazaro/B.A., M.A. (Carleton), Ph.D. (British Columbia)
Bennett G. Galel/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. (Dalhousie), M.A., Ph.D. (Toronto)
Terri L. Lewis/B.A. (Toronto), Ph.D. (McMaster)part-time
Stephan W. Link/B.A. (Colorado), Ph.D. (Stanford)
Daphna M. Maurer/B.A. (Swarthmore), M.A. (Pennsylvania), Ph.D. (Minnesota)
John R. Platt/B.A. (Kansas), Ph.D. (Texas)
Roy M. Pritchard/B.Sc., Ph.D. (Reading)
Ronald J. Racine/B.Sc. (Oregon), M.Sc., Ph.D. (McGill)
Larry L. Roberts/B.A., Ph.D. (Minnesota)
Shepard Siegel/B.A. (New York), M.S., Ph.D. (Yale)
Harvey Weingarten/B.Sc. (McGill), M.S., M.Phil., Ph.D. (Yale)

Associate Professors
Richard B. Day/B.A. (Massachusetts), M.A., Ph.D. (McMaster)
Kathryn M. Murphy/B.A. (Western Ontario), M.A., Ph.D. (Dalhousie)
Laurel J. Trainer/ARCT (Royal Conservatory of Toronto), B.Mus., M.A., Ph.D. (Toronto)

Assistant Professors
Sue Becher/B.A., M.Sc. (Queens), Ph.D. (Toronto)
Bruce Milliken/B.A., Ph.D. (Waterloo)
Judith M. Shedden/B.Sc. (Alberta), M.S., Ph.D. (Pittsburgh)

Associate Members
Suzanne Lp. Archie/Psychiatry) B.Sc., M.D. (McMaster), F.R.C.P.S.
Ramona M. Carbotha/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. Davis (Psychiatry) B.A. (George Washington), M.A., Ph.D. (Wayne State)
Joseph M. Ducharme (Psychiatry) B.A., M.A. (Windsor), Ph.D. (Toronto)
Elin E. Fleming (Psychiatry) B.Sc., M.D. (Toronto)
Eliapoudi (Psychiatry) B.A. (The American College of Greece), M.A. (New Brunswick), Ph.D. (McMaster)
Joel P. Hurdoff (Psychiatry) B.A., M.A. (McMaster), Ph.D. (Western Ontario)
Harriett L. McMillan (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) B.A., M.Sc. (Ohio), Ph.D. (Missouri)
Alison G. Nicol (Psychiatry) B.A., M.A., Ph.D. (York)
Griff R. Norman (Clinic. Epidemiol. & Biostats.) B.Sc. (McMaster), M.A. (Michigan State), Ph.D. (McMaster)
Christopher David Rolfo (Biology) B.Sc., M.Sc. (Guelph), Ph.D. (British Columbia)
Patricia L. Rosebush (Psychiatry) B.Sc., M.Sc. (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 Sults (Psychiatry) B.Sc. (Carleton), M.D., Ph.D. (Western Ontario), F.R.C.P.C.
Harry Szczesnich (Biomedical Sciences) B.Sc., Ph.D. (Pittsburgh)
Michael A. van Ameringen (Psychiatry) B.Sc., M.D. (McMaster)
Priyarthi Vennerakeeral (Psychiatry) B.A., M.D. (McMaster), M.Ed. (Harvard)

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.
Courses

If no prerequisite is listed, the course is open.

**PSYCH 1A03**
**INTRODUCTION TO EXPERIMENTAL PSYCHOLOGY**
This course introduces experimental psychology, and includes basic research methods in psychology, the relationship between the brain and behaviour, sensation and perception, conditioning and learning, and memory and reasoning.
Three lectures; 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 lectures; one term
Prerequisite: PSYCH 1A03
Antirequisite: PSYCH 1A06

**PSYCH 2A03**
**THEORIES OF HUMAN DEVELOPMENT**
A general survey of human development with an emphasis on the childhood years.
Three lectures; one term
Prerequisite: PSYCH 1A03 or 1A06 or registration in Honours Biology and Psychology
Not open to students with credit or registration in PSYCH 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, 1A66, 1C03, 1C06, 1K03 or 1M03 and registration in B.A. Psychology or B.A. Psychology Major
Antirequisite: PSYCH 2R03, STATS 1CC3
Not open to students with credit or registration in PSYCH 2RR3, STATS 2R06 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 2I03**
**NEUROPSYCHOLOGY**
Neural organization and the relationship between human brain function and behaviour.
Three lectures; one term
Prerequisite: PSYCH 1A03 or 1A06 or registration in Honours Biology and Psychology

**PSYCH 2J03**
**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 multi sample designs.
Three lectures; one term
Prerequisite: STATS 1CC3 and registration in an Honours Psychology programme; or STATS 1CC3 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 2R03 and registration in a Psychology programme, B.Sc. Life Science, or the Honours Science (Complementary Studies Option) Stream B programme
Antirequisite: PSYCH 2M03, 2R06,
Not open to students with credit or registration in STATS 2003.

**PSYCH 2K03**
**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, or perceptual or cognitive disorder.
Three lectures; one term
Prerequisite: PSYCH 2A03 or 2N03

**PSYCH 3E03**
**AUDITION LABORATORY**
Experimental investigation of human auditory processes in the perception of music. The emphasis is on all phases of experimentation including experimental design, data analysis, and report writing.
One lab (three hours); one term
Prerequisite: Registration in Level III or IV of an Honours Psychology programme and PSYCH 3A03, and one of PSYCH 2R03, 2R06, STATS 2R06.
Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the calendar.

**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**
**DEVELOPMENT DURING INFANCY**
Social and cognitive development in the first two years of life. Topics include fetal development, development of perception, memory and concepts.
Three lectures; one term
Prerequisite: 6 units from PSYCH 2E03, 2F03, 2H03, 2T03 or 2V03, and one of PSYCH 2G03 or 2R03, STATS 1CC3
PSYCH 3H03 INTELLECTUAL DEVELOPMENT AFTER INFANCY
The development of perception, memory, language and concepts after infancy.
Three lectures; one term
Prerequisite: PSYCH 3G03
Not offered in 1989-90.

PSYCH 3T03 PRACTICA IN PSYCHOLOGY
Supervised laboratory and field placements will be arranged for a maximum of 16 students each year. The placements may vary from year to year, but will include cognitive, language, perceptual, memory, neuropsychological and 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 2FR3; 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 3G03
Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the calendar.

PSYCH 3J03 NEUROPHYSIOLOGY OF VISION
Neurophysiological and clinical aspects of perceptual processes. One component of the course will examine perceptual processes in terms of the major visual pathways and brain structures. The second component will relate this to specific perceptual deficits.
Three lectures; one term
Prerequisite: PSYCH 2V03, or PSYCH 2E03 and 2H03

PSYCH 3K03 PSYCHOLOGICAL MEASUREMENT
Theory of psychological testing and measurement. Topics include the theoretical bases and assumptions of measurement, test validity and reliability and the measurement of human characteristics.
Three lectures; one term
Prerequisites: PSYCH 1AA3 or 1A06, and one of PSYCH 2G03, 2R03, STATS 1CC3, 2R06. Students with grades less than B- in PSYCH 2G03 are advised not to enrol in this course.

PSYCH 3L03 NEUROSCIENCE LABORATORY
Seminars and laboratory experience in current problems in neurobiology.
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 3L3 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 2FR3 and registration in an Honours Psychology programme

PSYCH 3M03 MOTIVATION AND EMOTION
Theory and data concerning human and nonhuman motivation and emotion, drawing on perspectives from evolution, physiology, learning, and culture.
Three lectures; one term
Prerequisite: One of PSYCH 2F03, 2T03, 2V03

PSYCH 3N03 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, 2O03, 2T03 or 2V03 or registration in Level III or IV of a Nursing or Social Work programme
Antirequisite: PSYCH 3N06

PSYCH 3N03 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 adaption.
Three lectures; one term
Prerequisite: 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, STATS 1CC3 (or an equivalent course in statistics).

PSYCH 3Q03** INDIVIDUAL 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: Permission of the course coordinator
Antirequisite: PSYCH 3Q03**

PSYCH 3R03** 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: Permission of the course coordinator
Antirequisite: PSYCH 3R03**

PSYCH 3W03 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 3W03** ANIMAL BEHAVIOUR LABORATORY
Experiments involving a wide variety of animal species, both vertebrate and invertebrate.
One lab (three hours); one term
Prerequisite: PSYCH 3P03 and registration in an Honours programme in Psychology or Biology

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, 3J03, 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 key 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 STATS 2R05, or credit or registration in PSYCH 2FR3 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 3W03 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: One of MATH 1A03, 1A06, 1A96, 1C03, 1C06, 1N06 or ARTS&SCI 1D05 and one of COMP SCI 1M03 or 1MC3. MATH 1803 is strongly recommended.
Cross-list: NEURCOMP 3W03
A discussion of the contemporary literature on computer models of neural is required.

Students conduct an individual research project under the supervision of

Seminar

Three lectures; one term

Prerequisite: 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.

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 3Z23  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 (semester); 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 3Q03**, 3Q03**, or 4Q03** is taken concurrently with PSYCH 4D05, a different faculty member must supervise each course. (See Department Note 4.)

An prerequisite: BIOLOGY 4C06

See the heading Courses Requiring Permission in the Faculty of Science section of the Calendar.

PSYCH 4F03  MODELS IN BRAIN AND COGNITIVE SCIENCES

A discussion of the contemporary literature on computer models of neural and cognitive processes with practical exercises.

Three hours (semester); one term

Prerequisite: Registration in Level IV of an Honours Psychology programme or an Honours B.Sc programme

PSYCH 4G03  INQUIRY IN PSYCHOLOGY I

This course will provide students with an opportunity to develop skills required to launch investigations of selected psychological themes in human populations.

Se sawn and discussions (three hours); one term

Prerequisite: Registration in Level IV of an Honours Psychology programme. Students registered in Honours Psychology (Complementary Studies Option) will be given preference.

Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the calendar.

PSYCH 4K03  INQUIRY IN PSYCHOLOGY II

This course will provide students with an opportunity to develop skills required to launch investigations of selected psychological themes in human populations.

Se sawn and discussions (three hours); one term

Prerequisite: Registration in Level IV of an Honours Psychology programme. Students registered in Honours Psychology (Complementary Studies Option) will be given preference.

Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the calendar.

PSYCH 4Q03**  INDIVIDUAL 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 IV of an Honours Psychology programme or Level IV Major Psychology with a CA of at least 5.0 and permission of the course coordinator.

An prerequisite: PSYCH 4K03**

See the heading Courses Requiring Permission in the Faculty of Science section of the Calendar.

PSYCH 4Q03**  INDIVIDUAL LAB STUDY II

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 IV of an Honours Psychology programme and permission of the course coordinator.

An prerequisite: PSYCH 4Q03**

See the heading Courses Requiring Permission in the Faculty of Science section of the Calendar.

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

Prerequisite: BIOLOGY 3P03; or permission of the instructor. One or more of BIOLOGY 3H03, 3H03, 3U03, PSYCH 2F03, 3FA0 are also recommended.

Offered in alternate years. Offered in 1998-99.

RELIGIOUS STUDIES

Faculty as of January 15, 1998

Chair

Stephen R. Westerholm

Professors Emeriti

John G. Arapura/B.A. (Sorampore College, and Bishop's College, Calcutta), S.T.M. (Union Theological Seminary, MA., Ph.D. (Columbia)

A. Eugene Combs/B.A. (Trinity, San Antonio), M.Div. (Union Theological Seminary), Ph.D. (Columbia)

Louis I. Greenspan/M.A. (Dalhousie), Ph.D. (Brandeis)

Yun-hua Jian/M.A., Ph.D. (Visva-Bharati)

Johannis J. Moli/B.D. (Union Theological Seminary), M.A., Ph.D. (Columbia)

Gérard Vallée/B.A. (Laval), M.A. (Montréal), Ph.D. (Münster)

Paul Younger/A.B. (LaFayette), M.A. (Banaras), B.D. (Sorampore), Th.M., M.A., Ph.D. (Princeton)

Professors

Phyllis Granoff/B.A. (Radcliffe College), Ph.D. (Harvard)

David R. Kingsley/B.A. (Drew), B.D. (Union Theological Seminary), M.A., Ph.D. (Chicago)

Alan Mendelson/B.A. (Kenyon College), M.A. (Brandeis), Ph.D. (Chicago)

Ardie Reinhardt/B.A. (Toronto), M.A., Ph.D. (Middletown)

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 Badone/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. Whitley/B.A. (Sir George Williams), Ph.D. (McMaster)/part-time

ASSOCIATE MEMBER

Virginia Akaan/(History) B.A., (Allegheny College), M.L.S. (Berkeley), M.A., Ph.D. (Toronto)

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 the courses offered in the current year. It is especially important that students interested in the Level IV Advanced Reading courses (AAAB, ABBD, ACCC, and ADDE) consult the Department Undergraduate Advisor.

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 2J06, 2L04, 2P06, 2RR3, 2T03, 2TT3, 3AA3, 3EE3, 3HH3, 3JL3, 3LL3, 3SU3
SANSKRIT 3A06, 4B06

II. BIBLICAL STUDIES

RELIG ST 2BB3, 2DD3, 2EE3, 2GG3, 2NN3, 2VV3, 2YY3, 2ZZ3, 3DD3, 3MM3, 3NN3, 3TT3
HEBREW 2AA3, 2BB3, 3A03, 3B03

III. WESTERN RELIGIOUS THOUGHT

RELIG ST 2CC3, 2CC3, 2HH3, 2I03, 2JJ3, 2KK3, 2L03, 2LL3, 2MM3, 3NN3, 3SU3, 3YY3, 3SU3, 3ZU3

IV. CONTEMPORARY AND COMPARATIVE RELIGIONS

RELIG ST 2AA3, 2BB3, 2EA3, 2EE3, 2MM3, 2NN3, 2QQ3, 3AA3, 3BB3, 3CC3, 3EE3, 3MM3, 3NN3, 3SU3, 3TT3, 3ZU3

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 DISSENT 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

Antirequisite: RELIG ST 1I06

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 2B02  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 2B03  IMAGES OF THE DIVINE FEMININE
An examination of goddesses and religious heroines from a variety of cultures: tribal, eastern and western.
Two lectures, one tutorial; one term

RELIG ST 2C03  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 Well.
Two lectures, one tutorial; one term

RELIG ST 2D03  THE FIVE BOOKS OF MOSES
An examination of selected texts from the Pentateuch and their significance for Ancient Israelite religion and modern thought.
Two lectures, one tutorial; one term

RELIG ST 2E03  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 2006
Cross-list: HISTORY 2E03

RELIG ST 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: RELIG ST 2006
Cross-list: HISTORY 2E03

RELIG ST 2E03  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  THEOLOGY 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
Two lectures, one tutorial; one term

RELIG ST 2H03  PAUL AND CHRISTIAN ORIGINS
Two lectures, one tutorial; one term
RELG ST 2113  CHRISTIANITY IN THE PATRISTIC PERIOD (100-600)
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

RELG ST 2206  AN 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 22Q3  CULTS IN NORTH AMERICA
An examination of recent religious trends in North America. The Hare Krishna Movement, the Unification Church, Scientology, Wicca, New Age Spirituality, and Satanism will be covered.
Two lectures, one tutorial; one term

RELG ST 22R3  THE TWO LECTURES, ONE TUTORIAL; TWO TERMS
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

RELG ST 22J3  CHRISTIANITY IN THE MEDIEVAL PERIOD (800-1500)
The development of Christianity in the Middle Ages and its relation to the political and intellectual context. Primary texts will illustrate typical aspects of medieval religion, learned and popular.
Two lectures, one tutorial; one term

RELG ST 2KK3  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

RELG 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

Prerequisite: Registration in Level II and above

RELG 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

RELG 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

RELG 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 2Q3  LITERATURE IN THE TWENTIETH CENTURY
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 2SS3  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, and theodicy; the problem of an omniscient god.
Two lectures, one tutorial; one term

RELG ST 2TT3  DAOISM AND THE SEARCH FOR IMMORTALITY IN CHINA
This course is an introduction to the Taoist tradition in China. The classics of Philosophical Taoism, including the Lao-tzu and the Chuang-tzu will be studied followed by the scriptures of the medieval period which taught meditation, ritual and alchemy as paths to immortality.
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 2UV3  RELIGION AND MORALITY II: MODERN
A study of representative literature on the moral life in the modern West, with particular attention given to the impact of secular, scientific culture and technology on developments in religious ethics.
Two lectures, one tutorial; one term

RELG ST 2V03  ISLAM AND THE MODERN WORLD
The spread of Islam, Islam as a minority community, the role of women in Islam and fundamentalism.
Two lectures, one tutorial; one term

Cross-list: COMP LIT 2G03

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 2W3  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 2YY3  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 2Z03  GREEK AND ROMAN RELIGION
An introduction to the gods and goddesses in Greek and Roman mythology and their role in private and public life. Three lectures; one term
Prerequisite: Registration in Level II and above
Cross-list: CLASSICS 2203

RELG ST 2ZZ3  WILLIAM 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
**ST 3A03 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

**ST 3D03 GOD, REASON AND EVIL**
An examination of understandings of reason and evil in ancient Greek, medieval Christian and modern times, and of how these understandings are related to accounts of the nature of God.
Two lectures, one tutorial; one term

**ST 3D13 THE JEWISH WORLD IN NEW TESTAMENT TIMES**
A study of Judaism in the Greco-Roman world. The course will explore selected questions in political history, the development of sects and parishes, the role of the temple, apocalypse, and the Dead Sea Scrolls.
Two lectures, one tutorial; one term

**ST 3E03 JAPANESE RELIGION**
Two lectures, one tutorial; one term

**ST 3F03 APPROACHES TO THE STUDY OF RELIGION**
A study of the various ways religious phenomena can be studied, e.g. psychologically, sociologically, philosophically, theoretically, 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

**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

**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 humour and wit in religious teaching.
Two lectures, one tutorial; one term

**ST 3I03 RELIGION AND SOCIAL JUSTICE**
An examination of conceptions of justice, ancient and modern, and their relationship to religious understandings of human nature and society.
Two lectures, one tutorial; one term
Prerequisite: RELIG ST 2U03 or 2UU3 or permission of the instructor.
Antirequisite: RELIG ST 2I03

**ST 3K03 CHRISTIANITY IN THE MODERN PERIOD**
Topics in Christianity (Catholic and Protestant) from the 17th to the 20th centuries. Attention is given to the interaction between secular and religious thought. Two lectures, one tutorial; one term

**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

**ST 3L13 RELIGION AND HUMAN NATURE**
What is the nature of human nature and its fulfilment? A study of recent philosophical, scientific and religious anthropology.
Two lectures, one tutorial; one term

**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

**ST 3M3 SCEPTICISM, ATHEISM AND RELIGIOUS FAITH**
What is authentic human existence and is religious faith essential, irrelevant or inimical? A study of the struggle of several remarkable outsiders with questions of life’s meaning and God: Pascal, Nietzsche, Buber and Simone Weil.
Two lectures, one tutorial; one term

**ST 3N03 JOHN’S PORTRAIT OF JESUS**
An examination of the Gospel of John, with emphasis on its historical background, its literary character and its distinctive theology. The history of the Johannine community will also be considered.
Two lectures, one tutorial; one term
Antirequisite: RELIG ST 2N03

**ST 3NN3 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

**ST 3R03 DEATH AND THE AFTERLIFE IN EARLY JUDAISM AND CHRISTIANITY**
An examination of the variety of ways in which physical death and the afterlife 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 faith and morality.
Two lectures, one tutorial; one term

**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

**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

**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

**ST 3U03 CHAN 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

**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

**ST 3Y03 RELIGION AND THE CULTURE OF THE TWENTIETH CENTURY II**
Religion in the post war period. Topics include: theological revival and the end of ideology; the sixties and neo marxism; religion and the post modern; fundamentalism; religious extremism and the global village.
Two lectures, one tutorial; one term

**ST 3Z03 JUDAISM, THE JEWISH PEOPLE AND THE BIRTH OF THE MODERN WORLD**
On the tides 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

**ST 3Z03 JUDAISM, THE JEWISH PEOPLE AND THE BIRTH OF THE MODERN WORLD**
On the tides 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

**ST 3Z03 JUDAISM, THE JEWISH PEOPLE AND THE BIRTH OF THE MODERN WORLD**
On the tides 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

**ANTIREQUISITE:** RELIG ST 2X03
Cross-list: HISTORY 3Z03

**ST 3Z23 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
Antirequisite: RELIG ST 2X23
Cross-list: HISTORY 3Z23
SANSKRIT 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 (4J08).
Seminar (three hours); two terms
Prerequisite: Registration in Level IV Honours Religious Studies

SANSKRIT 4AA3  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

SANSKRIT 4BB3  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

SANSKRIT 4CC3  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

SANSKRIT 4DD3  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

SANSKRIT 4J06  HONOURS RESEARCH COURSE
Students in this course will work closely with faculty members who will supervise the student 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
Antirequisite: HEBREW 2A06

HEBREW 2B03  INTRODUCTION TO BIBLICAL HEBREW II
An introduction to more grammar, syntax and vocabulary of the language of the Hebrew Bible. The knowledge acquired should enable the student to read the simple prose and poetry of the Hebrew Bible.
Four hours (two lectures); one term
Prerequisite: HEBREW 2A03, or permission of the instructor
Antirequisite: HEBREW 2A06

HEBREW 3A03  INTERMEDIATE HEBREW I
A reading course in classical (biblical) Hebrew. Sample texts will be read from some or all of the following: the Hebrew Bible, Mishnah, ancient Hebrew inscriptions and the Dead Sea Scrolls.
Four hours (two lectures); one term
Prerequisite: HEBREW 2B03, or permission of the instructor
Antirequisite: HEBREW 3A06

HEBREW 3B03  INTERMEDIATE HEBREW II
Further sample texts will be read from some or all of the following: the Hebrew Bible, the Mishnah, ancient inscriptions and the Dead Sea Scrolls.
Four hours (two lectures); one term
Prerequisite: HEBREW 2B03, or permission of the instructor
Antirequisite: HEBREW 3A06

SANSKRIT ...

SANSKRIT 3A06  INTRODUCTION TO SANSKRIT GRAMMAR
Basic course in the elements of Sanskrit grammar. No previous knowledge of Sanskrit is required.
Three lectures; two terms

SANSKRIT 4B06  READINGS IN SANSKRIT TEXTS
Intermediate course with readings in selected texts.
Three lectures; two terms
Prerequisite: SANSKRIT 3A06

RUSSIAN

(SEE MODERN LANGUAGES, RUSSIAN)
Music Studio Instructors
Elise Bédard/B.Mus., L.Mus., M.Mus. (McGill)/voice
Lita Claessen/B.Mus. (Ottawa), M.Mus. (Vincent d'Indy Montréal) Dipl. Perf. (Vienna)/voice
Mark Donatelle/B.A. (Northwestern), M.A. (Southern California)/trombone
Paula Elliott/B.Mus. (Oberlin), M.M. (New England Conservatory)/flute
Don Englert/jazz saxophone
Roger Flock/percussion
David Gerry/A.R.C.T., B.Mus. (Toronto), Dipl. Ped. (Japan)/flute
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. (Vilnuis), M.A. (Moscow)/piano
Marie Lorini/Premier du Conservatoire de Musique de Montréal/harp
Kenneth MacDonald/B.A. (British Columbia)/tenor horn
Jeffrey McFadden/B.Mus. (Western Ontario), M.M. (Toronto)/guitar
WillemMoonenbeek/A.R.C.T., B.Sc., M.Sc., (Queen)/saxophone
Stephen Pierre/Mus. Bac. (Toronto)/clarinet
Philip Sarabura/A.R.C.T., B.Mus. (Western Ontario)/choir
Suzanne Shulman/A.R.C.T., Dipl. Perf. (Toronto)/flute
Sonia Vintzile/Dipl. Licentia in Music, Spec. in Instrumental Music/Performance (Bucharest)/violin
Graff Young/jazz guitar
Alta Zacarrelli/piano

Associate Members
Katherine M.D. Dunbabin/Clas. B.A., D.PhiL. (Oxford)
David C.Wilson/Kinesiology B.Ed. (Bristol), M.A. (York)

Note:
Art, Drama and Music courses can be found listed alphabetically within the Course Listings section of this Calendar.

In order to foster interdisciplinarity in the Arts, the School of Art, Drama and Music offers the following ADM courses for students who wish to combine various disciplines within the School.

Courses
SDAM 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
SDAM 3A03 may be repeated, on a different topic, to a total of six units.
SDAM 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 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.

INQUIRY ISC3 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
Enrolment is limited.
SDSC 1A00 WHIMS, HEALTH AND SAFETY
Introduction to safety guidelines at McMaster University, acceptable safety conduct and positive safety attitudes and practices in laboratories and Worksafe Hazardous Materials Information System (WHIMS). 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.
SDSC 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.
Offered in 1998-99.
SDSC 2C03 CONTINENTAL DRIFT AND PLATE TECTONICS
A review of modern ideas of crustal movement, the origin of volcanoes and earthquakes and the construction of mountain belts, as portions of the crust drift and collide.
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.
SDSC 2C03 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
SDSC 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.

SDSC 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, 1A05, 1A33
Offered in alternate years.
SDSC 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.

SDSC 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, 1A33
Offered in alternate years.
Offered in 1998-99.

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 1SA3 Computing Fundamentals
STATS 1A03 Statistical Reasoning
STATS 1IL03 Probability and Linear Algebra
SOCIAL SCIENCES

Courses

INQUIRY1SS3 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
Enrollment is limited.

SOC SCI 2E06 INTRODUCTION TO THE STUDY OF PEACE
The concept of peace; an analysis of contemporary war and of conditions for peace, grounded in specific case studies; the roles of values, ideologies and strategies in the attainment of peace; peace research as a discipline.
Three hours (lectures and discussions); two terms

SOC SCI 2C03 GENOCIDE AND ETHNICIDE
The general sociological and political issue of genocide approached through the analysis of three types: (1) ethnocide (Armenians, Jews, Gypsies), (2) politicide (the Ukraine, Cambodia), (3) ethnocide of indigenous peoples in settler societies.
Three hours; one term

SOC SCI 2D03 PEACE AND DEVELOPMENT
Analysis of economies of less developed countries and the processes of transformation that govern their growth and development. Special emphasis will be placed on the relationship between development and peace.
Three hours; one term

SOC SCI 2E03 SELECTED TOPICS IN INTERDISCIPLINARY STUDIES I
1998-99: Canadian Children
This course deals with a spectrum of issues related to Canadian children such as family, socialization, identity formation, moral development, abuse and strategies for a better future.
Three hours (lectures and discussion); one term

SOC SCI 2E03 may be repeated, if on a different topic, for a total of six units.

SOC SCI 2F03 SELECTED TOPICS IN INTERDISCIPLINARY STUDIES II
1998-99: Canadian Adolescents
The course deals with a spectrum of issues related to Canadian adolescents such as identity formation, sexuality, peer groups and power and the social politics of career formation. (This course should not normally be considered as an extension of SOC SCI 2E03.)
Three hours (lectures and discussion); one term

SOC SCI 2F03 may be repeated, if on a different topic, for a total of six units.

SOC SCI 2J03 INTRODUCTION TO STATISTICS IN THE SOCIAL SCIENCES
An introduction to basic statistical concepts and their application to the analysis of data from the social sciences. The use of spreadsheets is emphasized.
Three hours; one term

Prerequisites: Registration in Level II and above
Not open to students with credit or registration in: COMMERC 2A03, ECON 2B03, SOC 2J03, PSYCH 2J03, GEOG 2LL3, 2N03, KINESIOL 3C03, POL SCI 2F03, 3N06, PSYCH 2J03, 2R03, 2R06, SOCIOLOG 2Y03, 3H08, or STATS 1CC3, 2MA3, 2MB3, 2R06

SOCIAL WORK

Faculty as of January 15, 1998

Director
J. McEwan MacIntyre

Professors Emeriti
Cyril Greenfield/M.Sc. (North Wales), Ph.D. (Birmingham)
Harry L. Penny/Dip. Theol. (Union College, British Columbia), B.A., M.S.W. (British Columbia), LL.D. (McMaster)

Professors
Sally Palmer/B.A. (Western Ontario), B.S.W., M.S.W., Ph. D. (Toronto)

Adjunct Professor
Ramesh Mishra/(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)
Ralph A. Brown/B.A., M.S.W. (Waterloo Lutheran), D.S.W. (UCLA)
Roy Cahn/B.S.W., M.S.W., Ph. D. (McGill)
Paticia M. Daenzer/B.A., B.S.W. (York), Ph.D. (Toronto)
James W. Gladstone/B.A. (McGill), M.S.W. (British Columbia), Ph.D. (Toronto)
Nora Gold/B.S.W. (McGill), M.S.W., Ph.D. (Toronto)
L. William Lee/B.A. (St. Thomas, Texas), M.S.W., Adv. Dip. S.W., Ed.D. (Toronto)
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 Professors
Sheree D. Meredith/B.A. (Trent), M.S.W. (Wilfrid Laurier)
Sheila Sammon/B.A. (Nazareth College, New York), M.S.W. (Toronto)

Associate Members
N.C. Agarwal/Business/B.A., M.A. (Delhi), Ph.D. (Minnesota)
J.A. Johnson/Economics M.A., Ph.D. (Minnesota)
D.R.L. Matthews/Sociology B.A. (Memorial), M.A., Ph.D. (Minnesota)

Practice Instructors
Michael Balkwill/B.A., B.S.W., M.A. (McMaster)
Donna Burts/B.A. (Queen's), M.S.W. (Toronto)
Mary Cottis/B.S.W. (Western Ontario), M.S.W. (Toronto), C.C.C.W. (Fanshaw)
Mary Ann Cov/B.A. (SUNY, Buffalo), M.S.W. (Toronto)
Richard P. Csiernik/B.A., B.S.W., B.Sc. (McMaster), M.S.W. (Toronto)
Margaret Doma/B.A., M.S.W. (Wilfrid Laurier)
Janet Fishlock/B.A. (Waterloo), M.S.W. (Wilfrid Laurier)
M. Heather Gardner/B.A., B.S.W. (McMaster), M.S.W. (Toronto)
Rocco Gizzarelli/B.A., B.S.W. (McMaster), M.S.W. (York)
Gordon W. Greenway/B.A., M.S.W. (Carleton)
Barbara Hill-Laurier/B.S.W. (Western Ontario), M.S.W. (Wilfrid Laurier)
Liz Lambl/B.A., M.S.W. (McMaster), M.S.W. (Carleton)
Maxine Lane/B.A., B.S.W. (McMaster), M.S.W. (Toronto)
Kelly Lazure-Valcon/B.A., B.S.W. (McMaster), M.S.W. (York)
Linda Leary/B.S.W. (McMaster), M.S.W. (Toronto)
Ruth Lorio-Murphy/B.A., B.S.W., M.S.W., Grad Dip. Soc. Admin. (Wilfrid Laurier)

S. McLennan/B.A. (York), M.S.W. (Wilfrid Laurier)
Gillian McClosky/B.A. (Queen's), M.S.W. (Toronto)
Carol Mckenna/B.S.W. (Western Ontario), M.S.W. (Toronto)
Tony Quirk/B.A. (St. Mary's), M.S.W. (Dahousie)
Cindy Player/B.A. (Victoria), M.S.W. (Carleton)
Shelley M. Rempe/B.A. (Toronto), B.S.W., M.A. (McMaster)
Randy Scott/B.S.W. (Calgary), M.S.W. (Wilfrid Laurier)
Gerald Smith/B.S.W., M.S.W. (Windsor)
Brenda Symons-Mouton/B.A., B.S.W. (McMaster), M.S.W. (Wilfrid Laurier)
Karen Van Dyke/B.A. (Dordt College, Iowa), M.S.W. (SUNY, Buffalo)
Jamie Vock/B.A. (Wilfrid Laurier), M.A. (McMaster), M.S.W. (Wilfrid Laurier)
Susan West/B.A. (Alberta), M.A. (McMaster)
252 SOCIAL WORK
NOTE:
The following coUrses are available for elective credit for 'students enrolled
in Level III or above of a non Social Work programme. Enrolment for such
students is limited and places are assigned on a first come basis.
SOC WORK 3C03
SOC WORK 3H03
SOC WORK 3003
SOC WORK 4803
SOC WORK 4C03
SOC WORK 4F03
SOC WORK 4G03
SOC WORK 4J03
SOC WORK 4L03
SOC WORK 4M03
SOC WORK 4R03
SOC WORK 4W03

Courses

Social Aspects of Health and Illness
Justice and Social Welfare
Human Sexuality in Social Context
Adult Family Violence
Racism and Social Marginalization in Canadian
Society
CNld Abuse
Selected Topics
Social Change: Social Movements and Advocacy
Social Work with an Aging Population
International and Comparative Social Welfare
Social Work with Women
Child Welfare

All courses are open only to Social Work stUdents
unless otherwise specifi,.d.
SOC WORK 1AOS
INTRODUCTION TO SOCIAL WORK
General introduction to the values, perspectives, ideologies, settings and
methods of social work within the broad field of social welfare. This course
combines a practical and theoretical orientation to the field.
Lectures and discussions; two terms
SOC WORK 2AOS;
THEORY, PROCESS AND COMMUNICATION
SKILLS FOR SOCIAL WORK
Knowledge, value base and intervention methods of social work practice;
basic ,skill development in interpersonal communication and interviewing.
Lectures, discussions, exercises; two terms
Antirequisite: SOC WdRK 2C06, 2C03, 2003
Enrolment is limited.
SOC WORK 2603
SOCIAL WELFARE I:
GENERAL INTRODUCTION
Purpose-, values underlying development of social welfare programmes;
Canada's social security system in historical perspective.
Lectures, discussion; one term
Antirequisite: SOC WORK 2B06
Cross-listed: LAB R ST 2B03
Students in a Social Work programme must register for this course as
SOC WORK 2803.
SOC WORK 2663
SOCIAL WELFARE II:
POLICY AND PROCESS
\
Analysis of key concepts in the process and dynamics of social policy
development in Canada. Examination .of current issues and strategies
influencing social policy formation in selected areas.
Lectures, discussion; one term
'
Prerequisite: SOC WORK 2B03
Antirequisite: SOC WORK 2B06, 3G03
Cross-listed: LABR ST 2BB3
Students in a, Social Work programme must register for this course as
SOC WORK 2883.
SOC WORK 2E03
HUMAN GROWTH AND DEVELOPMENT
'
IN THE SOCIAL ENVIRONMENT
Human development throughout th\3 life span with emphasis on the
interaction between the personal and social contexts and social work
concerns at each developmental stage.
Lectures, discussion; one term
SOC WORK 3A03
SOCIAL WORK WITH
INDIVIDUALS AND GROUPS
Examination of theories of so~ial work intervention and current practice
models of intervention with individuals and groups:
Seminars; one term
Antirequisite: SOC WORK 3N03, 3R03, 4N03
SOC WORK 3C03
SOCIAL ASPECTS OF HEALTH AND ILLNESS
Lectures, discussion and selective use of community resources; one term
This course may be taken as elective credit by undergraduates in Level
11/ or above of a non-Social Work programme.
Enrolment is limited.

SOC WPRK 3DOS
GENERAL SOCIAL WORK I
Social work intervention processes; interviewing; development of basic
skills in formation of relationships with individuals, families, groups and
communities.
Seminars, workshops; two terms
Option of equivalent summer block in combination with SOC WORK
3006(summer). Priority for summer block given to B.S.W. students.
Prerequisite: SOC WORK 2806, or 2B03 and 2B83; 2C03 and2003 or 2A06;
PSYCH 2A03 or SOC WORK 2E03 and registration in SOC WORK 3006
Antirequisite: SOC WORK ~OOg
Credit in this course is dependent on achieving a minimum grade of C+
and a Pass in SOC WORK 3006
Enrolment is limited. .
FIELD PRACTICUM I
SOC WORK 3DDS
Field practicum to develop basic intervention and interviewing skills,
particularly in the formation of relatienships with individuals, families,
groups and communities, Students participate in defining learning goals
and experiences.
Field experience equivalent to 10 hours per week; two terms
Option of equivalent summer block placement in combination with SOC
WORK 3006 taken in the summer. Priority for summer block g'iven to,
B.S.W. students.
Prerequisite: Registration in SOC WORK 3006.
This course is evaluated on a Pass/Fail ba;;is
Credit in this course is dependent on receiving a Pass and a minimum
grade of C+ in SOC WORK 3006.
Enrolment is limited.
SOC WORK-3H03
JUSTICE AND SOCIAL WELFARE
Human rights and the role of law in enhancing civil liberties in Canada.
Social work, law and soci,al change. Study of selected issues and review
of administrative discretion.
Seminars; one term
This course may be. taken as elective credit by undergraduates in Level
11/ or above of a non-Social Wbrk programme.
'
Enrolment is limited.
SOC WORK 3003
HUMAN SEXUALITY IN SOCIAL CONTEXT
Basic information on anatomy, physiology, psychology and sociology of
sexuality and fertility. Attitudinal self-awareness, communication skills,
values regarding sexual identity and roles; analysis of policy issues.
Seminars; one term
This course may be taken,as elective credit by undergraduates in Level
Ilror above of a non-Social Work programme.
'
En'lolment is limited.
SOC WORK 4603
ADULT FAMILY VIOLENCE
To assist students in acquiring knowledge and perspectives concerning
social policy issues pertaining to ad,ult violence with emphasis on violence'
against women.
This course may be taken as electiv~ credit by undergraduates in Level
11/ or above of a non-Social Work programme.
Not open to students with credit or registration in SOC WORK 4Z03
SELECTED ISSUES IN SOCIAL WELFARE POLICY. if the issue was
Family Violence.
Enrolment is limited.
SOC WORK 4C03
RACISM AND SOCIAL MARGINALIZATION
IN CANADIAN SOCIETY
This course involves critical analysis of the construction of social relations
in Canadian society. Students will have the opportunity to examine variables
such as race, ethnicity and cultural specificity in the social ascription and
adaptation process.
Seminars; one 'term
This course may be taken aselecti~e credit by undergraduates in Level
11/ or above of a non-Social Work programme.
Not open to students with credit or registration in SOC WORK 4Z03
SELECTED ISSUES IN SOCIAL WELFARE POLlCY,if the issue was
Racial and Cultural Issues in Canadian Welfare.
Enrolment is limited;
SOC WORK 4DOS
GENERAL SOCIAL WORK II
Seminars to deepen understanding and further deveiop practice skills.
Two terms
Option of equivalent block placement in Qombination with SOC WORK
4006
Prerequisit~: SOC WORK 3006, 3006 and regi.$tration in SOC WORK
4006
.
Antirequisite: SOC WORK 4012
Credit in this course is dependent on achieving a minimum grade ofC+
and a Pa~s in SOC WORK 4006.
Enrolment is limited.


SOC WORK 4D06  FIELD PRACTICUM II
Field experience to refine practice skills. Students spend the equivalent of two days per week in social agencies, or with other organizations, in supervised practice.
Option of equivalent block placement in conjunction with SOC WORK 4D06.
Prerequisite: Registration in SOC WORK 4D06. This course is evaluated on a Pass/Fail basis
Credit in this course is dependent on receiving a Pass and a minimum grade of C+ in SOC WORK 4D06.
Enrolment is limited.

SOC WORK 4F03  CHILD ABUSE
Societal and familial context; types of child abuse; child welfare policies; prevention, protection and treatment.
Seminars; one term
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
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 4H03  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
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 4I03  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
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 4J03  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
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 4K03  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.
Prerequisite: Registration or credit in SOC WORK 3D06 and 3D05, or 3D09; or permission of the instructor
Seminars; one term
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 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
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.

SOC WORK 4M03  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
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 4N03  SOCIAL WORK WITH FAMILIES
Examination of relevant aspects of family theory for social work practice; models of family intervention.
Seminars; one term
Prerequisite: Credit or registration in SOC WORK 3D06 and 3D05, or 3D09; or permission of the instructor
Antirequisite: SOC WORK 3M03

SOCIOLOGY

Faculty as of January 15, 1998
Chair
Cyril Levitt

Professors Emeriti
Jack W. Haas/B.S. (SUNY, Brockport), Ph.D. (Syracuse)
D. Ralph L. Matthews/B.A. (Memorial), M.A., Ph.D. (Memorial)

Professors
W. Peter Archibald/B.A. (Mt. Allison), 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.
Cyril H. Levitt/B.A., M.A., Ph.D. (Freie Universität, Berlin)
Carolyn Rosenthal/B.A. (Toronto), M.A., Ph.D. (McMaster)
William B. Shaffir/B.A., M.A., Ph.D. (McGill)
Vivienne Walters/B.A. (Sheffield), Ph.D. (McGill)

Associate Professors
Richard A. Bryner/B.A., M.A. (Texas), Ph.D. (Michigan State)/part-time
Margaret Denton/B.A., M.A., Ph.D. (McMaster)
Graham K. Knight/B.A. (Kent), M.A., Ph.D. (Carleton)
Rhonda Lenton/B.A. (Winnipeg), M.A. (Manitoba), Ph.D. (Toronto)
Charelle Mial/B.A. (Ottawa), M.A. (Calgary), Ph.D. (York)
Julia O'Connor/B.A., M.S.Soc. Sc. (Ireland), Ph.D. (Toronto)
Jack Richardson/B.A., M.A., Ph.D. (Toronto)/part-time
Gerald Rosenblum/B.A. (California, Berkeley), M.S., Ph.D. (Oregon), Ph.D. (Princeton)
Robert H. Storey/B.A. (Toronto), M.A. (Dalhousie), Ph.D. (Toronto)
Pamela Sugiman/B.A., M.A., Ph.D. (Toronto)
Jane Synege/M.A. (Aberdeen), Ph.D. (London)

Assistant Professors
Art Budros/B.A. (San Jose State), M.A. (UCLA), Ph.D. (UCLA)
Scott Davies/B.A. (Toronto), M.A. (McMaster), Ph.D. (Toronto)
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)
Victor Satzewich/B.A., M.A. (Saskatchewan), Ph.D. (Glasgow)

Associate Members
Jane Aronsen/ (Social Work) B.Sc. (New Unv. of Utah), B.S.W., M.S.W. (McGill), Ph.D. (Toronto)
Roy Cairn/ (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. (Cambridge)
Peter Donnelly/(Kinesiology) B.A. (N.Y.), M.A., Ph.D. (Massachusetts)
Susan French/(Nursing) B.N. (McGill), M.S. (Boston), Ph.D. (Toronto), R.N.
Louis I.Greenspan/(Religious Studies) M.A. (Dahlouise), Ph.D. (Braiden)
C. Jones/(Sociology, Toronto) B.A. (Cambridge), Ph.D. (Edinburgh)
Philip G. White/(Kinesiology) B.Sc. (London), M.Sc., Ph.D. (Waterloo)
Department Notes:

1. Students should consult the Department's Handbook for Undergraduates, 1998-99, which will be available prior to registration, for fuller course descriptions and any changes in the list of courses offered in 1998-99. 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, 1998-99. 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 course, SOCIOl 3103, 3003, and 3W03 which have smaller enrolments. Priority will be given to Sociology students.

5. Limited enrolment courses: With the exception of SOCIOl 4103, 4MM6 and 4N03 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 1998-99 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 1, 1998. Students must return their ballots no later than May 15, 1998. Permission from the Department will be required to complete registration in Level IV limited enrolment courses.

Courses

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 2006  
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
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 2F03  
THE SOCIOLOGY OF ORGANIZATIONS
A theoretical and empirical analysis of formal and informal organizational structures and processes in the major sectors of modern industrial society.
Three hours (lectures and discussion); one term
Prerequisite: SOCIOl 1A06
Cross-list: LABR ST 2103
Antirequisite: LABR ST 3103

SOCIOl 2P06  
THE SOCIOLOGY OF EDUCATION
A comprehensive analysis of educational institutions in modern society.
Three hours (lectures and discussion); two terms
Prerequisite: SOCIOl 1A06
Enrolment is limited.

SOCIOl 2R06  
THE SOCIOLOGY OF GENDER
A theoretical and empirical examination of gender differences and gender inequalities with a focus on women's experiences.
Three hours (lectures and discussion); two terms
Prerequisite: SOCIOl 1A06
Enrolment is limited.

SOCIOl 2R03  
THEORIES OF CLASS AND STRATIFICATION
This course will introduce the student to major theories of social inequality, such as the Marxist, Weberian and structural-functionalist perspectives.
Three hours (lecture and discussion); one term
Prerequisite: SOCIOl 1A06
Antirequisite: SOCIOl 2006

SOCIOl 2R33  
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: SOCIOl 1A06. SOCIOl 2R03 is strongly recommended.
Antirequisite: SOCIOl 2006

SOCIOl 2S06  
INTRODUCTION TO SOCIOLOGICAL THEORY
An introduction to the foundations, rise and development of sociological theory.
Three hours (lectures and discussion); two terms
Prerequisite: SOCIOl 1A06 and registration in any programme in Sociology
Antirequisite: SOCIOl 2S03 or 3A06

SOCIOl 2U06  
SOCIOLOGY OF THE FAMILY
An analysis of kinship and family units in comparative, historical, and contemporary perspective.
Three hours (lectures and discussion); two terms
Prerequisite: SOCIOl 1A06
Enrolment is limited.

SOCIOl 2V06  
OCCUPATIONS AND PROFESSIONS
An examination of the occupational structure of industrial society, the changing nature of work, and problems associated with such change.
Three hours (lectures and discussion); two terms
Prerequisite: SOCIOl 1A06

SOCIOl 2X03  
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

SOCIOl 2Z03  
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 3C03)
Cross-list: ANTHROP 2203

SOCIOl 3A03  
EUROPEAN SOCIOLOGICAL THEORY
An advanced examination of classical and contemporary European sociological theory.
Three hours (lectures and discussion); one term
Prerequisite: SOCIOl 2S06
Antirequisite: SOCIOl 3A06
Enrolment is limited.

SOCIOl 3A33  
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: SOCIOl 1A06 and registration in any Social Sciences programme
Enrolment is limited.
SOCIOLOGY

SOCIO 3B03  SELECTED TOPICS IN THE SOCIOLOGY OF EDUCATION
An examination of selected topics in the sociology of education.
Three hours (lectures and discussion); one term
Prerequisite: At least 18 units of Sociology
Enrolment is limited.

SOCIO 3C03  SPECIAL TOPICS IN THE SOCIOLOGY OF THE FAMILY AND THE LIFE CYCLE
An advanced course allowing detailed study of the family and the life cycle. Special attention will be paid to the mid and later years.
Three hours (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.

SOCIO 3D03  SPECIAL TOPICS IN THE SOCIOLOGY OF THE FAMILY
An advanced course allowing detailed study of selected topics in the sociology of the family.
Three hours (lectures and discussion); one term
Prerequisite: SOCIO 2U06
Alternates with SOCIO 3CC3.
Enrolment is limited.

SOCIO 3E03  SPORT AND SOCIAL DEVELOPMENT
Macro-analysis of sport and culture, considering the place of sport and leisure in cultural transmission and change.
Three hours (lecture and discussion); one term
Prerequisite: SOCIO 1A06
Cross-list: KINESIOL 3P03
Only Kinesiology students who are working towards a Minor in Sociology may, if they meet the prerequisite and with permission of the instructor, register for this course as SOCIO 3D03. All other Kinesiology students must register for this course as KINESIOL 3P03.
Enrolment is limited.

SOCIO 3E03  SELECTED 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 and 2G06
Enrolment is limited.

SOCIO 3E03  SPORT AND SOCIALIZATION
Micro-analysis of sport in small social systems: investigation of the dynamics of involvement in sport encounters, the team as a small group, and sport sub-cultures.
Three hours (lecture and discussion); one term
Prerequisite: SOCIO 1A06
Cross-list: KINESIOL 3Q03
Only Kinesiology students who are working towards a Minor in Sociology may, if they meet the prerequisite and with permission of the instructor, register for this course as SOCIO 3E03. All other Kinesiology students must register for this course as KINESIOL 3Q03.
Enrolment is limited.

SOCIO 3F06  POLITICAL SOCIOLOGY
A survey of social and state institutions, focusing on current debates in the field.
Three hours (lectures and discussion); two terms
Prerequisite: SOCIO 1A06
Enrolment is limited.

SOCIO 3G03  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.

SOCIO 3G03  SPECIAL TOPICS IN THE SOCIOLOGY OF DEVIANCE
An advanced course allowing detailed study of selected topics in the Sociology of Deviance. Topics will vary from year to year.
Three hours (lecture and discussion); one term
Prerequisite: SOCIO 2C06
Enrolment is limited.

SOCIO 3H05  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.

SOCIO 3H03  SOCIOLOGY OF HEALTH
Sociological approaches to the study of health and illness.
Three hours (lecture and discussion); one term
Prerequisite: SOCIO 1A06
Enrolment is limited.

SOCIO 3J03  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 Level Honours Sociology students will have access to either this course, SOCIO 3C03 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 (lecture 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 (lecture 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 (lecture and discussion); one term
Prerequisite: SOCIO 1A06
Enrolment is limited.

SOCIO 3L13  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 (lecture 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 (lecture and discussion); one term
Prerequisite: SOCIO 1A06
Enrolment is limited.

SOCIO 3Q03  QUALITATIVE RESEARCH METHODS
This course will provide a detailed study of selected qualitative methods in Sociology.
Three hours (lecture 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 3I03 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: SOCIOL 2506
Antirequisite: SOCIOL 3A06
Alternates with: SOCIOL 3P03.
Enrolment is limited.

SOCIO 3P03  CANADIAN SOCIOLOGICAL THEORY
An examination of the more or less unique contributions of English Canadians to sociological theory. Emphasis is on the Toronto school, and its left-nationalist proponent and critics.
Three hours (lectures and discussion); one term
Prerequisite: SOCIOL 2506
Alternates with: SOCIOL 3P03.
Enrolment is limited.

SOCIO 3G03  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 3W03  HISTORICAL METHODS IN SOCIOLOGY
An examination of methodologies for incorporating historical data and archival sources into sociological argument.
Three hours (seminar and discussions); 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 this course, SOCIOL 3W03 or 3G03.

SOCIO 3X03  SOCIOLOGY OF AGING
This course deals with changing population structure, economic support of the aged, family of later life, the sociology of retirement, widowhood, death, bereavement, and institutionalization.
Three hours (lectures and discussion); one term
Prerequisite: SOCIOL 1A06
Not open to students entering a Gerontology programme as of September 1998.
Enrolment is limited.

SOCIO 3Y03  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 SOCIOL 2Y03.
Three hours (lecture and discussion); one term
Prerequisite: SOCIOL 1A06. SOCIOL 2Y03 is strongly recommended.
Enrolment is limited.

SOCIO 3Z03  ETHNIC RELATIONS
An analysis of political, social and economic change in selected locales.
Three hours (lectures and discussion); one term
Prerequisite: SOCIOL 1A06
Enrolment is limited.

SOCIO 4A03  ETHNIC/RACIAL TENSIONS
The course will investigate the processes by which racial and/or ethnic tensions develop in various societies.
Three hours (seminar); one term
Prerequisite: Registration in Level IV Honours Sociology. 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 SOCIOL 4G03, SELECTED TOPICS IN THE SOCIOLOGY OF DEVIANCE, if on a similar topic.
Enrolment is limited.

SOCIO 4B06  FIELD STUDY METHODOLOGY
This course provides students with an opportunity to engage in first hand sociological research using field study methods, particularly participant observation.
Three hours (seminar); two terms
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 4B83  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 SOCIOL 4J03, SELECTED TOPICS IN SOCIOLOGY II, or SOCIOL 4K03, SELECTED TOPICS IN SOCIOLOGY III, if on a similar topic.
Enrolment is limited.

SOCIO 4C03  SELECTED PROBLEMS IN QUANTITATIVE RESEARCH
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.
Enrolment is limited.

SOCIO 4D03  CRITIQUES OF SOCIOLOGICAL THEORY
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.

SOCIO 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.

SOCIO 4F03  SPECIAL TOPICS IN COMPARATIVE SOCIOLOGICAL RESEARCH
The focus of this course will be the comparative analysis of industrialized societies. Students will have an opportunity to engage in comparative sociological research using a range of data sources.
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 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.

SOCIO 4G03  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 2C06 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 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 203 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 4J3  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 navigation skills, such as the use of e-mail, Usenet, listservs, and the World Wide Web. Such skills are required to complete the research paper using internet electronic sources of information.
Enrolment is limited.

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 4M6  DIRECTED RESEARCH 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.
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  ISSUES IN THE SOCIOLOGY OF AGING
A study of selected sub-areas in the sociology of aging, such as demographic change, changing family and social relationships, social and health services, retirement, political economy, and theoretical approaches in social gerontology.
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 4PP3  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.
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 4S03  SPECIAL TOPICS IN CANADIAN SOCIETY I
An examination of questions which have sociological relevance for Canadian society. The specific questions may vary in different years.
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 4T03  SPECIAL TOPICS IN CANADIAN SOCIETY II
An examination of questions which have sociological relevance for Canadian society. The specific questions may vary in different years.
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.

SOCIOL 4V03  ISSUES IN THE SOCIOLOGY OF OCCUPATIONS AND THE PROFESSIONS
An advanced course allowing detailed study of one or more topics of special interest.
Three hours (seminar); one term
Prerequisite: Registration in Level IV Honours Sociology. Students wishing to register in this course must seek the permission of the Department.
Enrolment is limited.

SOCIOL 4W03  SOCIAL PROBLEMS
The focus of the course will be theories concerning social problems or an empirical examination of specific issues that have become the object of public debate and discussion.
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 4X03  LABOUR AND SOCIETY
The course will focus on the emergence of labour organizations during the course of modernization and the factors determining the political outlook of labour.
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.
SOFTWARE ENGINEERING

(SEE COMPUTING AND SOFTWARE)

SPANISH

(SEE MODERN LANGUAGES, HISPANIC STUDIES)

STATISTICS

(SEE MATHEMATICS AND STATISTICS)

TECHNOLOGY

(SEE MANUFACTURING TECHNOLOGY AND ENGINEERING TECHNOLOGY)

THEME SCHOOL ON GLOBALIZATION, SOCIAL CHANGE AND THE HUMAN EXPERIENCE

Faculty as of January 15, 1998

Director
William Coleman (Political Science)
Virginia Aksan (History)
Caroline Bayard (French and Philosophy)
Kenneth Chan (Economics)
Daniel Coleman (English)
James Deaville (Art, Drama and Music)
F. Susan Fost (Art, Drama and Music)
Graham Knight (Sociology)
Gary Madison (Philosophy)
Kim Richard Nossal (Political Science)
Susie O'Brien (English)
Tony Porter (Political Science)
Peta Rethmann (Anthropology)
Geoffrey Rockwell (Modern Languages)
William Scarth (Economics)
Richard Stubbs (Political Science)
Jean Wilson (Modern Languages)

NOTE:
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

GSCH 2A06  INTRODUCTION TO GLOBALIZATION
This course will introduce students to concepts of self-directed learning. It will also provide a critical introduction to globalization from various disciplinary perspectives.
Three hours (seminar)
Prerequisite: Registration in the Theme School or permission of the Director
Preference will be given to students registered in the Theme School.

GSCH 2A06  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: GSCH 2A06
Preference will be given to Level III or IV Theme School students.
Enrolment is limited.

GSCH 2A06  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: GSCH 2A06
Preference will be given to Level III or IV Theme School students.
Enrolment is limited.

GSCH 2A06  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: GSCH 2A06
Preference will be given to Level III or IV Theme School students.
Enrolment is limited.

GSCH 2A06  THE (ENGLISH) LITERATURE OF GLOBALIZATION; THE GLOBALIZATION OF (ENGLISH) LITERATURE
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: GSCH 2A06
Preference will be given to Level III or IV Theme School students.
Enrolment is limited.

GSCH 2A06  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: GSCH 2A06
Preference will be given to Level III or IV Theme School students.
Enrolment is limited.

GSCH 2A06  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: GSCH 2A06
Preference will be given to Level III or IV Theme School students.
Enrolment is limited.

GSCH 2A06  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: GSCH 2A06
Preference will be given to Level III or IV Theme School students.
First offered in 2001-2002.
Enrolment is limited.

GSCH 2A06  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: GSCH 2A06
Preference will be given to Level III or IV Theme School students.
First offered in 2001-2002.
Enrolment is limited.
THREE HOURS (SEMINAR) 

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. 

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. 

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. 

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. 

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. 

DIAGNOSIS 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. 
First offered in 2001-2002. 
Enrolment is limited. 

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. 

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. 

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. 
Enrolment is limited. 

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. 
Enrolment is limited. 

THEME SCHOOL ON INTERNATIONAL JUSTICE AND HUMAN RIGHTS 

Faculty as of January 15, 1998 

Director 
Rhoda E. Howard (Sociology) 

Associate Director 
Howard Jones (Classics) 
Alex Berezin (Engineering Physics) 
Ken Chan (Economics) 
Gary Madison (Philosophy, Emeritus) 
Stefania Miller (Political Science) 
Evert Nieboer (Biochemistry) 
Mary Tremblay (School of Rehabilitation Science) 
Gary Wanner (French) 
Wayne Warr (Anthropology) 

NOTE: 
For information on the Theme School on International Justice and Human Rights, see Theme Schools in the programme section of this Calendar. 

Courses 

ECOSYSTEM HEALTH, HUMAN HEALTH AND HUMAN RIGHTS 

This course explores ecosystem and human health related to issues of environmental justice, using case studies on pesticides, drinking water supply, energy production and contaminants in the food chain. 

Prerequisite: TSIJR 2A06 

Not open to students with credit in TSIJR 3B03, SECOND CASE STUDY, if the topic was Ecosystem Health, Human Health and Human Rights (1994-95, Section 02). 

Enrolment is limited. 

INTERNATIONAL WOMEN'S RIGHTS 

Key theoretical and empirical questions on women's rights, such as cultural relativism, refugee women and development. 

Prerequisite: TSIJR 2A06 

Enrolment is limited. 

THE FACES OF INTOLERANCE 

An exploration of the general issue of freedom of intellectual and artistic expression employing specific case studies from different historical periods. 

Prerequisite: TSIJR 2A06 

Enrolment is limited.
THEME SCHOOL ON SCIENCE, TECHNOLOGY, AND PUBLIC POLICY

Faculty as of January 15, 1998

Director
Robert Hudspith (Mechanical Engineering)
Harris Ali (Sociology, part-time)
Alex Bereznick (Engineering Physics)
Barbara Carroll (Political Science)
Cati Cuneo (Sociology)
Fred L. Haile (Civil Engineering and Geography and Geology)
David Jackson (Engineering Physics)
David Jones (Computing and Software)
Travis Kroeck (Religious Studies)
Shepard Siegel (Psychology)

NOTE:
For regulations on admission to the Theme School on Science, Technology and Public Policy, see Theme Schools in the programme section of this Calendar.

Courses

STPP 2A06 INTRODUCTION TO SCIENCE, TECHNOLOGY, AND PUBLIC POLICY
Introduction to an understanding of science and technology, and how public policy is formulated, implemented, and changed. Self-directed learning, critical thinking, communication skills, research skills and the use of the Internet are practised.
Three hours (lectures, discussion, group projects, seminars); two terms
Prerequisites: Registration in the Theme School
Antirequisites: ENGSCTY 2K03, 3Y03, ARTS & SCI 3B03

STPP 3A03 COMPUTERS, ETHICS, AND PUBLIC POLICY
Ethical, professional, and policy perspectives on issues relating to computer technology in society, including: privacy, free speech, copyright, security, regulation. Forces shaping public policy, including the role of the media.
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 III Theme School students.
Enrolment is limited.

STPP 3B03 TECHNOLOGY, ETHICS AND SOCIETY
The intellectual and cultural premises underlying the growing dominance of the technological paradigm, and its ethical implications. Moral issues that arise in ethical reflection, judgment and action.
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 III Theme School students.
Enrolment is limited.

STPP 3C03 POLICY AND REGULATION OF DISCOVERY AND INNOVATION
The key issues of the existing regulating mechanisms (administrative, social, political, legal) for science and technology with the emphasis on the societal support for discovery and innovation.
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 III Theme School students.
Enrolment is limited.

STPP 3D03 SPECIAL TOPICS IN SCIENCE, TECHNOLOGY, AND PUBLIC POLICY
1998-99: Environment, Technology and Society
The influence of social and political factors on the relationship between citizens, technical experts and public officials involved in environmental policy formation. Special emphasis directed towards the role of public trust and risk perceptions in environmental assessment, conflict and regulation.
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 III Theme School students.
STPP 3D03 may be repeated, if on a different topic
Enrolment is limited.

STPP 4A03 BUILDINGS, ROADS AND SOCIETY
The inter-relationships among public policy, social organization, and civil engineering technologies, focusing particularly on transportation infrastructure, but possibly also looking at flood control technologies, and/or high-rise structures.
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 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 4C03 may be repeated, if on a different topic
Enrolment is limited.

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 coordinated by an interdisciplinary Committee of Instruction.

Director

Patricia M. Daenzer/(Social Work) B.A., B.S.W. (York), M.S.W., Ph.D. (Toronto)

Acting Director, July 1997-June 1998

Kathleen Garay/B.A. (East Anglia), M.A. (McMaster), Ph.D. (Toronto)

Professor Emerita


Faculty Advisors

Virginia Aksani/(History) B.A. (Allegheny College), M.L.S. (Berkeley), 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)
Sylvia Bowerbank/(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 Frazer/(History) B.A. (Rochester), M.A., Ph.D. (Toronto)
Kathy Garay/(Archival) B.A. (East Anglia), M.A. (McMaster), Ph.D. (Toronto)
Donald Haebelnicht/(English) B.A. (Queen's), M.A., Ph.D. (McMaster)
Nora Gold/(Social Work) B.S.W. (McGill), M.S.W., Ph.D. (Toronto)
Rhonda Lenton/(Sociology) B.A. (Winnipeg), M.A. (Manitoba), Ph.D. (Toronto)
Julia O'Connor/(Sociology) B.A., M.A./Soc.S. (Ireland), Ph.D. (Toronto)
Mary O'Connor/(English) B.A. (McGill), M.A., Ph.D. (Toronto)
Cottie Closcu/(Nursing) B.A. (McMaster), M.Ed. (Brook), Ed.D. (Toronto)
Victor Saltwich/(Sociology) B.A., M.A. (Saskatchewan), Ph.D. (Glasgow)
Peta Rehman/(Anthropology) B.A. (Vienna), M.A. (Munich), Ph.D. (McGill)
Lorraine York/(English) B.A., M.A., Ph.D. (McMaster)
Iain Zeytugoglu/(Business) B.A., M.A., (Bogazici, M.S., Ph.D. (Pennsylvania)

Part-time Instructors as of January 15, 1998

Lori Chambers/B.A., M.A. (McMaster), Ph.D. (Toronto)
Nicole DiFrancesco/B.A. (Carleton), M.A. (McMaster)
Nalini Galvin/B.A., M.A. (McMaster)
Janice Hadkiss/B.A. (York), M.A. (Western Ontario)
Catherine Hepwood/B.Sc. (West Indies), M.Sc. (London), M.A. (Regina)
Rose Janson/B.A. (Waterloo Lutheran), M.A. (Toronto)
Nisha Karunamunthy-Luk/B.A., M.A., Ph.D. (Toronto)
Dannabang Kuwabong/B.A. (Ghana), M.Litt. (Stirling), Ph.D. (McMaster)
Patricia Simpson/B.A., M.Ed. (Toronto)

Courses

If no prerequisite is listed, the course is open.

WOMEN ST 1A06 WOMEN IN CANADIAN SOCIETY
An interdisciplinary introduction to Women's Studies, designed to illustrate and account for women's position in Canadian society. Possible areas of enquiry include health, law, history, work, literature, and arts.
Three hours (two lectures, one tutorial); 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.
Enrollment is limited.

WOMEN ST 2H13 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

Antirequisite: SOC 4U03

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
1998-99 Topic: 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 interdisciplinary relationships between the fields will be examined where appropriate.
Three hours; one term
Prerequisite: WOMEN ST 2A06, or permission of the Director of Women's Studies

WOMEN ST 3B03 may be repeated, if on a different topic, to a total of six units.

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 are: 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'S STUDIES

WOMEN ST 3CC3  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 3D08  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
1998-99: Feminist Spirituality
A combination of seminars and student-driven research into social, political and historical issues which highlight the contributions of feminist scholars and scholarship.
Three hours; one term
Prerequisite: WOMEN ST 1A06, or permission of the Director of Women's Studies

WOMEN ST 3F08  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 ST 3F08

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 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
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 1005, 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, Department

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 MVS system and several SUN UNIX systems. A transition to an increased level of distributed computing is underway. For example, MUGSI provides students access to their academic and personal data via the WWW.

Student computer laboratories for academic use are located in the Burke Sciences Building, Rooms 240-245, the John Hodgins Engineering Building, Room 204, the Arthur Bourns Building, Room 166, and Kenneth Taylor Hall, Rooms B110, B111, B120 and B123. All labs provide access to 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 each of these computer labs. Assistance is also available in the Main CIS Office located in Arthur Bourns Building, 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 and full access to the WWW and email is provided. A limited modem pool is also available free of charge. Cable modem access is available from the residences for a monthly fee.

In addition to the facilities operated by CIS, there is computer equipment located in Departments to support academic programmes.
THE INSTRUCTIONAL DEVELOPMENT CENTRE

- General Sciences Building, Room 217, ext. 24540
- Web Address: http://www.science.mcmaster.ca/idc
- E-mail Address: riselay@mcmaster.ca
- Director: Alan Blizzard, B.Sc., M.Sc., Ph.D.
- Educational Consultant: Dale Roy, B.A., M.A.
- Secretary: Sylvia Riselay

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 ones requested by instructors or departments and typically include subjects such as teaching large classes, self-directed learning, research on learning and teaching methods, lecturing, small group discussion, simulations and the use of technology in education.

- 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 had 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 about the IDC are available at the following website: http://www.science.mcmaster.ca/idc

MCMMASTER MEDIA PRODUCTION SERVICES

- Web Address: http://www.media.mcmaster.ca
- 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 editing and tape duplication; audio recording, tape and cassette editing, and high-speed tape duplication; A/V equipment distribution (all kinds of projectors, audio and video tape recorders, etc.); film reservations; A/V equipment repair; graphic art - for design, charts and graphs for publication, display or poster presentations, and computer graphics; black-and-white 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 service includes: layout and typesetting; cameras for reduction and enlargement; halftone (photograph) and line reproduction; copying (Xeroxing); copy duplicating; offset printing; bindery (folding, collating, stitching, drilling).

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 Gerontological 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 also 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 Catalogue in the Faculty of Social Sciences section, Gerontological Studies.

The Office mandate is as follows:

1. to serve as the communication 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; the Inventory of Gerontological Research, and the Annual Report;
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
Web Address
http://www.mcmaster.ca/oia
E-mail Address
oia@mcmaster.ca
Executive Director
Luke Chan
Senior Project/International Liaison Officer
Ni Jadon
Administrative Coordinator
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.

MCMASTERS MUSEUM OF ART

University Avenue, ext. 23081
Director and Curator
K.G. Ness, B.A., M.Litt., MMST
E-mail: nesskg@mcmaster.ca
Special Programmes Officer/Assistant to the Director
Appointment Pending
Collections and Operations Manager
G. Loveys, B.A.
E-mail: loveys@mcmaster.ca
Installations/Preservation Officer
J. Petep Clarke, B.A.
Secretary
L. Parker, B.A.
E-mail: parkerl@mcmaster.ca
Exhibitions Assistant
C. Wiginton, B.A., MMST
E-mail: wginton@mmm McMaster.ca
Head of Information
R.A. Prevec, B.A.
E-mail: prevec@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 ArtGallery of Ontario or the National Gallery of Canada, as well as lunchtime talks, Visiting Artist talks, seminars and concerts.

McMaster’s permanent art collection contains 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. 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) heads 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
Web Address
http://www.access.mcmaster.ca/csd/

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 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 programmes (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 an early date (two or three months 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, 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: playerc@mcmaster.ca

Administrative Assistant
Elaine Hay
ext. 27581
E-mail: hayelan@mcmaster.ca

This office administers the Sexual Harassment and Anti-Discrimination policies for McMaster University. The goal of this office is to ensure that students, 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. Assistance is provided for complaint resolution and the design and facilitation of workshops concerning all forms of harassment and discrimination.

The Shelter Space Programme offers a number of services including a network of: First Contacts, an After Hours Help Line and an Off-Campus Shelter. It is available to all women of the McMaster community—students, staff, faculty and their partners from 9:00 a.m. to 5:00 p.m. on weekdays, from September through April, 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.

ATHLETICS AND RECREATION

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

E-mail Address
iwynne@mcmaster.ca (Customer Service Line)

Director of Athletics and Recreation
Therese Guigley

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 programmes. A diverse programme 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 cross-country 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 programme 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 programme at McMaster fields 30 teams competing at the provincial and national (CIAU) level. There are also six 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 lives by the motto Something for everyone.

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. In addition to course books, the Bookstore maintains 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.
The Career Planning and Employment Centre (CPEC) offers a wide range of programs and services to meet the needs of McMaster students and alumni. For a virtual CPEC tour, please visit our web site (http://www.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 programs 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 programs;
- the DISCOVER Programme - a computerized approach to career exploration.

We also offer help and resources for students to get connected with what is out there in the world of work including:

- MASK - McMaster Alumni Sharing Knowledge, 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, Career Intake and Employment Strategies.

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.

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 a Pre-Departure Bulletin and International Students' Handbook which provide 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 FINANCIAL AID AND SCHOLARSHIPS**

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 Montreal
- 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/Rhone-Alpes Exchange (France)
- Ontario/Baden-Wurtemberg Exchange (Germany)

**STUDENT HEALTH SERVICE**

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, Tuesday and Wednesday from 8:00 a.m. to 8:00 p.m.; Thursday and Friday from 8:00 a.m. to 4:30 p.m.; and Saturday from 9:00 a.m. to 4:30 p.m. Appointments can be made by calling 525-9140 ext. 27700.
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, consisting of a co-educational International House and la Maison Francaise (109) and a co-educational Hall (131).

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 programme. The average has typically ranged from the high 70s to low 80s.

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 meal card which is debited only for food purchased and which may be used at all Campus Dining 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 600 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 Building, Room 310B.

The University is unable to provide any off-campus facilities for married students. Students in this category may wish to use the services of the Off-Campus Housing Office (see below).

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 a specified deadline which will 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, but wish to be placed on a waiting list, must return the completed Residence Application form before the specified deadline. 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.

The responsibility for policy, budget and the overall administration of the University residence system lies with the Director of Housing Services. Housing Services 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, e-mail: housing@mcmaster.ca.

RESIDENCE LIFE TEAM

Residence Life is responsible for 16 Hall Directors who live in the residences and are familiar with the McMaster community. They are available for both academic and personal counselling. Residence Life works with the student government and Hall Directors to fashion a mature residence community in which self-discipline is maximized. Residence Life provides leadership training, residence life activities, social, educational, and personal development programmes for students and residence student leaders, as well as overseeing discipline matters, student government and the Residence Security Team.
RESIDENCE FACILITIES TEAM

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 Mouton Hall (west campus, ext. 24696) 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 via the Housing homepage.

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. During the academic year, non-academic room bookings may be made by calling ext. 24781.

The Conference Front Desk, located in the Commons Building, is open for guest registration from 7:00 a.m. to 11:00 p.m. daily, from early May to mid-August. Telephone (905) 525-9140 ext. 27222.

PARKING

➢ E.T. Clarke Centre, ext. 24231 or 24621

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, Transit Services Office.

Spaces cannot be assured.

The 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 via the Housing homepage.

UNIVERSITY CHAPLAINS

➢ Wentworth House, 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; Aren Gaister, Christian Reformed Chaplain; Father Jack Hurley, Roman Catholic Chaplain and Donna Hisgon, 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 are welcomed.

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

MCMASTER STUDENTS UNION

➢ Hamilton Hall, Room 203, ext. 21000

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

Purpose: The McMaster Students Union is a completely student-operated corporation with a cash flow exceeding 3.5 million dollars and extensive operationsspanning 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 Rathskellar), a convenience store (The Bread Bin), a games room, a Design & Copy Centre and advertising department (CAB), an Information Centre, a Day Care Centre, a yearbook (The Marmor), 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 (EFRT), radio station (93.3 CFMU FM), a newspaper (The Silhouette), a Student Walk Home Attendant Team (SWHAT), a Student Health Education Centre (SHEC), 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, Bylaws 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

The Ombuds provides information and advice relating to problems, complaints and appeals involving members of the McMaster community. This includes academic and non-academic matters as well as questions of human rights, sexual harassment and employment-related issues. It can also include disputes arising out of the provision of services such as parking, accommodation, security and financial aid.

The Ombuds Office is a 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 a different educational experience than full-time students. University fees for these students include an assessment to support the University system and will be mailed to you. If you do not receive a copy, you may contact MAPS office hours are Monday to Thursday, from 10:00 a.m. to 8:55 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 by 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 communicate their needs and ideas to university officials, by ensuring representation on university governing bodies and committees, and by the Association's direct contact with university administrators on matters such as course availability, evening services, tuition and ancillary fees.

MAPS is also pleased to offer 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 is a MUGSI unit in the office for your use, where you can access your individual student record and use your email.

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.
### Canada Student Loans Plan

This is a federal government plan, administered by the provincial government, which provides loans to needy students 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 needy part-time students. 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 needy students during the school year to help meet exceptional costs, often unexpected, not recognized under OSAP. It also helps students who lack the resources expected under OSAP criteria or, whose assessed need under OSAP is not met because of loan maximums or, who do not wish to borrow further due to high debt load. Costs of this plan are shared by the provincial government and a local sponsoring agency which must be a non-profit organization, such as the University.

### 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 Student Financial Aid and Scholarships Office, Hamilton Hall, Room 404. Any person who is registered and in good standing as a student at McMaster University is eligible to apply.

**THE 4 WINDS BURSARIES**

Established in 1992 by Mr. and Mrs. H. E. Brown, this bursary is awarded to students of the University who demonstrate financial need.

**THE JAMES N. ALLAN FOUNDATION BURSARY**

 Established in 1997 by the James N. Allen Foundation, Dunnville, Ontario, in support of its belief that all students should have the opportunity to achieve their educational goals. Preference will be given to students of the University who demonstrate financial need.

**THE GARY ALLEN MEMORIAL BURSARY**

Established in 1997 by the bequest of Mr. Gary Allen, who demonstrates financial need.

**THE ANCASTER LIONS CLUB BURSARY**

Established in 1997 by the Ancaster Lions Club to provide assistance to students at the University who demonstrate financial need.

**THE ANDREW FOUNDATION BURSARIES**

Established in 1997 by the Andrew Foundation under the McMaster Student Opportunity Fund initiative, to provide assistance to students who demonstrate financial need.

**THE JENNIFER AND THEODORE ARCAND 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 student who demonstrates financial need.

**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 provide assistance to students who demonstrate financial need.
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 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 JOY BABY BURSARY
Established in 1997 by Joy Baby under 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 1993 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 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 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 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 BECHTEL CANADA ENGINEERING BURSARIES
Established in 1995 by Bechel Canada. A variable number of awards to assist students demonstrating financial need who graduated from a Secondary School in Canada, are currently enrolled in a programme in Engineering and who have completed Engineering I. (90573 766)

THE NORMA BERTI BURSARY
Established in 1996 under the McMaster Student Opportunity Fund Initiative by Norma Berti, active Stelco employee for 34 years and recognized by the Hamilton Council of Women as 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 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 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 SIDNEY L. BLUM BURSARY
Established in 1997 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 Levels III or IV of the Bachelor of Arts/Social Work Programme or Level II of the Bachelors of Social Work Programme. (90506 286)

THE BOWES FAMILY BURSARIES
Established in 1996 by Eleanor and Terrence Auvin 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 403)

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 Brantford County high schools. (90813 533)

THE ERIC JOHN BRETZLER BURSARY
Established in 1997 by family and friends in memory of Eric John Brezler (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 DAVISON CANAN BURSARIES
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. (90816 636)

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)

BURSARIES FOR IN-COURSE VISA STUDENTS
Established in 1982 by the University to assist visa students in any programme. (90547)

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. (90834 407)

THE BUSINESS MANAGEMENT SERVICES BURSARIES
Established in 1996 by The Canadian 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 408)

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. (90581 638)

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 646)

THE CANADIAN FEDERATION OF UNIVERSITY WOMEN’S (BURLINGTON) BURSARY
Established in 1985, a bursary to be granted to a mature female student who demonstrates financial need and is a resident of Hamilton-Wentworth or Halton Region, preferably from the Burlington area. (90545 223)

THE CANADIAN FEDERATION OF UNIVERSITY WOMEN’S (HAMILTON) BURSARY
Established in 1960 by the University Women’s Club of Hamilton. To be granted to female students in any programme who demonstrate financial need. (90546)

THE CANADIAN SOCIETY FOR MECHANICAL ENGINEERING BURSARY
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. A variable number of bursaries to be granted to students enrolled in the Faculty of Engineering who demonstrate financial need. Preference will be given to a student enrolled in Mechanical Engineering. (90819 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 Programme, or an Engineering and Society Programme. (90620 642)

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. (90661 643)
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. (90585 409)

THE CANADIAN FEDERATION OF UNIVERSITY WOMEN (HAMILTON) BURSARY
Established in 1997 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. (90828 784)

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 enrolled in the program, who demonstrate financial need, and are participating in one of the international study-abroad programmes of the Michael G. DeGroote School of Business. (90682 644)

THE ANNE AND HAROLD CHALK MEMORIAL BURSARIES
Established by bequest of Anne Maria Luise Chalk and Harold Henry Chalk of Ottawa. A variable number of bursaries to be granted to students in any programme who demonstrate financial need. (90686 410)

THE CHAKWERS FOUNDATION BURSARIES
Established in 1996 by The Chakwers Foundation, Toronto, 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 (90667 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. (90686 465)

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. (90684 465)

THE CITY OF HAMILTON BURSARIES
Established in 1996 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 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. (90588 412)

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 will 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 1995 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 BURSARIES
Established by the Year ’46 in honour of their 40th class reunion. To be granted to a student in a programme in Gerontology. (90821 765)

THE CLASS OF ’46 GOLDEN ANNIVERSARY BURSARIES
Established by the Year ’46 in honour of their fiftieth reunion on June 1, 1996. A variable number of bursaries to be granted to students enrolled in any programme at McMaster who demonstrate financial need and are in good academic standing. (90504 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 648)

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. (90667 549)

THE DORIS PARTRIDGE COLE BURSARY
Established in 1981, this bursary is to be granted to a worthy student in memory of Doris Partridge Cole (Class of ’45). (90506 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. (90596 453)

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 5 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 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 students in the Faculty of Arts. To be granted to a student enrolled in any programme who demonstrates financial need. (90693 655)

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 655)

THE CROSS COUNTRY BURSARY
Established in 1997 by coaches, former team members and supporters of the women’s and men’s Varsity Cross Country teams for their contributions to 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. (90595 657)

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 shown interest in, and concern for, others. It is hoped that recipients, after graduation, will reimburse the fund to the extent of their award so that increasing numbers of students may be assisted. (90565 338)

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. (90596 658)

THE AUBREY DALGLEISH BURSARY
Established in 1983. 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 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. (90662 410)

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. (90627 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 has demonstrated outstanding athletic achievement in intercollegiate baseball. (90667 659)

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. (90593 417)
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 & 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 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. (90598 600)

THE MICHAEL G. DEGROOTE SCHOOL OF BUSINESS 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. (90699 651)

THE BEN F. DESROCHES BURSARIES
Established in 1995 as a tribute to Ben F. Desroches, Stelco employee from 1949 to 1986 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 not be less than $300. (90505 419)

THE DETENBECK FAMILY BURSARIES
Established in 1996 by family members Patricia Detenbeck and William Detenbeck in honour of the Detenbeck Family. A variable number of bursaries to be granted based upon demonstrated financial need in each of the following areas: a) Detenbeck Family Bursaries for students enrolled in any programme. (90596 420) b) Detenbeck Family Bursaries for students who demonstrate that they are residents of an Aboriginal community in Ontario. (90597 421)

PATRICIA ANNE DICICCO MEMORIAL BURSARY
Established in 1989 this bursary is to be granted to a student or students enrolled in a programme which focuses on Genealogy or a major, who is a Canadian citizen or permanent resident and who exhibits financial need. (90510 204)

THE GERARD DOQUER BURSARY
Established in 1997 by the United Steelworkers of America in honour of E. Gerard Docquier, 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 592)

THE DOLASCO INC. BURSARIES
Established in 1996 by Hamilton-based Dolasco Inc., one of Canada's and North America's leading steelpackers 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 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 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. (90563 391)

THE GEORGE AND MARGARET EDRUP BURSARY
Established in 1997 by Sandra Edrup in honour of her parents George and Margaret Edrup under the McMaster Student Opportunity Fund initiative. To be granted to a student who demonstrates financial need and is enrolled in either the Faculty of Business or the Computer Science programme in the Faculty of Science. (90701 683)

THE ENERGY SYSTEM INSULATION LTD. BURSARY
Established in 1997 by Energy System 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 654)

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. (90686 630)

THE EVANS, PHILIP BURSARIES
Established in 1996 by the partners of Evans, Philip in support of McMaster students. A variable number of bursaries to be granted to students enrolled in any programme who demonstrate financial need. (90571 463)

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 programme who demonstrates financial need. Preference to be given to a mature female student. (90704 696)

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. (90709 697)

THE EDITH E. FERRE BURSARIES
Established in 1955 by the late Edith E. Ferrie, To be granted to students in any programme who demonstrate financial need. (90511 289)

THE FESTITALIA CORPORATION BURSARY
Established in 1997 by the Festitalia Corporation under the McMaster Student Opportunity Fund initiative. To be granted, in alternating years, to a student who demonstrates financial need and is enrolled in the Department of Italian, specializing in Italian, or is enrolled in the School of Art, Drama and Music. (90708 666)

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 783)

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 Clliton 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 1961 by the Wallington Hall Committee of which Emma Fox was treasurer from 1918 to 1958. To assist female students in any programme. (90612)

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)

LES AMIS DU DEPARTEMENT DE FRANCAIS BOURSE
Established in 1995 by the Friends of the Department of French. To be granted to a student enrolled in a programme in French who demonstrates financial need. Preference will be given to students from the Regional Municipality of Hamilton-Wentworth. (90574)

THE REG GARDINER BURSARY
Established 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. (90709 671)

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 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 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 GWEN GEORGE UNDERGRADUATE BURSARIES  
Established in 1997 in loving memory of Gwen George by her family and friends under the McMaster Student Opportunity Fund Initiative. To be granted to students in any undergraduate 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 GEORGE P. GILMOUR MEMORIAL BURSARY  
Established in 1997 by the Class of ‘62 in support of McMaster students. To be granted to a student enrolled in the Arts and Science Programme who has demonstrated financial need. Preference will be given to the student who wins the George P. Gilmour Memorial Scholarship. (90714 676)

THE REG GISBORN BURSARIES  
Established in 1997 as a tribute to Reg Gisborn, valued Stelco employee, President of Local 1005 from 1961-82 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 ALLEN AND MILLI GOULD FAMILY FOUNDATION BURSARIES  
Established in 1997 from funds donated 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 679)

THE JAMES EDWARD GRADER MEMORIAL BURSARY  
Established in 1996 by his sister. To be granted to students who demonstrate financial need. Preference to be given to students who have registered with the Opportunity Fund initiative. To be granted to a student who has completed at least 30 units in a programme, who demonstrates financial need. Preference to be given to a student who elects to undertake a fourth year thesis on a topic related to the study of transportation. (90718 680)

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 680)

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 JAMES R. (JAMIE) GREILICH MEMORIAL BURSARY  
Established in 1997 in memory of Jamie Greilich (Class of ’58) 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 Ability and Access. (90720 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. (90721 471)

THE ASMAH HAFEZ MEMORIAL BURSARY  
Established in 1997 by her family in memory of Asmah Hafez. To be granted to a student enrolled in Level I of the Faculty of Science who demonstrates financial need. (90721 583)

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)

THE 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 Dr. M. Gregory Flett and the late Donald A. 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 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. (90725 688)

THE HAMILTON FOLLIES INC. (GERITOL FOLLIES) BURSARIES  
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 a programme and who is a Canadian citizen or permanent resident of Canada. (90722 664)

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 who demonstrates an interest in a career in transportation. Preference to be given to students who will graduate on or before December 1, 1996. (90724 687)

THE HAMILTON PERFORMING ARTS BURSARI  
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 in 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 Dean’s Honour List. (90724 686)

THE HAMILTON PORECLAINS 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 680)

THE MARGARET HARGEARES BURSARI  
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 female students. (90729 691)

THE HARWOOD BURSARIES  
Established in 1990 by bequest of Dr. William Harwood in memory of his beloved wife Grace and devoted daughter Villa 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 M.A. (JACK) HASSAL BURSARY  
Established by the Hamilton and District Chartered Accountants’ Discussion Group in 1982 in memory of M.A. (Jack) Hassal. To assist a student in Commerce who is a Canadian citizen or permanent resident of Canada. It is hoped that recipients, on graduation, will reimburse the fund to the extent of their award so that the fund may assist increasing numbers of students. (90518 297)

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 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 096)

THE JACK AND THELMA HEATH MEMORIAL BURSARIES
Established in 1985 by Norton Canada Inc. in memory of Jack and Theima 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)

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. (90608 427)

THE KARL W. HEINZ MEMORIAL AWARD
Established in 1992 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 programme in Modern Languages who is a Canadian citizen or permanent resident of Canada. Value: $500 (90567 113)

THE RUDY HEINZL BURSARY
Established in 1996 by family, friends and colleagues upon his retirement as Dean of Student Affairs in recognition of 42 years of dedicated service to students and to the McMaster University Community. To be granted to students in any programme who demonstrate financial need. (9057 996)

THE EDWIN W. HILBORN BURSARY
Established in 1965 by bequest of Edwin W. Hilborn. To be granted to a student in any programme. (90520)

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)

THE HAZEL MAY HINKS BURSARIES
Established in 1995 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 GORDON HOLSEY BURSARY
Established in 1999 under the McMaster Student Opportunity Fund initiative as a tribute to Gordon Holsey, founding member of Local Union 1005 and valued member of the Union’s Negotiations Committee. To be granted to a student enrolled in a Labour Studies programme who demonstrates financial need. (90739 666)

THE GENERAL HUMANITIES BURSARIES 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. (90262 211)

THE INGLIS BURSARIES
Established in 1996 by Paul 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. (90605 430)

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 or someone who has made a significant contribution to the University life of residence students with disabilities. In a year that a suitable candidate is not found, the bursary will be awarded to a student without a disability demonstrating financial need who currently resides in one of McMaster’s residences. Students with disabilities must have registered with the Office for Disability Access. (90572)

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. (90650)

THE JOHN B. IBISTER BURSARY
Established in 1996 under the McMaster Student Opportunity Fund initiative, by John B. Ibister of Stoney Creek, valued member of the United Steelworkers of America for 36 years and honoured war veteran by Canada and the United States on four occasions. To be granted to a student enrolled in a programme in Labour Studies who demonstrates financial need. (90605 429)

THE STUART AND MARJORIE IVISON BURSARIES
Established in 1997 by Donald Ivison (Class of ’53) and Betty Ivison (Class of ’52) in honour of their 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 programme in the Department of English who demonstrate a lively interest in English studies and involvement in extra-curricular activities. (90736 698)

THE CLIFFORD JACKSON MEMORIAL BURSARIES
Established in 1997 by family and friends in memory of Clifford Jackson. A variable number of bursaries to be granted annually to students in a 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 JADDOO ANDERSON BURSARY
Established in 1997 by Jaddeo 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. (90738 700)

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 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 COMPSHOPPE BURSARY
Established in 1997 by JMG Comshoppe 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 degree programme in Economics who demonstrate financial need. (90741 703)

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 & Science programme who demonstrate financial need. (90569 432)

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 JONES-TURNER BURSARIES
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 McBRIE N 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 KELLEY ADVERTISING BURSARY
Established in 1997 by Kelley Advertising Inc., founded in Hamilton in 1913. This bursary is 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 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. (90746 708)
THE KENTS FAMILY BURSARY
Established in 1997 by the Kents Family under the McMaster Student Opportunity Fund initiative. To be granted to a student who demonstrates financial need and is enrolled in the School of Medicine, the School of Nursing or the School of Rehabilitation Science. (90747 709)

THE PHILLIP GORDON KETTLE BURSARY
Established in 1996 in memory of Philip 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. (90676 475)

THE KHAKI 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 former students. (90639 267)

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 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:

a) The Richard Konrad Bursaries for students enrolled in any programme.
b) The Richard Konrad Bursaries for physically challenged students registered with the Centre for Student Development, who are enrolled in any programme. (90750 712)

THE KPMG BURSARIES
Established in 1996 by KPMG in support of its belief that students should have the opportunity to pursue their educational aspirations. A variable number of bursaries to be granted to students enrolled in the Faculty of Business who demonstrate financial need. (90607 431)

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)

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. (90669 651)

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 1988-91. 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. (90608 433)

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 LANG FAMILY BURSARIES
Established in 1996 by H. Murray Lang (Class of '44) of Etobicoke, Ontario in honour of his family's connection to McMaster. A variable number of bursaries to be granted to students enrolled in any programme who demonstrate financial need. (90611 435)

THE JAMES R.A. LINGS BURSARIES IN THE ARTS
Established by family in memory of James R.A. Lings (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 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 SZE-WAI LEE MEMORIAL BURSARY
Established in 1997 under the McMaster Student Opportunity Fund initiative in honour of Student 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 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 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 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 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 LISSON BROTHERS BURSARY
Established in 1997 under the McMaster Student Opportunity Fund as a tribute to Brian, Bill and John Lisson, 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 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 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 Intersport football or intersport University Women's tennis. (90615 439)

THE LYDEN LIONs CLUB BURSARY
Established in 1997 by the Lynden Lions Club under the McMaster Student Opportunity Fund initiative to support 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 3 M CANADA INC. BURSARIES
Established in 1986, two bursaries to be granted annually; one to an M.B.A. student and one to a student in Business or Science. (90625 220)
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. (90016 440)

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 BOB MacKENZIE BURSARY
Established in 1995 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. (90017 441)

THE BOB MacKENZIE - UNITED STEELWORKERS OF AMERICA BURSARY
Established in 1997 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. (90765 722)

THE MAAKSTEEL BURSARIES
Established in 1997 by Maaksteel 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 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 ENRICO HENRY MANCINELLI BURSARIES
Established in 1996 by the Labourers' International Union of North America, Local #472 and the Malloch Foundation, Hamilton. To be granted to students enrolled in a programme in Labour Studies who demonstrate financial need. Preference to be given to students attaining a 90% average at the most recent review. (90619 443)

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 DR. ALBERT MARTIN BURSARIES
Established in 1996 by Joyce Beverly Krugel, a former student of Dr. Albert Martin who was a Professor of German in the Faculty of Arts and Science from 1939 to 1961. A variable number of bursaries to be granted to students enrolled in a programme in Modern Languages who demonstrate financial need. (90620 444)

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. (90655 445)

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. (90656 446)

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 Hrynszak. 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 LAWRENCE McBREARY BURSARY
Established in 1996 under the McMaster Student Opportunity Fund Initiative, by Lawrence McBreary, 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 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. (90529)

THE R. CRAIG McIVOR BURSARIES
Established in 1996 as a tribute to Professor R. Craig Molver 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 445)

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 McMASTER MBA BURSARIES
Established in 1996 by the McMaster MBA Alumni Association of Part-Time Students. A variable number of bursaries to be granted to students enrolled in the program in Business Administration who demonstrate financial need. Preference will be given to a single parent. (90528 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 also be given to students who would not otherwise enrol without such assistance. Applications will be reviewed by the MAPS Centennial Bursary Selection Committee. (90529 290)

THE McMASTER ATHLETICS BURSARIES
Established by past and present student-athletes and friends of Interuniversity Athletics. To assist students enrolled in any programme who demonstrate financial need and involvement in Interuniversity Athletics. (90625)

THE McMASTER 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. (90626 450)

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 443)

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)

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. (90563 334)
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)

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 735)

THE McMaster Student Opportunity Fund Bursaries
Established in 1995 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. (90827 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 the opportunity to achieve their educational goals. To be granted to a student enrolled in any programme who demonstrates financial need. (9076 730)

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)

THE McMaster Women's Club Bursary
Established in 1983 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 291)

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 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 A. J. Melloni Memorial Fund
To be granted to a student in any programme. (90532)

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 pursue their educational goals. To be granted to a student enrolled in any programme who demonstrates financial need. (90775 738)

The Charles Millard Bursary
Established in 1997 by the United Steelworkers of America in memory of Charles H. Millard, a labour pioneer who played a pivotal role in the founding and consolidation of both the Automobiles' and Steelworkers' Unions. To be granted to a student enrolled in a programme in Labour Studies who demonstrates financial need. (9075 740)

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 Minich Family Bursaries
Established in 1996 by E. Minich and family. A variable number of bursaries to be granted to students enrolled in Business i who demonstrate financial need. Preference to be given to students who demonstrate a lively interest in the University and community through their involvement in extracurricular activities. (90628 452)

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. (90566 339)

The Robert John Morris Bursaries
Established in 1986 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. (90530 454)

The Wallace R. Morris Bursary Fund
Established in 1997 by bequest of Wallace Ronald Morris. A variable number of bursaries to be granted to students enrolled in any programme who demonstrate financial need. (90780 743)

The Mount Hamilton Rotary Club Bursary
Established in 1987, this bursary is to be granted to a student in any programme who demonstrate financial need. (90533 217)

The John Douglas Moyer Bursary
Established in 1986 by bequest of John Douglas Moyer to assist needy students. (90534)

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. (90791 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 Newcastle Capital Management Inc. Bursaries
Established in 1997 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 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 O'Shaughnessy Bursary
Established in 1986 by the family and friends of the late Margaret O'Shaughnessy, RN, this bursary is to be used to alleviate financial need for students pursing an education in Nursing (basic or post-diploma stream) in Level II, III, or IV. (90635 218)

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. (90681 455)

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 40,000 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 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 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 participation in the sport of football. (90777 739)
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 Faculty of Health Sciences. Preference will be given to students enrolled in the Diploma in Child Life Studies programme. (90787 750)

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 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. (90536 228)

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 Hispanic Studies or German programme in the Department of Modern Languages. (90789 752)

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 enrolled in any programme who demonstrate financial need. (90514 483)

THE PEVENSING BURSARIES
Established in 1996 by David Hannaford (Class of ’64). 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. (90767 479)

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. (90685 484)

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 Cohort, varsity wrestling, kayaking club and issues related to the environment and social justice. (90576)

THE DR. SUSAN BEVERLEY PLANK MEMORIAL BURSARY
Established in 1997 by Mr. William J. Plank, family and friends, in memory of Dr. Susan Beverley Plank (Class of ’90). To be granted to a student who demonstrates financial need and is enrolled in the Faculty of Health Sciences, School of Medicine. (90791 754)

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 1946 Stelco strike. To be granted to a student enrolled in a programme in Labour Studies who demonstrates financial need. (90791 755)

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. (90537 486)

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. (90609 480)

THE PROFESSIONAL ENGINEERS’ WIVES ASSOCIATION BURSARY
Originally established in 1983 by the Professional Engineers’ Wives Association to be granted to a female Engineering undergraduate student who demonstrates financial need and, because of extenuating circumstances, would be unable to continue her studies without such assistance. (90537 961)

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 1987 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 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)

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 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)

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 756)

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 any programme who demonstrate financial need and are enrolled in the Faculty of Business or Engineering who demonstrate financial need. (90640 489)

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. (90668 465)

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. (90798 761)

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 community. To be granted to a student enrolled in a Gerontology programme who demonstrates financial need. (90788 761)

THE ROYAL CANADIAN LEGION 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. (90799 762)
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 attaining the Sessional Average of at least 7.0 at the most recent review. (90732 694)

THE SOCIAL SCIENCES SOCIETY BURSARIES
Established in 1999 by the Social Sciences Society Executive in recognition of the outstanding efforts of Dr. Peter George in establishing the Social Sciences Society. A variable number of bursaries to be granted to full-time students enrolled in a Social Sciences programme involving Anthropology, Economics, Geography, Geontology, Labour Studies, Political Science, Psychology, Religious Studies, Social Work or Sociology and who demonstrate financial need. (90642 229)

THE SALVATORE Spitale MEMORIAL BURSARY
Established in 1984 and augmented in 1997 by the Spitale family in conjunction with the McMaster Student Opportunity Fund Initiative. To be granted to a student in the Department of 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. (90733 655)

THE LILLIAN R. STEGNE MEMORIAL BURSARIES
Established in 1990 in the memory of Lillian Rose Stegner (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)

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)

ALEXANDER AND CHRISTINE STRACHAN STUDENT BURSARY
Established in 1997 by Alexander and Christine Strachan under the McMaster 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 students pursuing studies in Child Behaviour at the Centre for Studies of Children at Risk in the Department of Psychology. (90623 769)

THE SUNGOR 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. (9054 222)

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 DONALD W. THOMAS BURSARIES
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. (90645 494)

THE DUNDAS IN THOMAS MEMORIAL BURSARY
Established in 1996 in memory of Dr. John Thomas by family, friends and colleagues. This bursary fund will be used to assist undergraduate and graduate students who are enrolled in a programme in Philosophy and demonstrate financial need. Preference to be given to students showing promise in the field of applied ethics. (90675 472)

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 ROBERTA GRAY TROXEL BURSARY
Established in 1997 by Roberta Grey Troxel under the McMaster Student Opportunity Fund Initiative. To be granted to a student enrolled in the Faculty of Humanities who demonstrates financial need. (90645 494)

THE TRESSILA TRUBY MEMORIAL BURSARY
Established in 1992 from the bequest of Tressila Truby (M.C.S.F.) 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. (90556 200)

THE TURKSTRA LUMBER CO. LTD. BURSARIES
Established in 1999 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 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. (90632 924)

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 522)

THE SMYRNIA BURSARY
Established in 1996 by Dr. and Mrs. W. Smyrnia. 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 above Level I. (90661 458)
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. (90662 459)

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. (90662 459)

THE CATHERINE VASAS-BROWN BURSARIES
Established in 1996 by J. Allan 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. (9004 194 98)

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 WALLINGFORD HALL BURSARIES
Established through anonymous donations to assist students in any programme who demonstrate financial need. (90548)

THE G.S. WARK LTD. BURSARY
Established in 1996 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 G.S. (SANDY) WATT MEMORIAL BURSARY
Established in 1998 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 program who is a Canadian citizen or permanent resident. Value: $500 (90562 335)

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)

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 program 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 program, the bursaries are available, under similar conditions, to students in the Honours French program. (90589 339)

THE LLOYD WERDEN MEMORIAL BURSARIES
Established in 1996 by bequest of Lloyd Werden of Sauveville 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 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. (90552 407)

THE LYNN R. WILLIAMS BURSARY
Established in 1957 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 FRIDA AND JOACHIM WOLTER BURSARY
Established in 1997 under the McMaster Student Opportunity Fund initiative by Claus Wolter (Class of '93) 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 759)

THE YATES BURSARIES
Established in 1963 by bequest of William Henry Yates of Hamilton. To assist students in any programme. (90549)

THE SHEILA ZACK MEMORIAL BURSARY
Established in 1998 by the Zonta Club of Hamilton in support of the McMaster Student Opportunity Fund initiative and in the belief that all students, particularly women in non-traditional fields, should have the opportunity to pursue their educational goals. To be granted to 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. (90580 097)

SUPPLEMENTARY BURSARY AID FOR AWARD RECIPIENTS
The University wishes to acknowledge the generosity of several long-standing 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 University wishes to acknowledge the generosity of several long-standing 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.

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, Student 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 Harley H. Hall, U.S.N. To be granted to a student who demonstrates financial need and is enrolled in a programme in Commerce, Business Economics, Biology, English, Chemistry, Geology, History, Material Science, 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. (90677 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. (90918 649)
McMaster Work Study Programmes offer part-time jobs to students demonstrating financial need during the school year to help them meet costs not recognized under regular federal and provincial financial aid programmes. In particular, programmes are intended to assist students who lack resources relative to their assessed financial need and 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 HAMLIN FAMILY FOUNDATION WORK-STUDY PROGRAMME**
Established in 1996 by the Hamlin Family Foundation. A variable number of employment opportunities made available to students demonstrating financial need. To be eligible for consideration, students must be approved for Work-Study through the Office of Student Financial Aid and Scholarships.

**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.

**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 Edwards and Margaret Lyons Humanities Communications Centre to assist students demonstrating financial need. These jobs will provide an opportunity for students to pursue research in the fields 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.

**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.

**THE McMaster ASSOCIATION OF PART-TIME STUDENTS WORK 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.

**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 A.H. ATKINSON LOAN FUND**
Established in 1967 by A.H. Atkinson to assist Engineering students.

**THE DEAN OF WOMEN'S EMERGENCY FUND**
Established and continued by the McMaster alumni and individual benefactors to assist female students. This fund is now administered by the Student Financial Aid and Scholarships Office.

**THE ENGINEERING INSTITUTE OF CANADA (HAMMOND SECTION) LOAN FUND**
Established by the Hamilton Section of the Engineering Institute of Canada to assist Engineering students.

**THE HAMILTON AUTOMOBILE CLUB PAST PRESIDENTS MEMORIAL LOAN FUND**
Established in 1963 by the Hamilton Automobile Club as a tribute to its deceased past presidents. To be used to assist Engineering students.

**THE LOUISE HOLMES MEMORIAL LOAN FUND**
Established in 1958 by her parents in memory of Louise Holmes, B.A. (Class of '48). To assist female students in any programme.

**THE IODE 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.

a) **EDITH M. GRIFFEN LOAN FUND**
Established in 1957 by Paardeburg Chapter, IODE, in honour of Mrs. H.S. Griffen. (Included in the IODE Loan Funds)

b) **PRINCESS MARINA CHAPTER, IODE, LOAN FUND**
Established in 1957. (Included in the IODE Loan Funds)

c) **EMMA FRANCES PRATT CHAPTER, IODE, LOAN FUND**
Established in 1958. To assist female students in Levels III or IV of any programme. (Included in the IODE Loan Funds)

d) **MURIEL CLARK RIDDELL LOAN FUND**
Established in 1964 by the Right Honourable Stanley Baldwin Chapter, IODE. (Included in the IODE Loan Funds)

e) **SOVEREIGN CHAPTER, IODE, LOAN FUND**
Established in 1960. To assist female students in the final level of any programme. (Included in the IODE Loan Funds)

f) **MARGARET B. SUTTERBY MEMORIAL FUND**
Established in 1955 by the 67th University Battery Chapter, IODE. (Included in the IODE Loan Funds)

g) **WENTWORTH CHAPTER, IODE, LOAN FUND**
Established in 1953. (Included in the IODE Loan Funds)

**THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS LOAN FUND**
Established in 1968 by the Hamilton Section of the Institute of Electrical and Electronics Engineers. To assist students in a programme in Engineering.

**THE RUSSELL E. LOVE MEMORIAL LOAN FUND**
Established in 1951 by bequest through the Optimist Club of Hamilton. To assist male students in the penultimate or final level of an Arts programme.

**THE MCLOUGHLIN LOAN FUND**
Established in 1956 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 PI BETA PHI FRATERNITY**
Established in 1958 by the local alumni of Pi Beta Phi. To assist female students in any Level IV Honours Arts or Science programme.

**THE PROFESSIONAL ENGINEERS' WIVES' ASSOCIATION LOAN FUND**
Established in 1972 by the Professional Engineers' Wives' Association to provide loans for Engineering students.

**THE SOCIETY OF AUTOMOTIVE ENGINEERS (ONTARIO SECTION) LOAN FUND**
Established in 1962 by the Ontario Section of the Society of Automotive Engineers. To assist students in a programme in Engineering.

**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.
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.

Some of these awards have a monetary value while others have a corresponding bursary for which students may apply by demonstrating financial need. In all 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 October 15.

THE ATKINSON CHARITABLE FOUNDATION AWARD
Established in 1996 by The Atkinson Charitable Foundation. To be awarded to a student enrolled in any programme who participates in activities displaying superior leadership or innovative skills and demonstrates service to the community-at-large. Preference to be given to a student enrolled in the Faculty of Social Sciences. (80022 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 565)

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 CARROL RUDY HEINZ 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 in an inter-university women's team and has demonstrated leadership and fair play. (80026 547)

THE DR. 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 who have shown remarkable achievement in their community through volunteer work. (80086 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 AWARD
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 student service 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. (80045 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 who have shown remarkable achievement in their community contributions 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 MAC/WIAC AWARD
Established in 1997 by the Men's Athletic Council and the Women's Inter­ collegiate Athletics Council under the McMaster Student Opportunity Fund Initiative. To be 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). (80034 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 the selection committee, demonstrates 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. Three awards to be granted to students upon completion of Level II or higher for 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 campus and community activities, have had a significant influence on the lives of Engineering students at McMaster University. (80024 543)

THE HELEN K. MUSSALLEM AWARD
Established in 1996 by Dr. Helen K. Mussalleem (C.C., B.N., Ed.D., L.L.D (Queen's), D.Sc., D.St.J., F.R.C.N., M.P.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 to be granted to students who have completed Nursing I and who, in the judgment of the School of Nursing, have demonstrated notable involvement in extracurricular activities. (80004 528)

THE OLIVE ACHIEVEMENT AWARD
Established in 1997 by Oldfield Sports Group in support of its belief that all students should have the opportunity to pursue their educational goals. 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. (80036 553)

THE ONCOLOGY 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. (80046 566)

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. (80026 544)

THE GORDON AND JANE PRICE AWARDS
Established in 1957 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)
THE GORDON RAYMOND AWARD
Established in 1996 by the McMaster Association of Part-time Students and other friends and colleagues in honour of Gord Raymond in recognition of his 27 years of service to McMaster University including 15 years as Coordinator of Part-time Degree Studies. To be awarded to the part-time student who, in the judgment of a selection committee, demonstrates commitment to student life, leadership and service to the McMaster University community-at-large.

THE ROTARY CLUB OF ANCASTER
COMMUNITY CONTRIBUTION AWARD
Established in 1997 by the Rotary Club of Ancaster in keeping with Rotary's mission to foster the ideal of service within the community. To be awarded to a student enrolled in any programme who demonstrates commendable service to the community-at-large. Preference will be given to a student enrolled in an Environmental Science Programme.

THE ROTARY CLUB OF BURLINGTON CENTRAL
COMMUNITY CONTRIBUTION AWARD
Established in 1997 by the Rotary Club of Burlington Central in keeping with Rotary's mission to foster the ideal of service within the community. To be awarded to a student enrolled in any programme who demonstrates service to the community-at-large. Preference will be given to a student from the Burlington area.

THE ROTARY CLUB OF HAMILTON A.M.
COMMUNITY CONTRIBUTION AWARD
Established in 1997 by the Rotary Club of Hamilton A.M. in keeping with Rotary's mission to foster the ideal of service within the community. To be awarded to a student enrolled in any programme who demonstrates service to the community-at-large.

THE ROTARY CLUB OF HAMILTON "SUNRISE" COMMUNITY CONTRIBUTION AWARD
Established in 1997 by the Rotary Club of Hamilton "Sunrise" in keeping with Rotary's mission to foster the ideal of service within the community. To be awarded to a student enrolled in any programme who demonstrates service to the community-at-large.

THE SATURN OF HAMILTON EAST ACHIEVEMENT AWARDS
Established in 1996 by SATURN of Hamilton East. To be awarded to students in any programme who display superior leadership or innovative skills through participation in extra-curricular activities. Preference will be given to students in the Faculty of Engineering who display outstanding athletic participation and display superior leadership or innovative skills.

THE SCIENCE CLASS OF '97 LEGACY AWARD
Established in 1997 by the Science Class of '97. 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.

THE ROSA MAUDE SHEARDOWN AWARDS
Established in 1997 by Gordon R. Baker, Q.C., in honour of his foster mother, Rosa Maude Sheardown, and her belief in the importance of education and providing a helping hand to others. 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. (80038 564)

THE MEENA AND NARESH SINHA AWARD
Established in 1996 by Meena and Naresh Sinha. To be awarded to a student enrolled in the Faculty of 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.

THE LORNA AND DAVID SOMERS AWARD
Established in 1997 by Lorna Somers (Class of '81) and David Somers (Class of '88) under the McMaster Student Opportunity Fund Initiative. To be awarded to a student enrolled in the Faculty of Humanities who, in the judgment of a selection committee, has demonstrated one or more of the following: superior service to 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.

THE ADAM SUDDAR PRINTMAKING AWARD
Established in 1997 in memory of Adam Suddar by his friends, this award fund will be used to assist students entering Level III or IV of the Honours Printmaking Programme at McMaster who, in the judgment of the School of Fine Arts, 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.

THE STEPHEN F. H. T RELKELD AWARD
Established in 1997 by friends and colleagues of Stephen F. H. Threlkeld. 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.

THE ROGER TRULL AWARD
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 granted annually to a student who demonstrates solid academic standing and superior leadership in extra-curricular activities.

THE VAUGHN CUSTOM SPORTS CANADA LTD.
ACHIEVEMENT AWARD
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. 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.

THE SAM WATSON MEMORIAL AWARD
Established in 1996 by his wife Irene M. Watson and friends of Samuel Watson. One or two awards are 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 Committees, have made a notable contribution in the community-at-large through participation in extra-curricular activities.

THE WESCAST INDUSTRIES CONTINUOUS LEARNING AWARD
Established in 1997 by Wescast Industries Inc. in recognition of the contributions of McMaster students. 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.

THE ALLAN AND JOY WILLIAMS AWARD
Established in 1999 by Mary Williams (Class of '87), Anne Williams (Class of '89) and Ellen and Dan Walker in honour of their parents. 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.

THE ZENON ENVIRONMENTAL AWARDS
Established in 1997 by Zenon Environmental Inc. in recognition of the contributions of McMaster students. 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 programme.

THE ZOOM MEDIA AWARD
Established in 1997 by Zoom Media Inc. in support of McMaster students. A variable number of awards are 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.
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 those 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 2. CATEGORIES OF AWARDS

A. Awards for Entering Students

1. These awards are provided exclusively for students qualifying for admission to Level I of a first baccalaureate degree programme.

2. To be considered for an entrance award, students must obtain at least a first-class average in the secondary school credits required for University admission. All students who meet this requirement and who apply for early admission to the University not more than two years after completion of their secondary school studies will automatically be considered as applicants for entrance awards, unless a separate application is explicitly required by the particular terms of the award.

3. Where specifically required by the particular terms of an award, recipients must register and remain registered in the Faculty/Programme specified. Registration in, or transfer to, another programme of study at any time will result in forfeiture of the award. Students are advised to consult with the Student Financial Aid and Scholarships Office about making changes to their programme of study.

4. In addition to meeting the General Conditions listed in Section 1, entrance award recipients will begin their studies in the next Fall/Winter session. Students wishing to defer the benefits of an award to a later session should apply to the Student Financial Aid and Scholarships Office. Approval of applications is not automatic, and deferments are not normally granted for more than one calendar year.

5. Unless otherwise specified, recipients may retain an entrance award which provides for awards beyond Level I while registered in a first baccalaureate degree programme and until graduation or for four years (five years if registered in a five-level programme), whichever is less. In order to retain such awards, students must complete during each successive Fall/Winter session at the University a full load corresponding at least to a) either the minimum number of units specified in the Calendar for their level and programme; or b) if the Calendar does not specify the programme work by individual levels, the average number of units per level; and must maintain a Full-load Average of at least 9.5 and obtain no failures.

THE McMASTER SCHOLARS PROGRAMME

Each year, up to twelve students entering from a secondary school may be awarded the title McMaster Scholar. Applications are required and must be submitted not later than January 30, 1996. Applicants will be asked to provide a resume, an essay, a full high school transcript and letters of recommendation. Details may be obtained from the Student Financial Aid and Scholarships Office.

McMASTER SCHOLARS (UNIVERSITY)

Up to five scholarships, each valued at $25,000, to be awarded to students entering any programme of study at McMaster University.

McMASTER SCHOLARS (FACULTY/PROGRAMME SPECIFIC)

Up to seven scholarships, each valued at $15,000, 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 Science
- McMaster Scholars in Social Sciences

THE LILLIAN AND LEROY PAGE SCHOLARSHIPS

Established in 1982 by donation of the Lillian and Leroy Page Foundation for a student from the Hamilton area entering the Faculty of Science. (20030)

THE 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 Student Financial Aid and Scholarships Office by February 28, 1997 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 (2004 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 Forinno. To be awarded to an outstanding full-time student entering the School of Business.

- Value: $3,000 (2003 233)

THE H.P. FRID SCHOLARSHIP

Established in 1982 by the family of H.P. Frid in memory of his brother. A variable number of scholarships to be awarded to students entering a full-time programme of study.

- Value: $3,000 (2002 062)

THE MERRILL FRANCIS GAGE ENTRANCE SCHOLARSHIP

Established in 1982 from the estate of Merrill Francis Gage of Hamilton. To be awarded to a keyboard student entering Music I who, in the judgment of the School of Art, Drama and Music, has attained outstanding musical proficiency.

- Value: $1,000 (20031)

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) (2007)

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 (2004 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) (2014)

THE JOSEPHINE MAGEE SCHOLARSHIP

Established in 1990 by bequest of Josephine Magee of Hamilton. To be awarded on the basis of general proficiency in the subjects required for admission to students from any province or territory of Canada.

- Value: $12,000 ($3,000 per year for up to four years) (20021)

THE MOURTON COLLEGE ENTRANCE SCHOLARSHIP

Established in 1980 from funds originally subscribed by the Alumni 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) (2001 117)

THE ALVIN I. OGLIVIE SCHOLARSHIPS

Established in 1984 by bequest of Alvin I. Oglivie of Hamilton. Five scholarships to be awarded to students entering a full-time programme of study.

- Value: $3,000 (20017)

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 (2004 231)
THE FRANK THOROLFSO N MEMORIAL SCHOLARSHIPS
Established in 1978 in memory of Professor Frank Thorolfson, first Chair of the Department of Music. One or two scholarships to be awarded to students entering Music who, in the judgment of the School of Art, Drama and Music, have attained high scholastic achievement and musical proficiency. Value: $750 each (2008/9).

THE TYNOWSKI SCHOLARSHIP
Established in 1989 by the University, friends and colleagues of Olga Tynowski, for her outstanding contributions to McMaster University during 45 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) (2000-3,396)
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 WALLINGFORD HALL ENTRANCE SCHOLARSHIP
Established in 1993. To be awarded to a student entering a full-time programme of study.
Value: $3,000 (2004/3,398)

◆ 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 1961 by the Ontario Professional Engineers Foundation for Education. Two scholarships to be awarded to students entering the Faculty of Engineering.
Value: $1,200 (20027,322)

THE CHANCELLORS’ SCHOLARSHIPS (UNIVERSITY)
A variable number to be awarded to students entering a full-time programme of study.
Value: $3,000 (20018)

THE CHANCELLORS’ SCHOLARSHIPS (SPECIFIED LEVEL I PROGRAMMES)
A variable number to be awarded to students entering a Level I Programme in the Schools of Business and Nursing, and the Faculties of Humanities and Social Sciences.
Value: $3,000 (2004/3,398)

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 (2008,3,999)

THE A. H. ATKINSON EDUCATION FUND - McMaster SCHOLARSHIP
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 (2009/6,160)

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 (2009,4,585)

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 (2009,5,584)

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 (2009,6,618)

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 (2006/1,586)

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 Art, Drama and Music, have demonstrated excellence in classical music.
Value: $1,800 each (20059,599)

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 JODIE 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 (20079,504)

THE CANADA TRUST COMPANY - McMaster SCHOLARSHIP
Established in 1998 by McMaster University in recognition of Canada Trust and its commitment to McMaster students. To be awarded to a student entering any programme.
Value: $3,000 (20057,518)

THE CANADIAN FRIENDS OF THE HEBREW UNIVERSITY - McMaster SCHOLARSHIPS
Established in 1997 by McMaster University in recognition of the Canadian Friends of the Hebrew University and its commitment to McMaster students. A variable number of scholarships to be awarded to students entering any programme.
Value: $3,000 each (20076,401)

THE CRS ROBOTICS CORPORATION - McMaster SCHOLARSHIP
Established in 1997 by McMaster University in recognition of The CRS Robotics Corporation and its commitment to McMaster students. To be awarded to a student entering any programme.
Value: $3,000 (20083,608)

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 (20098,775)

THE HELEN M. CURREY SCHOLARSHIP
Established in 1941 by bequest of Helen Maud Currey of Drumbo, Ontario. To be awarded every four years; the 13th award was made in 1992.
Value: $12,000 ($3,000 per year for up to four years) (2009)

THE DAUGHTERS OF THE EMPIRE (HAMILTON) - McMaster SCHOLARSHIPS
Established in 1997 by McMaster University in recognition of the Daughters of the Empire (Hamilton) Ltd. and its commitment to McMaster students. A variable number of scholarships to be awarded to students entering any programme.
Value: $3,000 each (20077,620)

THE DOFASCO SCHOLARSHIP
Established in 1955 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.
Value: $12,000 ($3,000 per year for up to four years) (20000,505)

THE DOFASCO - McMaster SCHOLARSHIPS
Established in 1996 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 (20047,608)

THE DUNDAS SCHOLARSHIPS
Established in 1994 from funds donated anonymously. A variable number of scholarships to be awarded to students from Dundas and surrounding area entering a full-time programme of study.
Value: $3,000 (20019)
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 ERNST & YOUNG - McMaster SCHOLARSHIP
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 (20082,607)
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 (20064589)

THE ALLEN AND MILLI GOUFL 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 (20096611)

THE GUARDIAN CAPITAL INC. - McMASTER SCHOLARSHIP
Established in 1996 by McMaster University in recognition of Guardian Capital Inc. and its commitment to McMaster students. To be awarded to a student entering any programme.
Value: $3,000 (20049510)

THE HAWKRIGG FAMILY - McMASTER SCHOLARSHIP
Established in 1997 by McMaster University in recognition of the Hawkrigg 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 (20055590)

THE JOHN HODGINS MEMORIAL SCHOLARSHIP
Established in 1995 by his wife, Jean, in memory of Dr. John W. Hodgins in recognition of his extraordinary contributions in founding the Faculty of Engineering which he served with distinction as the first Dean. To be awarded to an outstanding student entering the Faculty of Engineering.
Value: $3,000 (2002078)

THE AMELIA MORDEN, PAARDERBURG CHAPTER, IODE, SCHOLARSHIP
Established in 1968 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 (20032082)

THE JURY SCHOLARSHIP
Established in 1941 by bequest of J.H. Jury of Bowmanville, Ontario. To be awarded to a student from a Bowmanville high school. Preference will be given to students entering the Faculty of Humanities or of Social Sciences.
Value: $12,000 ($3,000 per year for up to four years) (20023)

THE MURIEL McBRIEN KAUFFMAN FOUNDATION - McMASTER SCHOLARSHIPS
Established in 1997 by McMaster University in recognition of the Muriel McBrien Kauffman Foundation and its commitment to McMaster students. A variable number of scholarships to be awarded to students entering any programme.
Value: $3,000 each (20071596)

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 (20062587)

THE KPMG - McMASTER SCHOLARSHIPS
Established in 1996 by McMaster University in recognition of KPMG's long-standing 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 (20052513)

THE J. BEVERLY KRIEGEL - McMASTER SCHOLARSHIP
Established in 1997 by McMaster University in recognition of Beverly Kriegl and her commitment to McMaster students. To be awarded to a student entering any programme.
Value: $3,000 (20063588)

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 (20053514)

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 (20066591)

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 (20087512)

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 (20050511)

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 (20067592)

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) (20004)

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) (20008)

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 (20051512)

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 (20097776)

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 (20074599)

THE McMasters ALUMNI ASSOCIATION - McMASTER SCHOLARSHIPS
Established in 1997 by McMaster University in recognition of the McMasters 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 (20086613)

THE ISABELLA CAMPBELL MCNEE 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) (2010)

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 (20066593)
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 (20054 515)

THE PIONEER GROUP - McMaster Scholarship
Established in 1996 by McMaster University in recognition of The Pioneer Group’s long-standing and increasing financial support of McMaster students. To be awarded to a student entering any programme.
Value: $3,000 (20056 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 (20098 777)

THE PROCOR - 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 (20069 504)

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 (20073 598)

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 each (20070 515)

THE SCOTIANcLEOD - McMaster Scholarships
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 (20090 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 (20089 605)

THE ALEX AND CHRISTINE STRACHAN - McMaster Scholarships
Established in 1997 by McMaster University in recognition of Alex and Christine Strachan and their commitment to McMaster students. A variable number of scholarships to be awarded to students entering any programme.
Value: $3,000 each (20075 600)

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 (20072 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) (20069)

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 (20048 509)

THE UNITED STEELWORKERS OF AMERICA - McMaster Scholarship
Established in 1957 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 (20078 603)

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 (20055 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) (20016)

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)

MERIT AWARDS OPEN TO ONTARIO STUDENTS
Each year, allotments of Merit Awards are established for Arts & Science, Business, Engineering, Humanities (including Music), Science I (or Natural Sciences I), Nursing I and Social Sciences I (or 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 30, 1998. Application forms include a resume, and school assessment. Details may be obtained from the Student Financial Aid and Scholarships office.

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 outstanding students entering the Faculty of Science who, in the judgment of the Department of Geology, have demonstrated interest in the study of Earth Sciences.
Value: $1,000 (20037 383)

THE DE 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 Ingeheim, 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 a full-time study in Science I (or Natural Sciences I) or Music I. Preference will be given to women students.
Value: $1,000 each (20039 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 (20038 382)

THE CATHRYN E. KAAKE MERIT AWARD
Established in 1988 in memory of Cathryn E. Kaake (Class of ’78) by family and friends.
Value: $1,000 (20022 010)

THE RAYMOND C. LABARGE MERIT AWARDS
Established in 1990 in memory of Raymond C. Labarge (Class of ’36) of Ottawa.
Value: $1,000 (20035 235)

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 (20058 519)

THE LESLIE A. PRINCE MERIT AWARDS
Established in 1979 in honour of Leslie A. Prince, Dean of Students, by his friends and colleagues upon the occasion of his retirement and in recognition of his outstanding contribution to the University community. Two to be awarded.
Value: $1,000 each (20024 139)
### UNDERGRADUATE AWARDS — FULL LOAD

**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, and for deferred examinations resulting therefrom, in other than graduating session. Students choosing to graduate at the subsequent Fall convocation forfeit any awards that they have been named to receive.

2. In addition to 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 1938. To be awarded to the student who has completed the penultimate year of any four or five-level programme at the most recent session. Students in an Honours programme in Music who, in the judgment of the School of Geography and Geology, have achieved notable study of geology and metallurgy. Two scholarships to be awarded, one to the student entering Level II and 60-75 units of a programme in Commerce and who has completed Level I and 30-45 units of the three-level English programme and who attains the highest Cumulative Average.

**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.

**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.

**THE AMOCO CANADA UNDERGRADUATE SCHOLARSHIP IN GEOLGY**

Established in 1990 by Amoco Canace 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.

**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.

**THE ASM INTERNATIONAL (ONTARIO CHAPTER) SCHOLARSHIP**

Established in 1971 by the local Chapter of the American Society for Metals. To be awarded to the student who has completed Level I and 30-45 units of the Honours Materials Science or Materials Engineering programme and who attains the highest Full-load Average (at least 9.5).

**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.

**THE A.H. ATKINSON PRIZE**

Established in 1890 by Atkinson Engineering Consultants 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.

**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.

**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 3J06.

**THE M. BANKER BATES SCHOLARSHIP**

Established in 1975 by Dr. M. Banker Bates and augmented in 1978 in his memory by his family, friends and colleagues. To be awarded to the student who has completed Level I and 60-75 units of a programme in Commerce and who attains the highest Full-load Average.

**THE BEAUTY COUNSELORS OF CANADA SCHOLARSHIP**

Established in 1995 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.

**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, have demonstrated (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.

**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, one to the student entering Level II of the Honours Biochemistry, Honours Chemistry or Honours Biochemistry and Chemistry programme, and the other to the student entering Level II of Chemical Engineering, Materials Engineering or Metallurgical Engineering, who attain 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.

**THE BRIAN BLOOMER MEMORIAL SCHOLARSHIP**

Established in 1979 in memory of Dr. Brian Bloomer, Professor of French, by his friends, colleagues and former students, on behalf of his wife, Dorothy. To be awarded to the student who attains the highest Full-load Average on completion of Level I 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 LIN/GIST 1A06 and achieved in it a grade of at least B+.

**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, one to the student entering Level II of the Honours Biochemistry, Honours Chemistry or Honours Biochemistry and Chemistry programme, and the other to the student entering Level II of Chemical Engineering, Materials Engineering or Metallurgical Engineering, who attain 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.

**THE BRIAN BLOOMER MEMORIAL SCHOLARSHIP**

Established in 1979 in memory of Dr. Brian Bloomer, Professor of French, by his friends, colleagues and former students, on behalf of his wife, Dorothy. To be awarded to the student who attains the highest Full-load Average on completion of Level I 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 LIN/GIST 1A06 and achieved in it a grade of at least B+.

**THE BRIAN BLAKEY MEMORIAL SCHOLARSHIP**

Established in 1979 in memory of Dr. Brian Blakey, Professor of French, by his friends, colleagues and former students, on behalf of his wife, Dorothy. To be awarded to the student who attains the highest Full-load Average on completion of Level I 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 LIN/GIST 1A06 and achieved in it a grade of at least B+.
THE FRANCES BOWLING SCHOLARSHIPS
Established in 1997 from the estate of Marie Bowling in memory of her daughter, Joan Frances Bowling. Three scholarships to be awarded to outstanding class 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: $1,800 each (30323559)

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 the most academic promise.
Value: $450 (30014)

THE JOSEPHINE STAPLES BRIEN SCHOLARSHIP
Established in 1936 by Dr. J.W. Brien of Windsor. To be awarded to a woman student who is entering her graduating session and who qualifies on the basis of academic standing and interest in undergraduate activities.
Value: $300 (30001)

THE DR. AND MRS. F.R. BRITTON SCHOLARSHIP IN MATHEMATICS
Established in 1962 by Dr. and Mrs. F.R. Britton and augmented by Mrs. Britton's bequest in 1962. To be awarded to the student who has completed Level I and 30 to 45 units of an Honours programme in Mathematical Sciences who attains the highest Full-load Average and the holder of an award of greater monetary value than this scholarship. Tenable in Levels III and IV provided that the recipient maintains satisfactory standing in an Honours programme in which mathematics, pure or applied, is the major subject of study.
Value: $1,500 ($750 each year) (30051) 019

THE TEN BROEKE BENSON MEMORIAL SCHOLARSHIP
Established in 1990 in memory of Dr. James Ten Broeke and Dr. Roy C. Benson, 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 (30195)

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 (30046023)

THE ELLA HALSTEAD CAMPBELL PRIZE
Established in 1978 by Mrs. Verna Caskey and Miss June Caskey in memory of Ella Halstead Campbell and augmented by Mrs. Edna M. Miller in 1987. To be awarded to a keyboard student, registered in any level of a solo performance course, who is outstanding in the judgment of the School of Art, Drama and Music.
Value: $200 (30046023)

THE CFUW (HAMILTON) PAST PRESIDENT'S PRIZE
Established in 1976 by the Past Presidents of the University Women's Club of Hamilton which became the CFUW (Hamilton) on the occasion of the Club's 50th anniversary. To be awarded to the woman student who has completed Level I and 70 to 90 units of a programme in Engineering with the highest Cumulative Average.
Value: $200 (30149020)

THE CFUW (HAMILTON) SCHOLARSHIP
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 attains the highest Full-load Average in the penultimate level of any programme.
Value: $300 (30150373)

THE CANADIAN SOCIETY FOR CHEMICAL ENGINEERING 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 (30016027)

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 90 units: (a) one to a student in an Honours programme in Chemistry or Honours-App lied Chemistry who attains high standing in chemistry; (b) one to a student in the Honours Biochemistry or Honours Chemistry and Chemistry programmes who attains high standing in biochemistry and organic chemistry.
Value: Medal and certificate (30017028)

THE CANADIAN SOCIETY OF CIVIL ENGINEERS (HAMILTON SECTION) PRIZE
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 (30018029)

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 ACCOUNTANT 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 50 units: (a) one to a student in an Honours programme in Accounting who, in the judgment of the Department, shows particular promise in Accounting; (b) one to a student in an Honours programme in Accounting who, in the judgment of the Department, shows particular promise in Chemical Engineering.
Value: $50 each (30023035)

THE HUGH CLARK SCHOLARSHIP
Established in 1969 by Hugh Clark in celebration of McMaster's fiftieth year since moving to Hamilton, To be awarded to the student who has completed Level I and 60 to 75 units of an Honours programme in Social Sciences and attains the highest Full-load Average.
Value: $1,200 (30068235)

THE CLASS OF '37 SCHOLARSHIP
Established in 1957 by the Graduating Class of 1937. To be awarded alternately to the student who has completed Level I and 30 to 45 units of an Honours programme in Humanities and of an Honours programme in Science, and who has attained an outstanding Full-load Average.
Value: $750 (30025375)

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 or music on campus.
Value: $900 (30124329)

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 (30024361)

THE CLASS OF '50 SCHOLARSHIP IN HONOURS ECONOMICS
Established in 1982 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 (30027038)

THE CLASSICS PRIZE
Established in 1978 by Professor D.M. Shepherd. To be awarded to the student who has completed Level I and 30 to 45 units of an Honours programme in Classics and who, in the judgment of the Department of Classics, shows most promise.
Value: $100 (30028040)
THE CONSULTING ENGINEERS OF ONTARIO (CEO) SCHOLARSHIP
Established in 1990 by the Consulting Engineers of Ontario. To be awarded to a student entering 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 (30183 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 1959 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 and who elects to do a fourth-year thesis on a topic in the field of Information Theory.
Value: $1,000 (30041 240)
The recipient of this award is eligible to receive additional aid through the corresponding Supplementary Bursary Aid Fund if it healthcare demonstrates financial need. Please see the section on Supplementary Bursary Aid for Award Recipients in the Student Financial Aid section of this Calendar.

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 60 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 (30132 047)

THE JOHN DEERE LIMITED SCHOLARSHIP
Established in 1992 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 (30207 005)

THE DELOITE & TOUCHE SCHOLARSHIP
Established in 1982. To be awarded to the student who has completed Level I and 50 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 2AB3 and 3AB3.
Value: $550 (30148 177)

THE ROSEMARY 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 average in FRENCH 2BB3 and one of 2U03 or 2U33 and one of 2W03 or 2W33.
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 attained the most notable standing in his or her Honors I programme.
Value: $150 (30055 005)

THE HELEN EMERY SCHOLARSHIPS IN ENVIRONMENTAL SCIENCE
Established in 1990 by Miss Helen Emery of Barrie, Ontario. Two scholarships to be awarded: (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 issues. Recipients must have attained a Full-load Average of 9.5 or greater.
Value: $1,400 each (30184 380)

THE ERNST & MARIA VON SCHOLLER SCHOLARSHIP
Established in 1952 by Clarkson Gordon. Renamed in 1989. To be awarded to the student who has completed Level I and 30 to 45 units of a programme in Commerce and who attains the highest Full-load Average and in the session attains a grade of at least A in COMMERCE 2AA3.
Value: $350 (30050 241)

THE L.F. EULL PRIZE
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 3PI4.
Value: $200 (30096 057)

THE 4 RS ENVIRONMENTAL PROGRAMME AWARDS
Established in 1992 from the proceeds of awards recognizing McMaster University as recipient of the 1990 Canadian University Productivity Award and a Regional Environmental Commitment Award. Two scholarships to be awarded: a) one to a student entering Level III of a programme in Engineering and Society; and b) one to a student entering Level III of the Honours Geography and Environmental Studies programme. In addition to notable academic standing, these awards will be granted to students who, in the judgment of the Faculty of Engineering or the School of Geography and Geology, have demonstrated leadership and influence in addressing environmental matters.
Value: $1,500 each (30209 280)

THE BARBARA FRANCES SCHOLARSHIP
Established in 1985 by Laura Dodson (Class of '50) in memory of her sister. To be awarded to the student who has completed Level I and at least 30 units of an Arts and Science programme and who has demonstrated outstanding achievement in both arts and science.
Value: $350 (30007 372)

THE HAROLD AND GERTRUDE FREEMAN SCHOLARSHIP IN FRENCH
Established in 1989 in memory of Professor Harold A. Freeman and Professor Gertrude Freeman. To be awarded to a student who has completed Level I and to 75 units of an Honours programme in French and who has attained the highest average in one session of one of their languages, literature and culture. The recipient must obtain a Cumulative Average of at least 8.0 and no failures in the review at the end of the Fall/Winter session immediately prior to entering the Humanities Study Abroad Programme.
Value: $1,200 (30054 059)

THE KLAUS FRITZE MEMORIAL PRIZE
Established in 1980 by friends of Professor K. Frizte. To be awarded to the student who has completed Level I and 30 to 45 units of an Honours Chemistry programme with the highest Full-load Average.
Value: $150 (30096 053)

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 and 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 ($1500 each year) (30240 773)

THE J.W. GILL PRIZES
Established in 1944 by bequest of J.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: $360 each (30079)

THE GEORGE R. GILMOUR MEMORIAL SCHOLARSHIP
Established in 1967 by the Graduating Class of 1962 in honour of Dr. G.R. 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 dem-
THE Hellenic Prize
Established in 1995 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 366)

THE ANNA MARIE HIBBARD SCHOLARSHIP
Established in 1992 from the bequest of Anna Marie Hibbard. To be awarded to a 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 (30208 300)

THE ROSE HILL SCHOLARSHIP
Established in 1985 by the alumni, faculty and staff of the School of Physical Education and Athletics as a tribute to Professor Rose Hill, long-time teacher, coach and administrator in the School. To be awarded to 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 1936 by bequest of Mrs. A. McNee 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 9.5) 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 9.5 or greater. Seventy-six awards were given in 1997.
Value: $1,500 each (30043)

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 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 063)

THE INTERMET CO 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)

THE INTER-RESIDENCE COUNCIL SCHOLARSHIP
Established in 1995 by the McMaster Inter-Residence Council in recognition of the IRC's continued support of the University and its students. To be awarded to a student who has completed at least Level I of any programme, who, in the judgment of an 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 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 ITCA COMMUNITY INVOLVEMENT PRIZE
Established in 1982 by Italian Canadian Community Involve Corporations. To be awarded to the student who has completed at least 30 units beyond Level I of 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. 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. E. Ivey, the parents of Mrs. French. To be awarded to the student who has completed Level I and 69-75 units of an Honours programme in Music, based on the judgment of the School of Art, Drama, and Music, has attained notable standing.
Value: $125 (300074 087)

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 A.J. JOHNSON SCHOLARSHIP
Established in 1977 in memory of Dr. A.J. Johnson by his friends and former colleagues. To be awarded to a student who has completed Level I and 110 to 130 units of a programme in Engineering and Management. Award to be based on outstanding academic performance during the student's undergraduate career. Consideration will also be given to noteworthy contribution in extracurricular activities.
Value: $500 and certificate (30002259)

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 KATHLEEN MARY JOHNSTON MEMORIAL PRIZE
Established in 1963 by Lawrence D. Johnston in memory of his wife. To be awarded to the student who has completed Level I and 30 to 45 units of an Honours programme in Religious Studies and who attains the highest Full-load Average.
Value: $125 (30004900)

THE JURY PRIZE
Established in 1941 by bequest of J.H. Jury of Bowmanville. To be awarded to the student who has completed Level I and 30-45 units of the Honours History programme and who attains the highest Full-load Average.
Value: $150 (300093)

THE STANFORD N. KATAMBALA GEOLOGY PRIZE
Established in 1965 by contributions from friends and associates of Stanford N. Katambala, a Year II 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 60 to 75 units of the Honours Geology programme and who attains high standing in Geology.
Value: $50 (30143)

THE GEORGE R. 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 (30057091)

THE KIT MEMORIAL SCHOLARSHIP
Established in 1936 by the Hamilton Branch of the Canadian Women's Press Club (now the Media Club of Canada, Hamilton Branch) in memory of 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 (30005092)

THE KPMG SCHOLARSHIP
Established in 1956 by Pettit, Hill and Bertram, Toronto, and continued after amalgamation of firms. To be awarded to an outstanding student on the basis of qualifications and academic record after the completion of Level I and 80 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 (30146175)

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 A. B. McLAY SCHOLARSHIP IN PHYSICS
Established in 1991 by C. Lucy McLay in memory of her late husband, A. Boyd McLay (Ph.D., F.R.S.C.), a member of the Department of Physics from 1930 to 1967. To be awarded to a student who has completed Level I and 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 (30168 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 30 to 75 units of an Honours programme in Physics with a high Full-load Average.
Value: $350 (30011109)

THE MCMABB 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 (30108243)

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: $550 each (30139112)

THE PETER McPHERTER MEMORIAL SCHOLARSHIP
Established in 1988 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 50 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 (30119114)

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 (30077115)

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 (30213181)

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: $120 for books (301112)

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: $800 (30047)

THE MOUTON COLLEGE SCHOLARSHIP
Established in 1957 from funds originally subscribed by the Alumni of Mouton College during the years 1946 to 1949 for the expansion of Mouton College. Two scholarships will be awarded to the women students of Mouton 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 (30112077)

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 30 units beyond Level I in a programme in the Department of Modern Languages and Literatures 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 NIEMEIER SCHOLARSHIP
Established in 1991 and augmented in 1952 by Dr. O.W. Niemeier. 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: $500 (3014244)

THE ROBERT NIXON SCHOLARSHIP
Established in 1991 by the Brant-Haldimand Liberal Association in honour of Dr. Robert Nixon (Class of ’50, LL.D., ’76). To be awarded to a student who, in the judgment of the Department of History, has demonstrated academic excellence and an active involvement in community life.
Value: $650 (30203144)

THE FREDRIC P. OLSSEN 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 65 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 (30116127)

THE PAIKIN SCHOLARSHIP
Established in 1957 in memory of Barney David Paikin (Class of ’33), by Mrs. Barney David Paikin and Morris Paikin. To be awarded to the student who has completed Level I and 60 to 75 units of the Honours History programme and who attains the highest Full-load Average.
Value: $200 (30117131)

THE GLADYS BALLANTYNE PARKER PRIZE
Established in 1953 in memory of Gladys Ballantyne Parker by her father, Harry Ballantyne. To be awarded to the student enrolled in a programme in Classics who, in the judgment of the Department of Classics, demonstrates outstanding achievement in Greek or Latin.
Value: $50 (30060133)

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 95 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 (30052134)

THE IRENE PEARCE SCHOLARSHIP
Established in 1994 by Centenary United Church of Hamilton in honour of Irene Pearce, organist and choir director for forty-four years. To be awarded to a student who has completed Music I or 30-75 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 (30223356)

THE PEVENSING SCHOLARSHIP
Established in 1981 by David C. Hannaford (Class of ’54). 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 (30120135)

THE PIONEER GROUP LIMITED SCHOLARSHIP
Established in 1986. 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 (30121371)
THE PRICE WATERHOUSE AND COMPANY SCHOLARSHIP
Established in 1959 by Price Waterhouse and Company. 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 (30172 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: $30 each (30123 141)

THE DR. JOHN A. PLYPIUK SCHOLARSHIP
Established in 1997 in memory of Dr. John A. Plypiuk 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 2J06 (Canadian History).
Value: $600 (30039 142)

THE SHARON REEVES SCHOLARSHIP
Established in 1987 by Kevin W. Reeves (Class of '88) in memory of his wife, Sharone (Class of '75). 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 36 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 1988 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: $325 (30129 146)

THE LEONA ALLERSTON RYAN and GORDON HENRY STEVENS MEMORIAL SCHOLARSHIP
Established in 1995 by Elaine Kellor in memory of Leona 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: $900 (30229 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 1959 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 (30223 357)

THE LOUIS J. SHEIN SCHOLARSHIP
Established in 1990 by family and friends in memory of Dr. L. J. Shein, founding 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 (30180 265)

THE SHELL CANADA SCHOLARSHIPS IN ENGINEERING AND MANAGEMENT
Established in 1983. 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 and creativity shown in written and oral reports.
Value: $800 each (30137 384)

THE SHENSTONE PRIZE
Established in 1903 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 four of the Level I courses in Chemistry, Physics and Biology.
Value: $125 (30139)

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 or the Honours Chemistry and Physics programme with highest Full-load Average.
Value: $300 (30059 156)

THE PATRICIA A. SMYTHE MEMORIAL PRIZES
Established in 1972 by the Patricia Smythe Memorial Fund Committee. Two scholarships 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 (30118)

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 COMMERCIA 2J08.
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 to students who completed at least 30 units in 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 GEO 4R06 (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 MARNIE SPEARS SCHOLARSHIP
Established in 1993 by many friends, colleagues and alumni of McMaster University as a tribute to Marnie Spears (Class of ’93), Executive Director, Development and Public Relations from 1985-93 and dedicated alumna who served as President of the McMaster Alumnae Council in 1989, 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: $550 (30173 233)

THE SALVATORE SPITALE MEMORIAL PRIZE
Established in 1984 by the Spitale 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 1AA3, 1B03, 1H05, 1N03, and in other tests provided for this scholarship by the Department of Mathematics and Statistics.
Value: $400 each (30132)

THE CLARENCE L. STARR PRIZE
Established in 1948 in memory of Dr. C.L. Starr, M.D., LL.D., F.A.S.S., Professor Emeritus of French at the University of Toronto, and one of the early alumni 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 STOAKLEY SCHOLARSHIP
Established in 1956 by the Young Women’s Canadian Club of Toronto (now the Career Women’s Canadian Club of Toronto). To be awarded to a woman student who has completed Level I and 30 to 45 units of any programme and who gives evidence of outstanding academic achievement and leadership.
Value: $425 (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 1965. 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 STOJCJIC SCHOLARSHIP
Established in 1997 by bequest of Mark John Stojcic. Two scholarships to be awarded to students entering the fourth year of a Materials Engineering program and 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 semester of the Honours Art programme with the highest Full-load Average. The recipient must be from the Hamilton Wentworth Region.
Value: $300 (30092 59)

THE T.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 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 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 Geophysics programme with the highest Full-load Average.
Value: $150 (30059 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 1867-1919, 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 1969 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 (30192 256)

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.

TRAC SCHOLARSHIPS
Established in 1984 by The Refractories Association of Canada. Two scholarships to be awarded to students who have completed Level I and 35 to 50 units and who attain a high Full-load Average in the Chemical Engineering programme.
Value: $500 each (30146 178)

THE VALLEY CITY MANUFACTURING CO. LTD. SCHOLARSHIPS
Established in 1991 by the Valley City Manufacturing Co. Ltd. of Dundas, Ontario. Two scholarships to be awarded to the students enrolled in an Honours B.Sc. programme: one to the student entering Level II and one to the student entering Level III who attain the highest Full-load Average. Recipients may not hold another scholarship of equal or greater value.
Value: $1,500 each (30205 277)

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 182)

THE F.W. WATERS SCHOLARSHIP IN PHILOSOPHY
Established in 1950 by the former students, colleagues and friends of Dr. F.W. Waters, Professor from 1939 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 WEISZ 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 0.5).
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 1959-1985. 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 EMANUEL WILLIAMS SCHOLARSHIP IN PHYSICS
Established in 1948 by Arabel M. Williams of Port Colborne as a memorial to her brother. To be awarded to the student who has completed Level I and 30 to 45 units of an Honours programme in Physics with the highest Full-load Average.
Value: $900 (30049)

THE JANICE WILSON MEMORIAL PRIZE
Established in 1981 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 (30089 378)
THE WENHS’ ART ASSOCIATION SCHOLARSHIPS
Established in 1969. Two scholarships to be awarded: (a) one to a student entering Level I 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: $100 each (30153185)

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 Kinesthetics programme and has demonstrated outstanding achievement in the programme.
Value: $200 (30075189)

THE GLADYS A. YOUNG SCHOLARSHIP
Established in 1981 by T.G. Harvey in honour of his wife, Gladys (B.Sc. ’37, M.Sc. ’38). One award is given to a student who has demonstrated ability to apply scientific principles to aerospace 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 hold another scholarship of equal or greater value.
Value: $1,600 (30206303)

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 LILLIAN AND MANUEL ZACK SCHOLARSHIP
Established in 1994 by Lillian and Manuel Zack (Class of ’40) of Hamilton. To be awarded to a student who has completed Level I and 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 activity and who pursues these interests in Level IV.
Value: $900 (30101190)

◆ SENATE SCHOLARSHIPS
The following scholarships are awarded for general academic proficiency at the discretion of the Undergraduate Council.
Every full-time student who is eligible for review in May but is not graduating in any programme in any Faculty or other academic unit will be eligible for consideration for a Senate Scholarship, provided that he/she attains a Full-load Average of 9.5 in addition to meeting the conditions noted in Category B, above.
In 1997, the value of a Senate Scholarship was $800. 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, in 1997, 170 Senate Scholarships were awarded, all of which were funded by the donors listed below.

THE EDGAR R. ASHALL SCHOLARSHIP
Established in 1965 by bequest of his wife, Edith M. Ashall. (30162)

THE EDWIN MARWIN DALLEY MEMORIAL SCHOLARSHIP
Established in 1965 by bequest of Edwin Marwin Dalley of Hamilton. (30164)

THE EDUCATION FOUNDATION OF THE FEDERATION OF CHINESE 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. (30193056)

THE HAMILTON INDUSTRIAL SCHOLARSHIPS
Established in 1958.

THE BERTRAM OSMER HOOPER SCHOLARSHIP
Established in 1957 by bequest of Isobel F. Hooper. To be awarded in Arts. (30161)

THE NINA LOUISE HOOPER SCHOLARSHIP
Established in 1959 by bequest of Bertram O. Hooper. (30200)

THE CLAUDE G. LISTER SCHOLARSHIP
Established in 1950 by bequest of Pauline Detwiler Lister in memory of her husband. To be awarded to a student in a programme in the School of Business. (30199262)

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. (30168263)

THE HILDA SAVAGE MEMORIAL SCHOLARSHIP
Established in 1960 by bequest of Bertha Savage. (30160)

THE SOMERVILLE SCHOLARSHIPS
Established in 1966 by bequest of William L. Somerville, architect of the McMaster University buildings of 1930. (30199159)

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 (30238783)

THE STOBO SCHOLARSHIP
Established in 1969 by bequest of William Q. Stobo. (30170)

THE UNIVERSITY SCHOLARSHIPS
Made available from time to time by authorization of the Board of Governors of the University. (30173)

THE MARGUERITE Z. YATES SCHOLARSHIP
Established in 1950 by bequest of Mrs. W.H. Yates of Hamilton. (30167)

THE YATES SCHOLARSHIPS
◆ RESIDENCE SCHOLARSHIPS
Nine scholarships were established in 1982 by the University for students in residence at the University. These were named in honour of Sheila Scott, Dean of Women from 1965 to 1982, in recognition of her outstanding contribution to the University community during 23 years of service.
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 following scholarships are awarded to the student in residence with the highest Full-load Average (at least 5.5) in an undergraduate programme, with the exception of those in their graduating session:
Sheila Scott Scholarships for Brandon Hall (two awards) (30202)
Sheila Scott Scholarship for Wallingford Hall (30159)
Bates Residence Scholarship (30155)
Edwards Hall Residence Scholarship (30150)
Hedden Hall Residence Scholarship (30198)
Matthews Hall Residence Scholarship (30157)
Mckay Hall Residence Scholarship (30201)
Moulton Hall Residence Scholarship (30209)
Wallingford Hall Residence Scholarship (30237)
Whidden Hall Residence Scholarship (30159)
Woodstock Hall Residence Scholarship (30160)

In 1997, the value of each scholarship was $300.
◆ TRAVEL SCHOLARSHIPS
Students who wish to be considered for these awards should consult the Student Financial Aid and Scholarships office before December 1.

THE A.G. ALEXANDER SCHOLARSHIPS
Established in 1938 and augmented in 1946 by Sir Douglas Alexander, and members of his family, in memory of Archibald Grieg Alexander. Two scholarships will 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 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/or studying in a developing country.
Value: $900 (30175037)

THE JOAN JACKSON DUNBAR TRAVEL SCHOLARSHIP
Established in 1960 by Mayor Lloyd D. Jackson (Class of ’09), LL.D (Class of ’55) and Mrs. Jackson of Hamilton in memory of their daughter, Joan (Class of ’40). To be awarded to a woman student who has completed Level I and 60 to 75 units of an Honours programme in English for excellence in the work of the programme (with emphasis on English). The winner must have secured all her secondary school education in Canada. The award is to be used for study and travel in the United Kingdom and Continental Europe during the vacation before the final Fall/Winter session.
Value: $3,500 (30177053)
THE JOHN P. EVANS TRAVEL SCHOLARSHIP
Established in 1991 by many friends, colleagues, students and graduates of McMaster University as a tribute to John (Jack) P. Evans upon his retirement as Associate Vice-President, University Services and Secretary of the Board of Governors in recognition of his 25 years of outstanding contribution to the University Community. To be awarded to a student who has completed at least 30 units beyond Level I in a programme in Modern Languages and who, in the judgment of the Department of Modern Languages, has attained notable academic standing. The purposes 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 Study Elsewhere Programme.
Value: $1,000 (30193 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 purposes 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 Study Elsewhere 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 the 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 204)

THE ALBERT SHALOM TRAVEL SCHOLARSHIP
Established in 1998 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 help defray the costs of study overseas in Level III.
Value: $500 (30225 305)

THE HOWARD P. WHIDDEN SCHOLARSHIP
Established in 1941 by the Honourable Jacob Nicol (Class of ’09) 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 (30175)

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, Mathematics 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 TED ALLEN BOOK PRIZE
Established in 1984 in memory of Frederick J. Allen, an employee and part-time student at McMaster University. To be awarded to the part-time student who attains the highest standing in ENGLISH 2B06 (American Literature).
Value: $50 for books (40002 309)

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 at the most recent review.
Value: $1,250 each (60005 258)

THE WILLIAM J. MCCALLION SCHOLARSHIPS
Five scholarships named in 1984 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 (60005 206)

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)

THE UNIVERSITY SCHOLARSHIPS
Established in 1978. Twenty scholarships to be awarded to part-time students who have attained the highest Cumulative Average at the most recent review.
Value: $250 each (60003)

THE F. W. WATERS SCHOLARSHIP IN PHILOSOPHY FOR PART-TIME STUDENTS
Established in 1998 by former students, colleagues and friends of Dr. F. W. Waters, Professor from 1935 to 1959. To be awarded to a part-time student in a Philosophy programme who, in the judgment of the Department of Philosophy, has demonstrated outstanding academic achievement. No student will be eligible to receive this award more than once.
Value: $250 (60008 782)

D. Single 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 E 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.

THE ALUMNI CANADIAN GEOGRAPHY PRIZE
Established in 1985 by the Geography Branch of the McMaster University Alumni Association in recognition of Dr. Lloyd G. Reeds for his contribution to teaching during more than 35 years of service. To be awarded to the student who attains the highest grade in GEOG 2H03 (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 4P03.
Value: $50 for books (40056 275)
THE AMERICAN-STANDARD PRIZE
Established in 1978. 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 (40002007)

THE ARTS & SCIENCE 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 (40078390)

THE MURRAY BALL PRIZES IN GEOLOGY
Established in 1991 by May A. Ball in memory of her brother Murray Ball. Two scholarships are to be awarded to students in Science 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 1978. To be awarded to the student who, in the judgment of the Department of Psychology, has demonstrated outstanding achievement in PSYCH 4006 (Honours Thesis).
Value: $100 (40076381)

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 (40071349)

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 for books (40079995)

THE GILMOUR MEMORIAL PRIZE
Established in 1982 by the Steel Founders' Society of America in honour of Neil Forsyth, president of the organization in 1960 and 1961, in recognition of his outstanding service to the steelcastings industry. To be awarded to the student who attains the highest grade in GEO 4R03 (formerly GEOG 4V06).
Value: $250 (40006341)

THE HUGHES SCHOLARSHIP
Established in 1989 by J. Herbert Cranston (Class of '55) in memory of Professor Beatrice Corrigan by her friends and colleagues. To be awarded to the student who achieves the highest standing in either ITALIAN 4R03, or MOD LANG 3S5S.
Value: $100 (40004)

THE CRANSTON PRIZES
Established in 1958 by William H. Cranston of Midland in honour of his parents, J. Herbert Cranston (Class of '55) and Eva Wilkins Cranston (Class of '07). Two prizes to be awarded for excellence in the study of Canadian literature: (a) one for the highest grade in ENGLISH 2G06, and (b) one for the highest grade in ENGLISH 2C03.
Value: (a) $150, (b) $100 (4007111)

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. (40014052)

THE CONSUL GENERAL OF ITALY BOOK PRIZE
Established in 1992. To be awarded to in-course students for excellence in Italian studies. (40010041)

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 achieves the highest standing in either ITALIAN 4R03, or MOD LANG 3S5S.
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 '55) and Eva Wilkins Cranston (Class of '07). Two prizes to be awarded for excellence in the study of Canadian literature: (a) one for the highest grade in ENGLISH 2G06, and (b) one for the highest grade in ENGLISH 2C03.
Value: (a) $150, (b) $100 (4007111)

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. (40014052)

THE ENVIRONMENTAL ISSUES PRIZE
Established in 1993 by the Regional Municipality of Hamilton-Wentworth in recognition of Metal Recovery Industries and Philip Environmental, Industrial Filter Fabrics Ltd., and Laclad Waste Systems. To be awarded to the student who attains the highest grade in GEO 4R03 (formerly GEOG 4V06).
Value: $100 (400076341)

THE NEIL FORSYTH PRIZE
Established in 1992 by the Steel Founders' Society of America in honour of Neil Forsyth, president of the organization in 1960 and 1961, in recognition of his outstanding service to the steelcastings industry. To be awarded to the student who attains the highest grade in MATLS 3I5D.
Value: $100 (400067121)

THE FRENCH GOVERNMENT BOOK PRIZES
To be awarded from time to time to in-course students for proficiency in Level I French.
Value: $100 (400076121)

THE R. LOUIS GENTILCORE PRIZE
Established in 1988 by the family and friends of Professor R. Louis Gentilcore on the occasion of his retirement from the Department of Geography. To be awarded to a student in an Honours programme in the School of Geography and Geology who, in the judgment of the School, has demonstrated exceptional achievement in historical-cultural geography.
Value: $400 (400062064)

THE GERMAN EMBASSY BOOK PRIZE
To be awarded from time to time for in-course students for proficiency in Level II or III German.
Value: $10 (4001016)

THE GILMOUR MEMORIAL PRIZE
Established in 1927 by Year '27, in memory of Dr. Joseph Leaming Gilmour, Honorary President of their first year in 1923, and subsequently enlarged by his children. To be awarded to the student who attains the highest standing in RELIG ST 2E06.
Value: $100 (400019)

THE GREEK COMMUNITY OF BURLINGTON AND DISTRICT SCHOLARSHIP
Established in 1998. To be awarded to the student who achieves the highest standing in GREK 1Z06.
Value: $250 (40020068)

THE HAMILTON ENGINEERING INSTITUTE PRIZE
Established in 1962 by the Hamilton Section of the Engineering Institute of Canada and continued by the Hamilton Engineering Institute. To be awarded to the student in Engineering who attains the highest grade in ENGINEERING 1C04.
Value: $250 (400020073)

THE HUGHES SCHOLARSHIP
Established in 1993 by Heidi Dickenson-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 (40006330)

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 achieves the highest standing in ECON 3L13.
Value: $200 (40008394)
THE PAUL HYPHER PRIZE  
Established in 1988 in memory of Paul F. Hypher by his friends and classmates. To be awarded to the student in a programme in Commerce who attains the highest standing in COMMERCE 2MA3.  
Value: $150 for books (40039 880)  
THE INTERervATIONS (Bonn) BOOK PRIZE  
To be awarded from time to time to in-course students for proficiency in German studies.  
THE MUNICIPAL CHAPTER OF HAMILTON, IODE, PRIZE  
Established in 1924 by the Municipal Chapter of Hamilton, Imperial Order Daughters of the Empire. To be awarded to the student who attains the highest standing in a Level I History course.  
Value: $150 (40036 831)  
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 (30185 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 (40026 988)  
THE KINESIOLOGY PRIZES  
Established in 1982. 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 (40041)  
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 1206.  
Value: $100 (40031 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 (40048)  
THE LINGUISTICS PRIZE  
Established in 1988. 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 (40032)  
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 (40034 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 JT33 (Economic Development: Trade, Foreign Investment and International Finance) or, in exceptional circumstances, for work in a related area.  
Value: $200 (40053 319)  
THE ELEONOR DORNBUSH MARPLES PRIZE IN ART HISTORY  
Established in 1985 by Mrs. Barbara Niedermeier and her family in memory of her sister. To be awarded to a student who, in the judgment of the School of Art, Drama and Music, has demonstrated outstanding achievement in ART HIST 3V03.  
Value: $100 (40015 103)  
THE ELEONOR DORNBUSH MARPLES PRIZE IN DRAMA  
Established in 1985 by Vaughan W. Marples in memory of his wife. To be awarded to the student who attains the highest grade in DRAMA 2M06.  
Value: $100 (40016 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 (40022)  
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 judgment of the School of Nursing, has demonstrated notable academic achievement and leadership in clinical and educational aspects of gerontology or, problem-based, self-directed learning in nursing education.  
Value: $400 (40077 385)  
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: $175 and book (30107 111)  
THE DR. F.A. MIRZA SCHOLARSHIP  
Established in 1997 in memory of Farooque Mirza by family, friends and colleagues. To be awarded to a student enrolled in a Civil Engineering programme who achieves the highest average in CIV ENG 2C04 and ENGRNEER 2P04 taken in one session.  
Value: $400 (60099 781)  
THE MOFFAT KINOSHITA ARCHITECTS INC. PRIZES  
Established in 1980 by Moffat Kinoshita Associates Inc. Two prizes to be awarded to students: (a) the student who attains the highest grade in GEO 4HY3 (formerly GEOG 4F03); and (b) the student who attains the highest grade in GEO 4H23 (formerly GEOG 4F03).  
Value: $175 each (40060 250)  
THE JOHN F. MOORE SCHOLARSHIP  
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 MATLTS 4C03.  
Value: $100 (40061 264)  
THE NEOSID CERAMIC ENGINEERING PRIZE  
Established in 1976 by Neosid (Canada) Limited. To be awarded to the student who has completed Level I and at least 75 units of the Ceramic Engineering Stream of the Materials Engineering programme and who attains the highest standing in MATLTS 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 1A3.  
Value: $300 (40072 263)  
THE ALAN G. NEWCOMBE PRIZE IN PEACE STUDIES  
Established in 1991 in memory of Dr. Alan G. Newcombe (1923-1991), who devoted 30 years to Peace Studies and was co-founder, with Dr. Hanna Newcombe, of the Canadian Peace Research and Education Association and the Peace Research Institute - Dundas. To be awarded to a student who, in the judgment of the Coordinating Council of the Centre for Peace Studies, demonstrates leadership in extracurricular endeavours and high academic achievement in SOC SCI 2B06 or 2C03 and 2D03.  
Value: $200 (40066 408)
THE DERRY NOVAK SCHOLARSHIP
Established in 1984 by the Political Science alumni and colleagues in honour of Professor Derry Novak. To be awarded to a 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 (40012125)

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 (4009225)

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 of instruction, has achieved notable academic standing, and demonstrates practical aptitude for a career in health care of the elderly.
Value: $400 (40058270)

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 Harding Rand, to encourage original literary work. To be awarded to the student who has completed Level I and 60 to 75 units who, 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 I. Rosenberg (Class of ’34) of Hamilton and Kitchener. To be awarded to the student who attains the highest standing in ENGLISH 3B03 or SOCIOL 2X03.
Value: $150 (40000147)

THE MORRIS AND SARAH ROSENHEAD MEMORIAL PRIZE
Established in 1988 by bequest of Sarah Rosenhead of Hamilton. To be awarded to the student who attains the highest standing in ENGLISH I.D06.
Value: $150 (40003152)

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. (40000151)

THE LARRY SAYERS PRIZE IN CHINESE HISTORY
Established in 1983 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 (40003149)

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 union and to the City of Hamilton. Five 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: (a) one to a student entering Level II of a programme of the Labour Studies programme as a full-time student; (b) one to a student entering Level II of a programme in Labour Studies as a part-time student; (c) one to a student who has completed Level I and 30-45 units of a programme in Labour Studies as a full-time student; (d) one to a student who has completed Level I and 30-45 units of a programme in Labour Studies as a part-time student; (e) one to a student who has completed Level I and 60-75 units of an Honours programme in Labour Studies.
Value: $300 each (400051151)

THE GRACE SENRA FONTE MEMORIAL PRIZE
Established in 1986 by the graduating class (Class of ’86) in association with the McMaster University Nursing Society and the McMaster Nursing Alumni Executive in memory of Grace Senra-Fonete (Class of ’88) of Toronto. 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, best demonstrates excellence in scholarship and leadership, and has served as a valuable role model for those qualities deemed important to success in a nursing career.
Value: $250 (30091248)

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 1A03.
Value: $125 (40059277)

THE SOCIAL WORK PRIZE
Established in 1982. To be awarded to the student who attains the highest grade in SOC WORK 2A06.
Value: $50 (40050)

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 3D05 and attains the highest grade in SOC WORK 3D05 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 SWISS MINISTER TO CANADA BOOK PRIZES
Established in 1950. To be awarded from time to time to in-course students for proficiency in French, German, or Italian.

THE KENNETH W. TAYLOR BOOK PRIZE
Established in 1976 by his children in memory of Dr. Kenneth W. Taylor (Class of ’21), L.L.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 (40029171)

THE MICHAEL THOMSON MEMORIAL BOOK PRIZES
Established in 1975 by the members of the Department 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 1D02 and (b) one to the student who attains the highest standing in RUSSIAN 2D06.
Value: $50 each. (40035162)

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 1986 as a tribute to the late 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 (30081179)

THE THOMAS TRUMAN MEMORIAL PRIZE
Established in 1992 by friends and colleagues in memory of Professor Thomas Truman, a member of the Department of Political Science from 1966 to 1990. To be awarded to the student entering the final year 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 UNIVERSITY PRIZES FOR SPECIAL ACHIEVEMENT
Established in 1973. Two prizes to be awarded in each Faculty and other academic units to students who exhibit exceptional skill and originality in any creative project (such as an essay, poem, sculpture, mathematical or scientific problem, engineering design) or a related series of such projects.
Value: $150 each (40055)

THE MELINDA WAPSHAW ACHIEVEMENT AWARD
Established in 1993 by the Labour Studies Student Association and the Labour Studies Programme. To be awarded to a student who has completed Level I and 80-75 units of an Honours Programme in Labour Studies and who, in the judgment of the Committee of Instruction, demonstrates outstanding achievement.
Value: $100 (40074359)
THE RALPH WEEKES SCHOLARSHIP
Established in 1994 by the investors Group Financial Services to recognize the accomplishments of Ralph Weekes (Class of '73). 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 (40073 390)

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 1266 who, in the judgment of the Department of Modern Languages, have achieved notable proficiency in German.
Value: $50 each (4006-270)

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 1660-1800.
Value: $200 for books (40044)

THE T.E. WILLEY SCHOLARSHIP
Established in memory of Dr. Thomas E. Willey in 1996 by his family, colleagues and friends. To be awarded to an undergraduate student who, in the judgment of the History and Modern Languages departments, has demonstrated excellence in German studies.
Value: $250 (40082 772)

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

THE GOVERNOR GENERAL'S ACADEMIC MEDAL
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)

THE E.H. AMBROSE GOLD MEDAL
Established in 1971 by Clarkson Gordon in memory of their former Hamilton partner, E.H. Ambrose, member of the University's Board of Governors from 1957 to 1967 and its Chair, 1965 to 1967, and augmented by Mrs. E.H. Ambrose in 1987. To be awarded to the student graduating 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. (50043 006)

THE JAMES CHAMBERS PROFESSIONAL ENGINEERS GOLD MEDAL
Established in 1961 by the Ontario Professional Engineers Foundation for Education. To be awarded to the graduate of a programme in Engineering who attains the highest Cumulative Average. (50005 038)

THE BASU MEDAL
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 4A83, 4A93, 4A03, 4AEE, 4AFF. (50006013)

THE EZIO CAPPADOCIA MEDAL
Established in 1986 by Professor E. Cappadocia on the occasion of his retirement from the Department of History. To be awarded to a student graduating from an Honours 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)

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 32 years of service. To be awarded to the graduating student who, on the basis of scholarship, is judged to be an outstanding member of the class of Social Sciences graduates, and who has completed the programme primarily on a part-time basis. (50029)

THE AMELIA HALL GOLD MEDAL
Established in 1985 by members of the Class of '38 in recognition of Amelia Hall (Class of '38), D. Litt. (Class of '75), one of the great pioneers of Canadian theatre and a consummate actress, who performed on Canadian stage, screen, radio and television for 35 years. To be awarded to a graduating student who, in the judgment of the School of Art, Drama and Music, has made a significant contribution to drama during the student's University career. (50003 070)

THE HUMANITIES MEDALS FOR SPECIAL ACHIEVEMENT
Established by the University in 1982. To be awarded in recognition of outstanding achievement in scholarship and contributions to the cultural and intellectual life of the University including such areas as the creative and performing arts and faculty government. (50028)

THE HURD MEDAL
Established in 1955 by Donald W. Hurd (Class of '49) in memory of his father, Dean William Burton Hurd. To be awarded to a student graduating for distinguished achievement in an Honours programme in which economics is a major field of study. (50027 079)

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 387)

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 344)

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. (50075 397)

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 in the graduating class who, on the basis of scholarship, is judged to be the outstanding member of the class of Social Sciences graduates. (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 Dean's 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 267)

THE AMBASSADOR OF SPAIN BOOK PRIZE
Established in 1982. To be awarded to a graduating student in a programme in the Department of Modern Languages who, in the judgment of the Department, has achieved notable proficiency in Spanish. (50002 005)

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 B. Barnes, of Morgantown, West Virginia. To be awarded to the graduating student who, in the judgment of the Department of History, has attained notable standing 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 Alumni Association in honour of Marion Bates, Dean of Women from 1947 to 1965. 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 (50034)

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 017)

THE RUTH BURKE MEMORIAL PRIZE
Established in 1983 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 266)

THE CSEP/SCPE UNDERGRADUATE STUDENT AWARD
Established in 1969 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 KINESIOL 2C06 (Physiology of Exercise) and either KINESIOL 4C03 or 4C04.
Value: Medal and Certificate (50068 342)

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 COMMENCE 2A03, 3A03, 3A05 and 4A03.
Value: $150 (50012 033)

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 132)

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 student who, 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 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 049)

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 (50063 237)

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 historian, 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 386)

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 066)

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, 1963-71, Assistant Vice-President - Administration, 1971-73, McMaster University. To be awarded to the student who, in the judgment of the Faculty of Business, has attained an outstanding Cumulative Average in a 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 098)

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 (50029)

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 (50008)

THE RUTH LANDES PRIZE
Established in 1982 in honour of Professor Ruth Landes for her outstanding contributions to the Department of Anthropology. To be awarded to the graduating full-time student in a three-Level 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 ’76) 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: $350 (50032 100)

THE BERT MacKINNON MEMORIAL SCHOLARSHIP
Established in 1995 in memory of Bert MacKinnon, B.A. (Class of ’43), LL.D. (Class of ’77), first Associate Chief Justice of Ontario (1978 to 1996). One or two scholarships are 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 Student Financial Aid and Scholarships Office by the first Friday in April.
Value: $700 each (50061 298)

THE AGNES AND JOHN MacNEILL MEMORIAL PRIZE
Established in 1946 by bequest of Agnes 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 1946 by bequest of Annie May MacNeill (Class of ’03). To be awarded to a woman student in her graduating year who has attained notable standing in scholarship and has shown qualities of leadership.
Value: $150 (50011)
THE ESTHER McCANDLESS MEMORIAL PRIZE
Established in 1984 by friends and colleagues in memory of Professor E.L. McCandless, a humanitarian and distinguished member of the Department of Biology from 1964 to 1983. To be awarded to a student who achieves an outstanding Cumulative Average in an Honours programme in Biology.
Value: $225 (50016)

THE JOHN R. MCCARTHY SCHOLARSHIP
Established in 1987 by John R. McCarthy, LL.D., (Class of ’55), 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 of an Ontario university in the academic session immediately following graduation. The selected student 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 Student Financial Aid and Scholarships Office by April 2.
Value: $700 (50060 107)

THE A.G. McKay PRIZE IN CLASSICAL STUDIES
Established in 1990 by Professor Emeritus A.G. McKay. To be awarded to a graduating student from an Honours programme in Classics who, in the judgment of the Department of Classics, has demonstrated outstanding academic achievement by scholarship.
Value: $100 (50064 269)

THE WALTER SCOTT McLAY PRIZE
Established in 1938 in honour of Dean McClay, by his daughter, Mrs. R.R. McLaughlin (Marcie 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: $290 (50057 278)

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 110)

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 graduating student in the School of Engineering who has completed the outstanding thesis in the area of Corrosion Science and Engineering. In the absence of a qualified candidate, the award will be made to the student who attains the highest standing in ECEG 4D03 (Corrosion).
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 the three-level B.Sc. 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 the 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 attains the highest average in SOCW 4D06 and 4D06.
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 1983 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 (50068 370)

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 1987. 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 1983 in recognition of Dr. Lloyd G. Reeds for his outstanding contributions to the Department of Geography during 35 years of service. Four prizes to be awarded to: (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 a three-level B.A. programme in Geography or B.Sc. programme in Geoscience (formerly Earth Sciences) with a concentration in Geo; and (c) one to the student who, in the judgment of the School of Geography and Geology, has demonstrated outstanding achievement in GEO 4F06 (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 in 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 (50043)

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: $225 each (50049 151)

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 (50048)

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.
Value: $50 each (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 1983 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 4R06.
Value: $300 (50067 367)

THE HARRY WAIGGLASS BOOK PRIZE
Established in 1988 in honour of Harry Waigglass, 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)
**UNDERGRADUATE AWARDS — SECOND DEGREE**

**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 (50005185)*

**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 (Class of '92) or an equivalent standing.

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 a 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: $75 (50005316)*

**THE FIELDWORK PRIZE**
Established originally at Mohawk College as the Muriel Westmorland Prize, and transferred to McMaster University in 1993. 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 (50007770)*

**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: $150 (500074382)*

**THE KARL KINANEN ALUMNI PRIZE IN GERONTOLOGY**
Established in 1992 by the Gerontology Alumni of McMaster University in recognition of Kari Kinanen for his leadership in the development of Gerontological Studies at the University. To be awarded to a student graduating 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 (50005317)*

**THE ELEANOR LEES BOOK PRIZE OT/PT**
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. (50073354)

**THE ONTARIO ASSOCIATION OF PROFESSIONAL SOCIAL WORKERS PRIZE (SS)**
Established in 1992 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 SOCWORK 4D01 and 4D06.

*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 Cardiac 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 (50005316)*

**THE SMITH AND NEPHEW INC. PHYSICAL HEALTH AWARD**
Established in 1981. 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 health.

*Value: $75 (40006307)*

**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 (500060771)*

The following awards are cross-listed with Section 2, Category D; see latter section for description of terms.

- THE ALUMNI SOCIAL WORK PRIZE
- THE ABE BLACK MEMORIAL PRIZE
- THE CANADIAN INSTITUTE OF INTERNATIONAL AFFAIRS PRIZE
- THE JAMES ROBERTSON CARRUTHERS MEMORIAL PRIZE
- THE COMPARATIVE LITERATURE PRIZE
- THE CITIZEN ACTION GROUP PRIZE
- THE CONSUL GENERAL OF ITALY BOOK PRIZE
- THE BEATRICE CORRIGAN MEMORIAL BOOK PRIZE
- THE CRANSTON PRIZES
- THE ENVIRONMENTAL ISSUES PRIZE
- THE NEIL FORSYTH PRIZE
- THE GILMOUR MEMORIAL PRIZE
- THE WILLIAM D.G. HUNTER PRIZE
- THE INTER NATIONS (BONN) BOOK PRIZE
- THE JEAN JONES PRIZE
- THE SAM LAWRENCE PRIZE
- THE LINGUISTICS PRIZE
- THE MacGIBBON SCHOLARSHIP
- THE WILLIAM MacKENzie MEMORIAL PRIZE
- THE ELEANOR DORNBUCH MARPLES PRIZE IN ART HISTORY
- THE ELEANOR DORNBUCH MARPLES PRIZE IN DRAMA
- THE H.W. McCREADY PRIZE IN BRITISH HISTORY
- THE MacKINNON SCHOLARSHIP
- THE McMaster NURSING ALUMNI PRIZE
- THE CONNIE O'SHAUGHNESSY MEMORIAL PRIZE
- THE PIONEER GROUP LTD. PRIZE
- THE PROCOR LIMITED SCHOLARSHIP
- THE ABRAHAM ROSENBERG MEMORIAL PRIZE
- THE NOEL SANDUSKY MEMORIAL BOOK PRIZE
- THE LARRY SAYERS PRIZE IN CHINESE HISTORY
- THE LARRY SEFTON SCHOLARSHIP
- THE GRACE SENRA-FONTES MEMORIAL PRIZE
- THE ANNE STEIN MEMORIAL PRIZE
- THE SWISS MINISTER TO CANADA BOOK PRIZES
- THE KENNETH W. TAYLOR BOOK PRIZE
- THE JOHN TOOTH MEMORIAL PRIZE
- THE JOHN H. TRUEMAN PRIZE
- THE THOMAS TRUMAN MEMORIAL SCHOLARSHIP
- THE UNIVERSITY PRIZES FOR SPECIAL ACHIEVEMENT
- THE MELINDA WAPSHAW ACHIEVEMENT AWARD
- THE RALPH WEEGES SCHOLARSHIP
- THE R.M. WILES MEMORIAL BOOK PRIZE
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SECTION 3. INDEX OF AWARDS

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