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 more than $76 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 in accounting, business policy, finance, management science and information systems, marketing and international business, and human resources and labour relations.

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 and Mechanical 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 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, 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. 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, Earth Science, Geography, Geography and Environmental Science, Geology, Life Science, Mathematical Science, Mathematics, Materials Science, Medical and Health Physics, Molecular Biology and Biotechnology, 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 separately incorporated McMaster Divinity College.

More than 13,000 full-time students attend McMaster University, 1,500 of whom are pursuing advanced degrees offered through the School of Graduate Studies. In addition, about 4,000 part-time students are registered in the Fall/Winter session, from September to April, and 3,000 in the Spring/Summer session, from May to August. The University also provides courses in centres located outside Hamilton, for which full credit is granted.

Most of the 1,000 members of the University faculty hold doctoral degrees in their areas of specialization. Faculty members are expected to teach both graduate and undergraduate courses and may be involved in the academic counselling of students.

The University's diverse academic programmes are supported by some fine, and even unique, facilities. The University Library is a member of the Association of Research Libraries and contains over 1.6 million volumes, and has subscriptions to nearly 14,000 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 Van De Graaff Accelerator. Computing facilities include mainframes, terminal clusters, and microcomputers.

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 2,782 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 1996-97 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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</tr>
</thead>
<tbody>
<tr>
<td><strong>FALL/ WINTER SESSION</strong></td>
<td>Term 1</td>
<td>5</td>
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<td>19</td>
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<td>30</td>
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<td></td>
<td>Term 2</td>
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<td>Term 3</td>
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<td></td>
<td></td>
<td>30</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>SPRING/ SUMMER SESSION</strong></td>
<td>Term 1</td>
<td></td>
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<td>23</td>
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<td>Term 2</td>
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<td>8</td>
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<tr>
<td></td>
<td>Term 3</td>
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<td></td>
<td>8</td>
</tr>
</tbody>
</table>

**CONVOCATIONS**

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, September 6, 1996
- Last day to file a Graduation Information Card and declare a minor for Autumn 1996 Convocation.

Friday, November 8, 1996
- Autumn 1996 Convocation (all Faculties)

Friday, February 7, 1997
- Last day to change Programmes for Spring 1997 Convocations.

Friday, February 7, 1997
- Last day to file a Graduation Information Card and declare a minor for Spring 1997 Convocations.

Friday, May 16, 1997
- Health Sciences Convocation 1997

Tuesday, June 3 to Thursday, June 5, 1997
- Spring Convocations 1997

Friday, July 18, 1997
- Last day to file a Graduation Information Card and declare a minor for Autumn 1997 Convocation.

Friday, November 7, 1997
- Autumn 1997 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.

**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 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.
This Calendar covers the period from September 1996 to August 1997.

The McMaster University Undergraduate Calendar is available in alternate media format. For copies in a format other than print, contact the Office for Ability and Access, Kenneth Taylor Hall, Room 118 or ext. 24028. (As of May 1996, the office will be located in Hamilton Hall, Room 302)

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Using the Calendar

Please read carefully all sections in this Calendar which pertain to your residency at McMaster University. The first sections describe University-wide procedures and regulations. These are Sessional Dates, Degrees and Programmes, Degrees by Programme, Glossary, Admission Requirements, Application Procedures and Academic Regulations, Senate Policy Statements and Financial Information.

The next sections begin with descriptions of the Arts and Science programme, the School of Business, the Engineering, Health Sciences, Humanities, Science and Social Science Faculties, and the Women's Studies programme. The programme section concludes with a description of Theme Schools, Minors and Thematic Areas and Part-Time Degree Studies. Each programme section describes the undergraduate degree programme requirements by department. The Course Listings section completes the academic part of the Calendar.

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

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

Mailing Address
McMaster University
Hamilton, Ontario, L8S 4L8
Canada
Telephone: (905) 525-9140
Web Address: http://www.mcmaster.ca

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

Admission to Undergraduate Studies
Associate Registrar (Admissions): Ann McLaughlin
Gilmour Hall, Room 108, L8S 4L8, ext. 24796; Fax: (905) 527-1105

Student Liaison
Associate Registrar (Liaison): Laurie Deans
Gilmour Hall, Room 102, L8S 4L8, ext. 24786; Fax: (905) 527-1105

Student Financial Aid and Scholarships
Director: John Edwards
Coordinator: Denise Ellis
Hamilton Hall, Room 404, L8S 4K1, ext. 24319, 24789

Transcripts and Records
Gilmour Hall, Room 108, L8S 4L8, ext. 24796; Fax: (905) 527-1105

Examinations, Schedules and Reservations
Assistant Registrar (Schedules and Examinations): Tracie Long
Gilmour Hall, Room 114, L8S 4L8, ext. 24453; Fax: (905) 527-1105

Office of the Assistant Provost (Student Affairs)
Assistant Provost: Mary Keyes
Gilmour Hall, Room 207, L8S 4L8, ext. 27455

School of Graduate Studies
Dean of Graduate Studies: John L. Weaver
Togo Salmon Hall, Room 111, L8S 4M2, ext. 23679

Centre for Continuing Education
Director: Dale C. Schenk
Commons Building, Room 116, L8S 4K1, ext. 24321

Alumni Association
Alumni Memorial Building, Room 203, L8S 4K1, ext. 24202
Director of Alumni Advancement: Mary Williams
Chesster New Hall, Room 111, L8S 4L9, ext. 24878

On-campus Housing (Residence)
Director of Housing Services: Cathie Miller
Manager, Admissions and Conferences: Leanne Piper
Commons Building, Room 101, L8S 4K1, ext. 24223

Off-campus Housing
Wentworth House, Room 118, L8S 4K1, ext. 24086

Hospitality Services
General Manager: Albert Ng
Commons Building, Room B101B, L8S 4K1, ext. 24836

Counselling and Career Services
Director of Counselling and Career Services: Bill Wilkinson
Hamilton Hall, Room 302, L8S 4K1, ext. 24711

Office of the Ability and Access
Manager: William A. Hoch
Coordinator, Student Accommodations: Tim Nolan
Coordinator, Learning Specialist: Caroline Cayuga
Kenneth Taylor Hall, Room 118, L8S 4M4, ext. 24028

Grievances
Secretary of the Senate: Joan Morris
Gilmour Hall, Room 104, L8S 4L8, ext. 24029

Other Publications for McMaster Students

- Undergraduate Studies
  - Year 1 Handbook
  - Part-time Degree Studies Calendar
  - School of Social Work Booklet
  - McMaster Divinity College Calendar
The above publications are available from the Office of the Registrar.

- Graduate Studies
  - Calendar of the School of Graduate Studies
  - Graduate Studies in Business (MBA and Ph.D programmes)
  - Certificate and Professional Studies
  - Post-Graduate Medical Programme Calendar
  - Teaching departments that offer graduate studies also provide information booklets about their programmes. These may be requested directly from the departments.

- Certificate and Professional Studies
  - Calendar of the Part-time Studies
  - The Part-time Studies Calendar, which describes professional designations, certificate and correspondence programmes, is available from the Centre for Continuing Education.

- General-Interest, Non-Credit Studies
  - Brochures about non-credit programmes and special offerings are available from the Centre for Continuing Education.
### Sessional Dates for 1996-97

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

#### Fall/Winter Session 1996-97

<table>
<thead>
<tr>
<th></th>
<th>Term 1</th>
<th>Term 2</th>
<th>Term 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Registration (All Levels)</td>
<td>Thursday, September 5</td>
<td>To Be Announced</td>
<td>Thursday, September 5</td>
</tr>
<tr>
<td>Classes begin</td>
<td>Wednesday, September 18</td>
<td>Monday, January 6</td>
<td>Wednesday, September 18</td>
</tr>
<tr>
<td>Last day for registration and adding classes; Thanksgiving Day: No classes</td>
<td>Monday, October 14</td>
<td>Friday, January 17</td>
<td>Monday, October 14</td>
</tr>
<tr>
<td>Last day for withdrawal without failure by default</td>
<td>Friday, November 8</td>
<td>Friday, March 7</td>
<td>Friday, March 7</td>
</tr>
<tr>
<td>Mid-term recess</td>
<td></td>
<td>Monday, February 24</td>
<td>Monday, February 24</td>
</tr>
<tr>
<td>Good Friday: No classes</td>
<td></td>
<td>Friday, March 28</td>
<td>Monday, February 24</td>
</tr>
<tr>
<td>Test and Examination ban: No tests or examination may be held</td>
<td>Thursday, November 28 to Thursday, December 5</td>
<td>to Saturday, March 1</td>
<td>to Saturday, March 1</td>
</tr>
<tr>
<td>Classes end</td>
<td></td>
<td>Friday, March 28</td>
<td>Monday, April 7</td>
</tr>
<tr>
<td>Mid-Session Tests (Level I)</td>
<td></td>
<td>Friday, April 11</td>
<td>Friday, April 11</td>
</tr>
<tr>
<td>Final Examinations</td>
<td></td>
<td>Friday, December 6</td>
<td>Friday, December 6</td>
</tr>
<tr>
<td>Last day to confirm intent to write deferred examinations</td>
<td>Monday, April 14 to Wednesday, April 30</td>
<td>to Wednesday, April 30</td>
<td>to Wednesday, April 30</td>
</tr>
<tr>
<td>Deferred Examinations</td>
<td></td>
<td>Friday, June 20</td>
<td>Friday, June 20</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Friday, July 21</td>
<td>Friday, July 21</td>
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<tr>
<td></td>
<td></td>
<td>Friday, August 8</td>
<td>Friday, August 8</td>
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</tbody>
</table>

#### Spring/Summer Session 1997

<table>
<thead>
<tr>
<th></th>
<th>Term 1</th>
<th>Term 2</th>
<th>Term 3</th>
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</thead>
<tbody>
<tr>
<td>Classes begin</td>
<td>Monday, May 5</td>
<td>Monday, June 23</td>
<td>Monday, May 5</td>
</tr>
<tr>
<td>Last day for registration and changes in registration</td>
<td>Friday, May 9</td>
<td>Friday, June 27</td>
<td>Friday, May 9</td>
</tr>
<tr>
<td>Victoria Day: No classes</td>
<td>Monday, May 19</td>
<td>—</td>
<td>Monday, May 19</td>
</tr>
<tr>
<td>Last day for withdrawal from a course without failure by default</td>
<td>Wednesday, June 4</td>
<td>Wednesday, July 23</td>
<td>Friday, July 4</td>
</tr>
<tr>
<td>Canada Day: No classes</td>
<td>—</td>
<td>Tuesday, July 1</td>
<td>Tuesday, July 1</td>
</tr>
<tr>
<td>Civic Holiday: No classes</td>
<td>—</td>
<td>Monday, August 4</td>
<td>Monday, August 4</td>
</tr>
<tr>
<td>Classes end</td>
<td>Friday, June 20</td>
<td>Friday, August 8</td>
<td>Friday, August 8</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 to write deferred examinations</td>
<td>Friday, October 17</td>
<td>Friday, October 17</td>
<td>Friday, October 17</td>
</tr>
<tr>
<td>Deferred Examinations</td>
<td>December '97 Examination period</td>
<td>December '97 Examination period</td>
<td>December '97 Examination period</td>
</tr>
</tbody>
</table>
**DEGREES AND PROGRAMMES**

McMaster University offers the following undergraduate degrees:

<table>
<thead>
<tr>
<th>FACULTY AND DEGREE</th>
<th>DURATION IN YEARS</th>
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</thead>
<tbody>
<tr>
<td>ARTS &amp; SCIENCE PROGRAMME</td>
<td></td>
</tr>
<tr>
<td>B.Arts Sc.</td>
<td>3</td>
</tr>
<tr>
<td>B.Arts Sc. (Honours)*</td>
<td>4</td>
</tr>
<tr>
<td>(*With the exception of the Combined Honours degrees in Biology, Chemistry and Physics which require five years of study.)</td>
<td></td>
</tr>
<tr>
<td>SCHOOL OF BUSINESS</td>
<td></td>
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<tr>
<td>B.Com.</td>
<td>4</td>
</tr>
<tr>
<td>B.Com. (Honours)</td>
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</tr>
<tr>
<td>FACULTY OF ENGINEERING</td>
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</tr>
<tr>
<td>B.Eng.</td>
<td>4</td>
</tr>
<tr>
<td>B.Eng. Mgt.</td>
<td>5</td>
</tr>
<tr>
<td>B.Eng. Society</td>
<td>5</td>
</tr>
<tr>
<td>FACULTY OF HEALTH SCIENCES</td>
<td></td>
</tr>
<tr>
<td>B.H.Sc. (Midwifery)</td>
<td>*3</td>
</tr>
<tr>
<td>B.H.Sc. (Occupational Therapy/Physiotherapy)</td>
<td>*2</td>
</tr>
<tr>
<td>(*Follows completion of prior undergraduate degree)</td>
<td></td>
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<tr>
<td>B.Sc.N.</td>
<td>4</td>
</tr>
<tr>
<td>B.Sc.N. (Diploma RN Stream)</td>
<td>2</td>
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<tr>
<td>M.D. (Doctor of Medicine)</td>
<td>*3</td>
</tr>
<tr>
<td>(*In these programmes, an academic year extends beyond the regular Fall/Winter session.)</td>
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</tr>
<tr>
<td>FACULTY OF HUMANITIES</td>
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<tr>
<td>B.A.</td>
<td>3</td>
</tr>
<tr>
<td>B.A. (Honours)</td>
<td>4</td>
</tr>
<tr>
<td>B.Mus.</td>
<td>4</td>
</tr>
<tr>
<td>B.A./B.S.W.</td>
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</tr>
<tr>
<td>FACULTY OF SCIENCE</td>
<td></td>
</tr>
<tr>
<td>B.Sc.</td>
<td>3</td>
</tr>
<tr>
<td>B.Sc. (Honours)</td>
<td>4</td>
</tr>
<tr>
<td>B.Sc. (Honours)</td>
<td>5</td>
</tr>
<tr>
<td>(*These are Co-op programmes.)</td>
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</tr>
<tr>
<td>FACULTY OF SOCIAL SCIENCES</td>
<td></td>
</tr>
<tr>
<td>B.A. (Honours)</td>
<td>3</td>
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<tr>
<td>B.A./B.P.E.</td>
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<td>B.A./B.S.W.</td>
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<tr>
<td>B.S.W.</td>
<td>2</td>
</tr>
<tr>
<td>(*Follows completion of prior undergraduate degree)</td>
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</tbody>
</table>

**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).

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**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, 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 of this Calendar.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
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<tr>
<td>1A03, 1Z03</td>
<td>ANTHROP</td>
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<tr>
<td>1A06</td>
<td>ART HIST</td>
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<tr>
<td>1F03</td>
<td>ASTRON</td>
</tr>
<tr>
<td>1A06, 1J03</td>
<td>BIOLOGY</td>
</tr>
<tr>
<td>1Z06</td>
<td>CAYUGA</td>
</tr>
<tr>
<td>1A06, +1C03</td>
<td>CHEM</td>
</tr>
<tr>
<td>1B06, 1L06</td>
<td>CLASSICS</td>
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<tr>
<td>1A06</td>
<td>COMP LIT</td>
</tr>
<tr>
<td>1MC3, 1MD3, 1SA3</td>
<td>COMP SCI</td>
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<tr>
<td>1A06</td>
<td>DRAMA</td>
</tr>
<tr>
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*Not acceptable for the six-unit complementary studies elective required in Engineering I.

**Note:** Engineering I students interested in entering the Engineering and Management programme must take COMMERCE 1S03 and ECON 1B03 as the six-unit complementary studies elective.

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

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.

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The University also offers Thematic Areas of Study and a large number of Minor programmes. Suggested lists of courses, which constitute non-degree Thematic Areas, have been assembled in the section **Minors and Thematic Areas of Study**. Also in that section are two Minors which are not connected to a specific department of Faculty. Other Minors are found in the programme sections of most departments.
**Glossary**

**Academic Probation**, which may be assigned to students whose CA is at least 3.0 but less than 3.5, will allow a student to continue at the University for one reviewing period.

**Advanced Standing** may be granted to an applicant who has completed work at another university or college, subject to the applicant having met the minimum requirements prescribed by the University.

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

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

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

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

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

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

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

**Degree** is conferred when a student completes a 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 or a programme (e.g., Honours Biology and Psychology, Level II: 33 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.

**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 fulfills 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 (page 16) 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.

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

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

**Review** is an assessment of a student’s performance to determine eligibility to continue in a programme or to graduate.

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

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

**Sessional Average (SA)** is a weighted average based on the grades 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, totaling these results, and then dividing this result by the total number of course units. (See example under Grading System in the General Academic Regulations section (page 16) 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 spoken and written English. Students will be expected to write clearly and correctly in English. All application materials must be submitted in English.

If your first language is not English, you must satisfy at least one of the following conditions. You must have:

(i) achieved a score of at least 580 on TOEFL, or the equivalent on other recognized tests, or
(ii) attended a Canadian educational institution for at least three years, or
(iii) resided for at least four years in an English speaking country.

ADMISSION FROM ONTARIO SECONDARY SCHOOLS

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

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

1. The Ontario Secondary School Diploma with acceptable standing; and
2. An overall (and area average, where applicable) in Ontario Academic Credits (OACs) completed, which is above the minimum specified by each program; and
3. Satisfactory completion of the subject requirements for the appropriate program.

OAC Music is acceptable as a credit and the mark you obtained can be included in your average for admission. Alternatively, you may submit certificates from a recognized conservatory of music in Grade 4 theory, or in Grade 3 practical and Grade 3 theory. Marks supplied by an acceptable Conservatory of Music may be used to determine your average for admission.

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 marks, or a combination of interim and final marks, supplied by secondary schools in April and may be granted to you 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 program; if you have not received the Ontario Secondary School Diploma; or if you have not responded within the two-week response period.

Final Admission from Ontario Secondary Schools

If, prior to June, you have fulfilled the requirements for the Ontario Secondary School Diploma, including the subject requirements for your chosen program, 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 in July, when final marks are received, depending on availability in the chosen program.

Deferral of Admission for Ontario Secondary School Students

Applicants who have been admitted to an undergraduate program may request to defer their registration for a period of time. Normally, the University does not grant deferral of registration, except under exceptional circumstances.

Programme Transfer After Admission

If you have been admitted to one program and subsequently wish to transfer to another, you may be able to do so, provided you have met the subject requirements for the second program and a place is available. If you wish to make such a transfer please contact the Office of the Registrar.

Minimum Final Average

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

Applicants whose final averages fall below this level or its equivalent or whose final overall average falls 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 limited enrolment and admission is made 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 anglais I or OAC anglais II
2. OAC Calculus
3. Completion of additional OACs to total six credits. At least three of the additional OACs must be selected from among English, Francais, 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 anglais I or OAC anglais 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 additional OACs to total six credits, with a minimum overall final average in the six required credits 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.
ADMISSION REQUIREMENTS

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 with a minimum overall and area final average of 75%

Although the stated minimum is 75%, in recent years, an average in the high 70s to low 80s has been required for an offer of admission.

HUMANITIES I 0700
The following are the minimum requirements:
1. One of OAC English I, anglais I or anglais II, with a grade of at least 65%
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.

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

ART 1F06: The prerequisite for ART 1F06 requires permission of the department based on 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 allocations have been confirmed in June. Acceptance into ART 1F06 is contingent upon receiving written confirmation from the department. Please use the MHA 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 at least one OAC from Biology, Chemistry, or Physics in your OACs. The specific OAC course requirements for Kinesiology I are currently under review, with the possibility of this course recommendation becoming a requirement for entry into the programme in September 1997.

MIDWIFERY I 6501
As places in the Midwifery programme are very limited, the admission process is competitive. A Midwifery supplementary application including a personal questionnaire are required and must be received at McMaster by February 1.

The following are the minimum academic 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.

NATURAL SCIENCES I 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, 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)

Although the stated minimum is 75%, in recent years, an average in the low 80s has been required for an offer of admission.

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.

NURSING I 6390
The following are minimum 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 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.

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.

SOCIAL SCIENCES I 0720
The following are 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 high 70s has been required for an offer of admission.

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 Hortours and Combined Honours Geography, you should complete OAC Calculus in order to prepare yourself for your first-year university courses.

ADMISSION WITH OTHER QUALIFICATIONS

A. Admission from Other Canadian Provinces

We welcome applications from other provinces and territories. You are required to meet the following minimum requirements:

- Quebec: CECEP
- All other Canadian provinces: Grade 12

You also are required to present subjects appropriate to the programme. Please refer to the OAC Equivalence Chart in this section for more details.
# ADMISSION REQUIREMENTS

## OAC Course Equivalents for Students from Other Canadian Provinces

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<td><strong>ENGLISH</strong></td>
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<td>English 300, 405 or 40A</td>
<td>English 441 or 541</td>
<td>English 120, 121 or 122</td>
<td>English 620s</td>
<td>English 3100s, English 3200s</td>
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<td><strong>CALCULUS</strong></td>
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<td>Math 103, 203 or Calculus 45A</td>
<td>Math 541 or Calculus 441</td>
<td>Math 120</td>
<td>Advanced Math 621 (Locally Developed)</td>
<td>Math 4225 (AP) or 3106</td>
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<td><strong>ALGEBRA AND GEOMETRY</strong></td>
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<td>Math 106</td>
<td>Math 441</td>
<td>Math 121 or 122</td>
<td>Math 621</td>
<td>Math 3201 or 3203</td>
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<tr>
<td><strong>FINITE MATH</strong></td>
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<td><strong>CHEMISTRY</strong></td>
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<td>Chemistry 101, 201, or 202</td>
<td>Chemistry 441 or 541</td>
<td>Chemistry 121 or 122</td>
<td>Chemistry 621</td>
<td>Chemistry 3202</td>
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<td><strong>PHYSICS</strong></td>
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<td>Physics 101 and 301 or 301</td>
<td>Physics 441 or 541</td>
<td>Physics 121 or 122</td>
<td>Physics 621</td>
<td>Physics 3204</td>
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<tr>
<td><strong>BIOLOGY</strong></td>
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<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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* Topics related to Finite Math are found in several Math courses.

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

++ AP Mathematics or International Baccalaureate Calculus are also acceptable.

+++ Six Grade 12 credits numbered 60-65 may be substituted.

### B. Admission from Other Countries

We welcome applications from international students. We have, for convenience, indicated below our admission requirements for applicants from selected countries.

You should 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.

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 the programme desired, (refer above to Subject Requirements for Specific Level 1 Programmes in this section);
3. an average of at least C in the two Advanced Level subjects.

If you are from Hong Kong, you need:

1. five subjects in the GCE or University of Hong Kong Matriculation Examinations, at least two of which must be at the Advanced Level;

You are considered on an individual basis, but are strongly advised not to come to the University until you have been informed of your acceptance.
2. Advanced Level subjects appropriate for the programme desired, (refer above to Subject Requirements for Specific Level 1 Programmes in this section);
3. an average of at least C in the two Advanced Level subjects

If you have a complete International Baccalaureate Diploma, you will be considered for admission to Level I, providing your programme includes the subject area requirements of the programme desired. An overall score of 28 with a minimum of four in each subject must be achieved in order to be eligible for admission. Advanced credit is determined on an individual basis.

If you are an applicant from the United States of America, you should have high standing from Grade 12 of an accredited high school in the U.S.A. Normally, high standing will have been demonstrated by a 60% (B+) or better standing. If you do not meet these requirements, you may qualify for admission by completing one year of college-level work with standing acceptable to the University.

C. General Policy on the Transfer of Course Credits
To facilitate programme completion by undergraduate students seeking to transfer course credit from an accredited university to McMaster, the University has implemented the following principles:
1. Acceptance of transfer credits from accredited universities shall be based on the recognition that, while learning experiences may differ in a variety of ways, their substance may be essentially equivalent in terms of their content and rigor. Insofar as possible, acceptance of transfer credit shall allow for the maximum recognition of previous learning experience in university-level courses;
2. Subject to degree, grade and programme requirements, any course offered for credit by an accredited university shall be accepted for credit by McMaster when there is an essential equivalency in course content. However, no course for which a grade of less than C- (60%) has been achieved will be considered.

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

E. Credit in Courses by Special Assessment (Challenge Examinations)
If you have acquired knowledge at another kind of institution or in a manner that makes assessment of your qualifications difficult, you may be able to receive advanced credit through special assessment (Challenge for Credit).

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

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

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

F. Transfers from Other Universities
When you transfer to McMaster University, normally you will receive credit only 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. 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. In addition, you may be asked to provide academic documentation for proof of further academic achievement which is both current and relevant.

G. Graduates Applying for a Second Bachelor’s Degree
Admission is by selection. If you have a first degree, you may apply to take a second degree in the same discipline or in another discipline. The requirements are set out in the General Academic Regulations section (page 16) in this Calendar.
If you wish to enter a Second Bachelor’s Degree in a subject area from the Faculty of Science, please note the additional regulations for such a programme in the Faculty of Science section, Second Bachelor’s Degree Programmes.

H. Continuing and Post-Degree 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. Students who plan to proceed to a graduate degree should apply directly to the specific department of your programme of interest.
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.

I. 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 an A average, you are invited to apply for admission to Social Sciences I or Humanities I. Each case will be considered individually on its merits and the programme desired.
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.
Technician programmes are not recognized for credit toward admission in either Engineering I or Natural Sciences I. Advanced credit could be up to 24 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.

J. Admission from Redeemer College
As a student from Redeemer College, you must present, with an appropriate average, six Year 1 courses from Redeemer College 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. If you wish 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.)

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

L. 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.

M. Mature Students (Part-time Admission)
If you do not qualify to be considered under one of the above categories, McMaster will assess your eligibility as a mature student. Applicants 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.
(iv) You have never attended university.

You are not admissible as a mature student if you plan to study Engineering. If you apply to the Natural Sciences I programme as a mature student, you will be required to present satisfactory standing in the four area OAC Mathematics and Science requirements, as described in Admission from Ontario Secondary Schools in this section. If you apply to Business I, you will be required to present Grade 12 Mathematics or its equivalent.

If admitted, you may register as a mature student to take Level 1 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:
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. 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).

N. 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 may apply to that programme and participate in the regular admission process.

Q. Listener
If you are not sure about degree courses, you may register as a listener in a degree course for half the normal fee, but not for credit. You attend all classes, but do not complete any of the essays, tests and other formal requirements.
APPLICATION PROCEDURES

PLEASE READ THE BOLD-FACED PORTIONS OF THESE PROCEDURES TO DETERMINE THE CATEGORY UNDER WHICH YOU FALL AND THEN FOLLOW THE GUIDELINES FOR THE APPLICATION PROCEDURE WHICH IS APPROPRIATE TO YOUR CATEGORY.

A If you are now taking one or more Ontario Academic Courses (OACs) in day school and wish to enter a Level I degree programme as a full-time student, please follow this procedure.

Please pick up a university application form (OUAC 101) from your guidance office and follow the enclosed instructions. You will be contacted by the Admissions Office after your application has been received by McMaster.

B If you wish to enter Level I of a degree programme as a full-time student, but you are not currently taking one or more Ontario Academic Courses (OACs) in day school, please follow this procedure.

Please obtain an application form (OUAC 105) from the Admissions Office of any Ontario university or from the Ontario Universities' Application Centre, 650 Woodland Road West, Guelph, Ontario, Canada, N1H 7P4.

You must provide McMaster with official transcripts of marks and/or certificates from any secondary school or post-secondary institution you have attended.

If you are attending secondary school, please see your guidance counsellor to obtain a transcript. If you have previously attended secondary school in another province, you may have to obtain the transcript of secondary school marks from the Ministry or Department of Education for that province.

C If you wish to enter any level of a degree programme as a part-time student, please follow this procedure.

Please obtain a part-time 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.

D If you wish to register as a post-degree student, please follow this procedure.

Please 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 can obtain the appropriate application form from the Graduate Studies Office, Togo Salmon Hall, Room 111, McMaster University, Hamilton, Ontario, L8S 4L8.

E If you wish to enter a degree programme above Level I as a full-time student, please follow this procedure.

Health Sciences: The Faculty of Health Sciences section in this Calendar provides detailed information about the curriculum and admission requirements for programmes in Medicine, Occupational Therapy and Physiotherapy, all of which require prior university studies. There are also a number of positions in the Nursing programme if you are an RN with a diploma or you have prior university work.

For information on application policies and procedures, please refer to the appropriate section in the Health Sciences section of this Calendar.

Social Work: You enter the Social Work programme in Level II. Admission to the Combined B.A. and Social Work Programme is by selection. You must have completed, or be completing, 30 units of work including PSYCH 1A06 and SOCIOL 1A06 and normally have a Cumulative Average of at least 6.0.

If you are already enrolled at McMaster, you should apply directly to the School of Social Work. If you wish to apply for transfer from another university, you are required to complete a two-tier application procedure. See Faculty of Social Sciences, School of Social Work, Two-Tier Applications.

For all other programmes, please obtain an application form (OUAC 105) from the Admissions Office of any Ontario university or from the Ontario Universities' Application Centre, 650 Woodland Road West, Guelph, Ontario, Canada, N1H 7P4.

You should choose one of the degree programmes listed in this Calendar, and complete the form. Send the form and the application fee to the Ontario Universities' Application Centre. If you have attended secondary school in another province, you may have to obtain the transcript of secondary school marks from the Ministry or Department of Education for that province.

F If you wish to register as a Continuing Student or on a Letter of Permission for Credit at Another University, please follow this procedure.

If you wish to apply as a part-time student, then please follow Procedure C. If you wish to apply as a full-time student, then please follow Procedure E.

G If you wish to register as a Listener please follow this procedure.

(You will not receive a grade for courses you attend.) Please write, visit or telephone 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.
DEADLINES

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

All Level I programmes have limited enrolment and may be full before the deadlines. The University reserves the right to accept applications submitted after a programme is full. 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:

- Limited Enrolment Programmes
  - Above Level I .................................. February 1
  - International Applications .................. May 1
  - International Documentation ................ June 1
  - Domestic Applications (excluding CEPEP) .... July 15
  - Domestic Documentation (excluding CEPEP) .... July 15
  - CEPEP Applications (unless stated below) ... March 1
  - Arts & Science Applications ................ March 1
  - Supplementary Applications ................ March 1
  - Biochemistry (Co-op) ........................ February 1
  - Biology and Pharmacology (Co-op) .......... February 1
  - Gerontology Applications .................... April 1
  - Supplementary Applications* ............... May 15
  - Kinesiology (Second Degree) ................ May 15
  - Labour Studies ................................ April 15
  - Medicine .................................... November 1
  - Midwifery Applications ...................... February 1
  - Supplementary Applications ................ February 1
  - Nursing OAC .................................. May 1
  - Nurse Practitioner .......................... February 1
  - NP Supplementary Applications* ............ February 1
  - Transfers from other universities/Nursing Programs* ............................. July 1
  - All Other .................................. February 15
  - Supplementary Applications* ................ February 15
  - Occupational Therapy/Physiotherapy** ......... January 15
  - Social Work McMaster Applicants .......... March 1
  - OUAC .................................. December 1
  - Supplementary Applications** .............. March 1
  - Women's Studies ............................ April 15

- University transfer and Second Degree Applicants
  - Please contact the Ontario Universities' Application Centre for a Supplementary Application
  - Non OAC students only need to complete the supplementary applications. Please contact the Office of the Registrar to obtain an application.

- Please contact the Office of the Registrar to obtain an application.

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

Retention of Documents

All documentation which you submit in support of your application for admission becomes the property of the University.

If you are not accepted, or you fail to enrol following acceptance, your documentation normally is destroyed at the end of each admissions cycle. If you reapply, you must submit any additional academic information and any documentation submitted previously.

Readmission

If you are seeking readmission, you usually fall into one of three categories. You must adhere to the application deadlines listed above.

1. You were ineligible to continue at McMaster University.
   You should submit a letter, to the Office of the Associate Dean (Studies) of the appropriate Faculty outlining your activities since leaving McMaster University and your reason for returning to the specified Faculty. Your application will be reviewed by the Office of the Associate Dean (Studies) of the appropriate Faculty.

2. You voluntarily withdrew from McMaster University.
   Provided the last semester attended was within five years, you will be automatically admitted to the same programme. If you have been absent more than five years, you must reapply through the Office of the Registrar.

3. You completed the last semester registered and are in good academic standing.
   Please see (2) above.

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 do so. If you cannot attend one of these sessions, counselling will be provided at the 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
or please call (905) 525-4800
E-mail: macadmit@mcmaster.ca

FALL/WINTER SESSION (JANUARY ENTRY)

- All eligible programmes ................................ November 1

SPRING/SUMMER SESSION

- May Entry (Term 1 or 3) ............................... April 1
- June Entry (Term 2) ................................... May 1
Select the courses required for your programme; then select your electives. Ensure that you have completed the courses which are listed as prerequisites and have completed or chosen courses that are listed as corequisites. If you have not passed the prerequisite courses, you will not be able to take the course selected.

- **Limit on Level 1 Courses:** In most Faculties, credit may be obtained in no more than 42 units of Level 1 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 or 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:** You may change the courses you have selected until approximately the second week of the term. (Please see the tables in the Sessional Dates section for the relevant dates for this academic year.) You may add new courses, or drop courses which you originally selected. After the above-mentioned period, you may drop a class until the last day to withdraw without failure by default. Any course dropped will be shown on your transcript with the notation CAN (Cancelled). After this date, you will remain registered in the course whether or not you attend. Your transcript will show a grade of F for any course not successfully completed.
- **Withdrawal from the University:** If you wish to withdraw from the University, you must consult the appropriate Office of the Associate Dean (Studies). Your student 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 the University also reserves 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.
- **Repetitive Work:** It 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 or 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:** You may change the courses you have selected until approximately the second week of the term. (Please see the tables in the Sessional Dates section for the relevant dates for this academic year.) You may add new courses, or drop courses which you originally selected. After the above-mentioned period, you may drop a class until the last day to withdraw without failure by default. Any course dropped will be shown on your transcript with the notation CAN (Cancelled). After this date, you will remain registered in the course whether or not you attend. Your transcript will show a grade of F for any course not successfully completed.
- **Withdrawal from the University:** If you wish to withdraw from the University, you must consult the appropriate Office of the Associate Dean (Studies). Your student 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 the

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

1. by completing the final level and at least one other level (a minimum of approximately 60 units of work) at McMaster University;
2. by completing the final level (approximately 30 units of work) at another undergraduate institution, including at least 18 units of programme-specific courses.

The work used to satisfy the residence requirements must be completed at McMaster University, including at least 18 units of programme-specific courses.

**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.

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**GENERAL ACADEMIC REGULATIONS**

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

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

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

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

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

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

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

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**16 GENERAL ACADEMIC 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 University. To obtain a three-level, first undergraduate degree, you may satisfy the residence requirements either:

1. by completing the final level and at least one other level (a minimum of approximately 60 units of work) at McMaster University;
2. by completing the final level (approximately 30 units of work) at another undergraduate institution, 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.
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, Natural Sciences I, Nursing I, or Social Sciences I. If you enter the University without Advanced Standing being granted, you must normally attempt a full load of Level I work before proceeding to the work of higher levels.

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

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

At the review when you complete the Level I work, if you attain a CA of at least 3.0 and have not previously been on academic probation, but fail to meet the admission requirements of any programme, you may continue at the University for one additional reviewing period on academic probation. You will be registered in your original Faculty, and will be classified as a Level I irregular student if your work may only qualify you to be considered for admission to a programme in another Faculty. If, at the end of the next reviewing period, you again do not qualify for admission to a programme, you may not continue at the University. If your CA is less than 3.0 you may not continue at the University.

Students in Arts & Science I should refer to the Arts & Science Programme regulations listed below. Nursing I and Midwifery I students should refer to the programme regulations listed in the Faculty of Health Sciences section in this calendar.

Minimum Requirements for Entering and Continuing in a Programme Beyond Level I

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

ARTS & SCIENCE PROGRAMME

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

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

If your CA is 3.0 to 3.4, you will be placed on academic probation. You may continue in the programme for one reviewing period as an irregular student but cannot take Arts & Science programme courses. The purpose of this period is to prepare yourself for a programme outside the Arts & Science programme. You may 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.
GENERAL ACADEMIC REGULATIONS

SCHOOL OF BUSINESS

Level II
To be considered for Commerce Level II, you must have a CA of at least 5.0 on your Business I courses with no failures. When calculating your CA and checking for failures, only first attempts at Business I courses are considered. However, enrolment in Commerce II is limited to a maximum 300 students. Up to 50 of those spaces may be given to transfer students from other universities or from other Faculties within McMaster. Therefore, being eligible for consideration for entry to Commerce II does not guarantee you entry. In 1995-96, students with CAs of 5.0 or greater were admitted. Normally, the CA required for entry into Commerce II is between 5.0 and 6.0.

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 a 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 yourself 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. The School of Business introduced changes to its Commerce programmes in the Fall of 1994. Those changes will be applied to Level III beginning in September, 1996 and to Level IV beginning in September, 1997.

The following regulations apply to those who enter Level III before September 1996 and Level IV before September, 1997. To enter Level III or continue in Level IV of the Honours Commerce programme, you must have a CA of at least 7.0 (with no more than six units of failures). To enter Level III or continue in Level IV of the Commerce programme, you must have a CA of at least 4.0 (with no more than six units of failures). However, if you fail to achieve a CA of at least 4.0, but have a CA of 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.

The following regulations apply to those who enter Level III in September, 1996 or later, or Level IV in September, 1997 or later. 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.

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 a failure since your last review, and you have not previously been placed on probation, you will be placed on programme probation. 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 3.5 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.A. Major (Psychology); B.Kin.; B.P.E. Programmes: You must have a CA of at least 4.0 to continue in a four-level Major (Psychology) or a B.Kin. or a B.P.E. 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: If you entered an Honours Science programme prior to September 1996, you must have a CA of at least 6.0 to continue in an Honours B.Sc. programme. If your CA is 5.0 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 two reviewing periods. If your CA is 3.0 to 4.9, you must transfer to another programme for which you qualify. If your CA falls below 3.0 you may not continue at the University.

If you enter an Honours Science programme in September 1996, 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 4.9, 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 check 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 Minors in Indigenous Studies and Peace Studies, which are not connected to a specific Faculty or Department. (See Minors and Thematic Areas section.) The University also has two Thematic Schools — International Justice and Human Rights, and New Materials and Their Impact on Society — which give you, upon successful completion of one of the programmes, a Minor in that area of study. (See Theme School 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, of which no more than six can be at Level I. 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. The minimum admission requirements and programme of study for the second degree depend on the subject areas of the two degrees.

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

- Honours B.A. or B.Sc. in Another Subject: For entry, you must meet the admission requirements for the 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.
- 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 90 units for a three-level degree and approximately 120 units for a four-level degree.

Deans' Honour List

Each year outstanding students with a minimum Sessional Average of 9.5 are named to the Deans' Honour List. Full-time students must have completed a full programme load in a Fall/Winter session. The Associate Deans (Studies) may exercise discretion where the full load for a particular level of a programme is not 30 units. Part-time students will be assessed at the 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. See the Sessional Dates section.

Examinations Conducted by the Office of the Registrar

- McMaster student photo identification cards are required at all examinations. If you arrive at an examination without a proper I.D. card you will be required to have a substitute card made before being seated. There is a fee for this service. No additional time is given to compensate for examination time missed.
- You may only use books, papers or instruments during an examination if they are specifically prescribed on the examination paper.
- You may leave an examination only after the first 45 minutes have elapsed.
- If you become ill during an examination, you may be excused by a presider.
- If you miss or leave an examination for medical reasons you must submit a medical certificate from Student Health Services, or a doctor, to the Office of the Associate Dean (Studies) of your Faculty before the end of the examination schedule. The certificate must indicate that you were medically unfit to write the examination.
- If you are late for an examination, report immediately to the presider in your examination location or to the Examinations Section of the Office of the Registrar.
- If you miss or leave an examination for any other reason, report immediately to the Examinations Section of the Office of the Registrar. You will be advised whether you can write your examination before the end of the examination schedule, or whether you must apply for special consideration by submitting documentation to the Office of the Associate Dean (Studies) of your Faculty.
20 GENERAL ACADEMIC REGULATIONS

- Special examination arrangements may be made upon application to the Examinations Section of the Office of the Registrar in some circumstances, such as:
  - a conflict with religious obligations
  - a conflict between two Registrar-scheduled examinations
  - a schedule with three examinations in one calendar day or three consecutive examinations

Application must be made at least 10 working-days before the scheduled examination date and acceptable documentation must be supplied.

- Students with disabilities are required to inform the Office for Ability and Access of accommodation needs for examinations at least one month before the start of the examination schedule. This allows sufficient time to verify and arrange appropriate accommodation. See Academic Facilities, Student Services and Organizations—Office for Ability and Access section of this Calendar.

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

Deferaed Examinations

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

Deferred examinations must be written in the examination session which follows the one for which the privilege is granted (e.g. in the April session for an examination missed in December).

The decision to grant you a deferred examination will be reported on your grade report. You must confirm your intent to write by submitting an application to the Examinations Section of the Office of the Registrar.

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

4. GRADING SYSTEM

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

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

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

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

- Since September 1982, the grading scale has been:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Equivalent Grade Point</th>
<th>Equivalent Percentages</th>
</tr>
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<tbody>
<tr>
<td>A+</td>
<td>12</td>
<td>90-100</td>
</tr>
<tr>
<td>A</td>
<td>11</td>
<td>85-89</td>
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<tr>
<td>A-</td>
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<td>9</td>
<td>77-79</td>
</tr>
<tr>
<td>B</td>
<td>8</td>
<td>73-76</td>
</tr>
<tr>
<td>B-</td>
<td>7</td>
<td>70-72</td>
</tr>
<tr>
<td>C+</td>
<td>6</td>
<td>67-69</td>
</tr>
<tr>
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<td>50-52</td>
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<tr>
<td>F</td>
<td>0</td>
<td>0-49 — Failure</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Course Grade</th>
<th>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>6</td>
<td>5</td>
</tr>
<tr>
<td>B+</td>
<td>9</td>
<td>3</td>
</tr>
</tbody>
</table>

To calculate Average: 153/18 = 8.5

5. UNDERGRADUATE ACADEMIC AWARDS

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

Terms and conditions of awards for full-time and part-time students 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. (Major) — 4.0
- 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) — 6.0
- B.Com. & Arts (Honours) — 6.0
- B.Kin. and B.P.E. — 4.0
- B.Mus. — 5.0
- B.Sc. — 3.5
- B.Sc. (Honours) — 5.0
- Engineering (All programmes) — 4.0

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 before February's Spring Convocation and before September 6 for Autumn Convocation.

If you wish to apply to receive a Minor in addition to your major programme of studies, you must indicate this on your Graduation Information Card. You must take the degree at the Convocation immediately following the completion of the appropriate degree work.
7. RECORDS POLICY

Transcripts

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

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

Requests for transcripts may be made in person, by mail, or by fax. To protect the confidentiality of student records, all requests must be signed by the student whose transcript is being requested. The transcript fee for 1995-96 is $5.00 per copy. An additional charge of $10.00 applies to transcripts which are faxed from McMaster. Fees are due at the time transcripts are ordered. All mail or fax requests must include either a cheque, money order or credit card number with the expiry date (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 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 sent by the Office of the Registrar. All information needed to produce official transcripts is maintained permanently.

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

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

The University has defined its expectations of students in both the academic and non-academic life of the University community, and developed procedures to ensure that all members of the community receive equitable treatment. Each year at registration, you will receive the document Senate Policy Statements which contains the following:

- 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

The following provides a brief 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) A disregard for the norms of scholarly integrity, without necessarily intending to deceive, and

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

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

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

The Senate Resolutions on Academic Dishonesty define academic dishonesty and specify the procedures to be followed in the event that a student is charged with academic dishonesty. Penalties include expulsion from the University. A copy of the Senate Resolutions 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 regulations, policies and actions that affect them directly. The procedures described in the Student Appeal Procedures are intended to provide a mechanism to remedy injustices and may culminate in a hearing before the Senate Board for Student Appeals.

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

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

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

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

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

Code of Conduct

McMaster University is a community dedicated to furthering learning, including research, in which personal and professional development. Membership in the community implies acceptance of the principle of mutual respect for the rights of others and a readiness to support actively an environment conducive to intellectual growth, both for individuals and for the whole University.

The Code of Conduct contains regulations which outline the limits of conduct considered to be consonant with standards of professional ethics and 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:

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

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

Sexual Harassment Policy

The University recognizes its legal and moral responsibility to protect all of its members from sexual harassment and to take action if such harassment does occur. To these ends it has developed a policy on, and procedures for, dealing with complaints of sexual harassment, including a range of disciplinary measures up to and including dismissal. Copies of the Policy and Procedures on Sexual Harassment may be obtained from the Senate Secretariat, Room 104, Gilmour Hall.

Anti-Discrimination Policy

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

The intention of this policy and its procedures is to prevent discrimination and harassment from taking place, and where necessary, to act upon complaints of such behaviour promptly, fairly, judiciously and with due regard to confidentiality for all parties concerned. Copies of the Anti-Discrimination Policy may be obtained from the Senate Secretariat, Room 104, Gilmour Hall.

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 and confidence are not normally placed in the student's file. But, in those cases where they have been, they will not be disclosed.

The operating procedures 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 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 will be assessed for any unwarranted loss or breakage.

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

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

Fees shown below are for 1995-96. The fee schedules for 1996-97 are enclosed in the Registration Handbook sent to each student during the summer preceding registration.

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

Base Per Unit Tuition

CANADIAN CITIZEN & PERMANENT RESIDENT STATUS

The base unit fees for the Faculty of Engineering (including Engineering and Management Levels III and V) are $80.60 per unit to a maximum of $2,659.80. The base unit fees for all other Faculties (including Engineering and Management Levels II and IV) are $81.70 per unit to a maximum of $2,451.00.

VISA STATUS

The base unit fees for the Faculty of Engineering (including Engineering and Management Levels III and V) are $456.60 per unit to a maximum of $15,067.80. The base unit fees for Nursing are $456.60 per unit to a maximum of $15,698.00. The base unit fees for all other Faculties are $308.10 per unit to a maximum of $9,243.00.

Supplementary Fees

Students Taking 1 to 17 Units Pay (Per Unit):

<table>
<thead>
<tr>
<th>McMaster Association</th>
<th>$3.75</th>
</tr>
</thead>
<tbody>
<tr>
<td>Athletics and Recreation Activity Fee</td>
<td>$4.20</td>
</tr>
<tr>
<td>Total Charge per unit</td>
<td>$7.95</td>
</tr>
<tr>
<td>Nursing Students Add:</td>
<td>$5.55</td>
</tr>
<tr>
<td>Learning Resource Fee (per unit)</td>
<td>$5.55</td>
</tr>
</tbody>
</table>

Supplementary Fees

Students Taking 18 or More Pay:

Students registered in 18 or more units at ANY time during the session will be responsible for the following fees:

- Athletics & Recreation Activity Fee: $75.60
- Student Health Service: $36.00
- 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:

- Student Organization Fee: $80.76
- Health Plan Premium: $40.67
- Student Refugee Fee: $1.07
- Ancillary Fee for CFMU-FM: $9.34
- Ancillary Fee for MARMOR Yearbook: $6.41
- Placement Services Fee: $12.00

Sub Total: $278.45

Plus:

McMaster Student Union’s University Student Centre Building fee ($2.28 per unit), to a maximum of $68.40.

And Student Society Fees according to Faculty:

- Arts & Science Society: $21.00
- Bachelor of Kinesiology Society: $15.00
- Commerce Society: $57.00
- Engineering Society: $73.00
- Humanities Society: $15.00
- Nursing Society: $30.50
- Science Society: $10.00
- Social Science Society: $15.00

Nursing Students Add:

- Learning Resource Fee ($5.55 per unit), to a maximum of $99.90

Occupational Therapy and Physiotherapy Students Add:

- Occupational Therapy Learning Resource Fee: $100.00
- Physiotherapy Learning Resource Fee: $50.00

Canadian Citizens and Landed Immigrant Students (Examples of fees for full academic load.):
**FINANCIAL INFORMATION**

**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>9,243.00</td>
<td>363.75</td>
<td>9,606.75</td>
</tr>
<tr>
<td>Business and Commerce</td>
<td>9,243.00</td>
<td>399.75</td>
<td>9,642.75</td>
</tr>
<tr>
<td>Engineering, and Eng. &amp; Mgt. II, IV</td>
<td>9,243.00</td>
<td>415.75</td>
<td>9,658.75</td>
</tr>
<tr>
<td>Engineering, and Eng. &amp; Mgt. III, V</td>
<td>15,067.80</td>
<td>415.75</td>
<td>15,483.55</td>
</tr>
<tr>
<td>Humanities and Social Sciences</td>
<td>9,243.00</td>
<td>357.75</td>
<td>9,600.75</td>
</tr>
<tr>
<td>Kinesiology</td>
<td>9,243.00</td>
<td>357.75</td>
<td>9,600.75</td>
</tr>
<tr>
<td>Medicine I, II</td>
<td>22,602.00</td>
<td>334.00</td>
<td>22,936.00</td>
</tr>
<tr>
<td>Medicine III</td>
<td>15,068.00</td>
<td>344.00</td>
<td>15,412.00</td>
</tr>
<tr>
<td>Nursing</td>
<td>15,698.00</td>
<td>473.15</td>
<td>16,171.15</td>
</tr>
<tr>
<td>Occupational Therapy</td>
<td>9,243.00</td>
<td>442.75</td>
<td>9,685.75</td>
</tr>
<tr>
<td>Physiotherapy</td>
<td>9,243.00</td>
<td>392.75</td>
<td>9,635.75</td>
</tr>
<tr>
<td>Science</td>
<td>9,243.00</td>
<td>352.75</td>
<td>9,595.75</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 $40.67 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 a $750.00 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 $375.00 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 (page 16) 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.

**RESIDENCE AND FOOD SERVICE 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 1995-96.*

<table>
<thead>
<tr>
<th>Residences</th>
<th>Full Payment</th>
<th>Minimum Payment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Room and Board</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Small</td>
<td>4,865.00</td>
<td>3,400.00</td>
</tr>
<tr>
<td>- Regular</td>
<td>5,065.00</td>
<td>3,540.00</td>
</tr>
<tr>
<td>- Large</td>
<td>5,265.00</td>
<td>3,680.00</td>
</tr>
<tr>
<td>- Extra Large</td>
<td>5,465.00</td>
<td>3,820.00</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Apartments</th>
<th>Full Payment</th>
<th>Minimum Payment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Room Only (Per person)</td>
<td>2,690.00</td>
<td>1,880.00</td>
</tr>
<tr>
<td>Meal Plan Only</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Small</td>
<td>2,175.00</td>
<td>1,520.00</td>
</tr>
<tr>
<td>- Regular</td>
<td>2,375.00</td>
<td>1,660.00</td>
</tr>
<tr>
<td>- Large</td>
<td>2,575.00</td>
<td>1,800.00</td>
</tr>
<tr>
<td>- Extra Large</td>
<td>2,775.00</td>
<td>1,940.00</td>
</tr>
</tbody>
</table>

If you wish to change your selection of meal plans, you may do so up to September 13, 1996. Please contact Hospitality Services, 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 Residences**

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 19. Failure to make payment by January 19 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 $28 for the first occurrence and an additional $10 for each subsequent occurrence.

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

**Note:** Graduands who have outstanding accounts with the University will be permitted to attend convocation, but will not receive their diplomas until their accounts have been cleared in full.
Prepayment of Fees
All tuition, supplementary, residence and meal plan fees and any debts from prior sessions should be received by Financial Services prior to registration.

For payment deadlines, please refer to the registration handbook.

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

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

If you are being sponsored by outside organizations, e.g. Vocational Rehabilitation Services, RCMP, Canadian Armed Forces, etc., you are required to submit copies of fee authorizations with the Payment Arrangement Form.

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

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

MISCELLANEOUS FEES

The following fees were in effect for the 1995-96 academic year, and are over and above assessed academic fees, supplementary fees, and residence fees and meal plan fees.

Academic User Fees

- Transcript Assessment Fee ........................................ 50.00
- Certification of Enrolment Fee .................................. 5.00
- Contribution to Psycho-Educational Assessment ............. 200.00
- Deferred Examination at Another Centre ..................... 40.00
- Examination Reread (Refunded If grade is changed) ....... 30.00
- Letter of Permission .............................................. 30.00
- Notarizing Fee (plus 50 cents per page over 10) ............ 10.00
- Photocopying of Examination Script ......................... 10.00
- Replacement of Diploma ....................................... 25.00
- Replacement of Student I.D. Card ............................. 20.00
- Supervision of Examinations at Other Universities ......... 35.00
- Transcript (per copy) ........................................... 5.00

Financial/Administrative User Fees

- Replacement Fee
  - Income Tax Receipt/Education Credit Certificate ...... 6.00
  - Replacement Meal Card ..................................... 20.00
  - 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 ............................................. 30.00
- Late Registration Fee
  - Full-time Students .......................................... 50.00
  - Part-time Students ............................................ 25.00
- Late Payment Fee .............................................. 31.00
- Defeferment Fee ................................................ 31.00
- 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 1995) to write the comprehensive registration examinations administered by the College of Nurses of Ontario.

Insurance of Personal Property on University Premises
The University cannot assume any responsibility for the personal property of any employees, faculty members, or students, nor does the University carry any insurance that would cover their personal property.
In most cases, personal fire insurance policies provide an automatic 10% extension covering property away from home. You should inspect your insurance policies to be certain that this is the case.

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

There are various insurance plans available, and although the University does not specifically endorse any one of these plans, it has no objection to explanatory brochures and literature being posted on bulletin boards or distributed in appropriate places.
If you are involved in laboratory or field work, you are particularly encouraged to investigate such coverage.

For information on student awards and financial aid, please refer to Undergraduate Academic Awards and Student Financial Aid sections of this Calendar.
The Arts & Science 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 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.

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.

ACADEMIC REGULATIONS

The Arts & Science Programme is governed by the General Academic Regulations of the University, (see the General Academic Regulations section (page 16) in this Calendar) and the regulations described below.

The Programme begins in Level I and leads to the degree, Bachelor of Arts & Science (B.Arts Sc.) on completion of Level III or B.Arts Sc. (Honours) on completion of Level IV. The four-level programme provides an increased opportunity for specialization through electives and through an individual study or thesis course.

Students must have a CA of at least 6.0 to continue in the programme. In the case of some Combined Honours programmes, the average must include specified courses. These courses are indicated in the programme descriptions below.

Registration in Level I of the Arts & Science Programme is limited to approximately 50 students.

INQUIRY SEMINAR REQUIREMENTS

Inquiry seminars are comprised of ARTS&SCI 1C06 and a set of upper-level inquiry seminars on a variety of topics that change from time to time. The upper-level inquiry seminars are designated as "3C" at the beginning of the course code (3CAl6, 3CB6, etc.) and are described in the programme listing as "upper level Inquiry". See the course listing for topic designations. ARTS&SCI 1C06 must be completed in Level I. One upper-level inquiry seminar is required and is normally taken in Level II or III.

COMBINED HONOURS

Students in the Arts & Science Programme may undertake Combined Honours programmes in many disciplines within the Faculties of Social Sciences, Humanities and Science. The combined programmes with Biology, Chemistry and Physics are five-level programmes. Combined programmes that are already established are described below. Students are encouraged to consult the Director of the Arts & Science Programme for consideration of other possible combinations. An application is required for the Combined Honours Programme.

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 Combined Honours programmes, this requirement can be, and in some cases 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 AND EXCHANGE PROGRAMMES

Students interested in international study should consult the Director of the Arts & Science Programme one year before they plan to begin their study abroad. No later than the end of January, students must propose a programme of study for approval by the Programme. Credit will be confirmed only after transcripts are received and academic achievements are reviewed.

Eligibility for Study Abroad

- 60 units complete with a CA of at least 7.0
- B.Arts Sc. (three-year) degree not granted on basis of international study
- 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 (page 16) in this Calendar. Information concerning Group of Ten Student Exchange Programme (GOTSEP) can be found in the Academic Facilities, Student Services and Organizations section of this Calendar under the heading Student Exchanges Officer.

ARTS & SCIENCE PROGRAMME

B.Arts Sc. (Honours) 2027

B.Arts Sc. 2027

NOTES

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

REQUIREMENTS

LEVEL I: 30 UNITS

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

LEVEL II: 30 UNITS

18 units ARTS&SCI 2A06, 2B06, 2R06
6 units Electives or Upper-level Inquiry (Inquiry may be taken in Level III)
6 units Electives or BIOLOGY 1A06 (if not completed in Level I)
LEVEL III: 30 UNITS
6 units ARTS&SCI 3B03, 3BB3
6 units from ARTS&SCI 3A06, 3D03 and 3DD3; 3L03 and 3S03
6 units Electives, or Upper-level Inquiry if this requirement has not yet been completed.

12 units Electives

LEVEL IV: 30 UNITS
6 units from ARTS&SCI 3A06, 3D03 and 3DD3, 3L03 and 3S03 (whichever not completed in Level III)
6-12 units from ARTS&SCI 4A06, 4A12, 4C06, 4C12
12-18 units Electives

Arts & Science and Another Subject

Established Combined Honours programmes are described below. Students are encouraged to consult the Director of the Arts & Science Programme by Year 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 1Z03.

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 1A06
12 units from ANTHROP 2E03, 2F03, 2I03, 2P0A3

LEVEL III: 30 UNITS
12 units ARTS&SCI 2D06, 3A06
6 units Upper-level Inquiry
3 units from ANTHROP 3A03, 3B03, 3D03, 3F03
9 units Anthropology

LEVEL IV: 30 UNITS
12 units ARTS&SCI 3B03, 3BB3, 3D03, 3DD3
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 an average of at least 7.0 in ARTS&SCI 1D06 and CHEM 1A06.

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

LEVEL II: 33 UNITS
12 units ARTS&SCI 2A06, 2R06
6 units BIOCHEM 2A06
6 units BIOLOGY 1A06
9 units CHEM 2006, 2R03

LEVEL III: 33 UNITS
12 units ARTS&SCI 2D06, 3A06
12 units BIOCHEM 3B03, 3BB3, 3L03, 3P03
6 units BIOLOGY 2B03 (if not completed), 2C03
3 units CHEM 3F03

LEVEL IV: 33 UNITS
12 units ARTS&SCI 3B03, 3BB3, 3D03, 3DD3
6 units Upper-level Inquiry
9 units BIOCHEM 4E03 and either BIOCHEM 4B06 or 4P03 and 4A03
6 units from BIOCHEM 3C03, 4D03, 4I03, 4M03

Honours Arts & Science and Biology 2027050

ADMISSION
Completion of Arts & Science I with a Cumulative Average of at least 6.0 and at least B- in one of ARTS&SCI 1D06 or CHEM 1A06.

NOTES
1. Continuation in the programme beyond Level II requires at least B- in BIOLOGY 1A06.
2. Students are advised to note carefully the prerequisites for all Level III and IV courses listed in the programme, particularly BIOCHEM 3A03, 3AA3, 3G06.

COURSE LIST
All Level II, III, and IV Biology courses; BIOCHEM 3A03, 3AA3, 3BB3, 3C03, 3G06, 3GG3, 4D03, 4E03, 4M03; ENGINEER 4X03; GEOG 3P03, 4P03; GEOLOGY 2J03, 3D06, 3J03, 4D03, 4F03; MOL BIOL 4H03; PHARMAC 4B03; PSYCH 3F06, 3R03, 3S03, 3T03

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

LEVEL II: 30 UNITS
18 units ARTS&SCI 2A06, 2D06, 2R06
6 units BIOLOGY 1A06
6 units CHEM 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 3G03, 3GG3

LEVEL IV: 30 UNITS
6 units ARTS&SCI 3A06 or 3D03 and 3DD3
18-21 units from Course List
3-6 units Electives

LEVEL V: 30 UNITS
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 Cumulative Average of 6.0 and a grade of at least B- in ARTS & SCI 1D06 and in CHEM 1A06.

NOTES
1. Students who have completed CHEM 2006 may substitute this for CHEM 2B06 and students who have completed ARTS & SCI 2006 may substitute this for PHYSICS 1A06 or 1B06.
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 and 3B03, 3D03 and 3DD3

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

LEVEL II: 33 UNITS
12 units ARTS&SCI 2A06, 2R06
6 units BIOCHEM 2A06
6 units BIOLOGY 1A06
9 units CHEM 2006, 2R03

LEVEL III: 33 UNITS
12 units ARTS&SCI 2D06, 3A06
12 units BIOCHEM 3B03, 3BB3, 3L03, 3P03
6 units BIOLOGY 2B03 (if not completed), 2C03
3 units CHEM 3F03

LEVEL IV: 33 UNITS
12 units ARTS&SCI 3B03, 3BB3, 3D03, 3DD3
6 units Upper-level Inquiry
9 units BIOCHEM 4E03 and either BIOCHEM 4B06 or 4P03 and 4A03
6 units from BIOCHEM 3C03, 4D03, 4I03, 4M03

6 units from Course List
12 units CHEM 2A03, 2C03, 2P06
3 units MATH 2A03
9 units Electives
Honours Arts & Science and Computer Science 2027145

ADMISSION
Completion of Arts & Science I with a Cumulative Average of at least 6.0, including a grade of at least B- in each of ARTS&SCI 1D06, and either COMP SCI 1MA3, 1MB3 or 1MC3, 1MD3.

REQUIREMENTS
LEVEL I: 30 UNITS
24 units ARTS&SCI 1A06, 1B06, 1C06, 1D06
6 units from COMP SCI 1MC3 and 1MD3 or 1MA3 and 1MB3.
LEVEL II: 33 UNITS
12 units ARTS&SCI 2A06, 2D06
6 units BIOLOGY 1A06
6 units STATS 2D03 or 2MA3; 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 and 3BB3
6 units Upper-level Inquiry
3 units COMP SCI 2MJ3
9 units COMP SCI 3MG3, 3MH3, 3MI3
3 units from COMP SCI 3CA3, 3EA3, 3IA3
LEVEL IV: 30 UNITS
6 units ARTS&SCI 3D03, 3DD3
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 Economics

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

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

NOTE
One of OAC Finite Math, MATH 1L03, STATS 1L03, or STATS 2D03 is a prerequisite for research methods courses offered by the Department of Economics.

REQUIREMENTS
Option A (2027151)
LEVEL I: 30 UNITS
24 units ARTS&SCI 1A06, 1B06, 1C06, 1D06
6 units ENGLISH 1A06
LEVEL II: 30 UNITS
12 units ARTS&SCI 2A06, 2D06
6 units BIOLOGY 1A06
12 units ENGLISH 2G03, 2GG3, 2H03, 2HH3
LEVEL III: 30 UNITS
12 units ARTS&SCI 3A06, 3B03, 3BB3
6 units ENGLISH 3L06, 3MM3, 3M06, 3D06, 3DD3
6 units Upper-level Inquiry
6 units from Course List 1 or 2
LEVEL IV: 30 UNITS
6 units ARTS&SCI 4A06 or 4C06
6 units Electives

Option B (2027152)
LEVEL I: 30 UNITS
24 units ARTS&SCI 1A06, 1B06, 1C06, 1D06
6 units BIOLOGY 1A06
LEVEL II: 30 UNITS
18 units ARTS&SCI 2A06, 2D06, 2R06
6 units ENGLISH 1A06
6 units Electives
LEVEL III: 30 UNITS
12 units ARTS&SCI 3A06, 3B03, 3BB3
6 units Upper-level Inquiry
12 units ENGLISH 2G03, 2GG3, 2H03, 2HH3
LEVEL IV: 30 UNITS
6 units ARTS&SCI 3D03, 3DD3
3 units from ENGLISH 2K03, 3I03
9 units ENGLISH 3F03, 3LL3, 4A03
6 units Economics (which must be approved) to replace ARTS&SCI 4A06 or 4C06
6 units Electives

Honours Arts & Science and French 2027200

ADMISSION
Enrolment in this programme is limited. Selection is based on academic achievement but requires, as a minimum, completion of Arts & Science I with a Cumulative Average of at least 6.0 including a grade of at least B- in ENGLISH 1A06.

NOTES
1. With special permission of the English Department, students may substitute ENGLISH 4X03 for three units of Level IV seminar work in the second term.
2. Six units of a language other than English are needed to complete the programme. If Old English and Literature (ENGLISH 3L06) is taken as a language requirement, students should register under the code: ENGLISH 3LS6.

COURSE LIST 1 (SIX UNITS REQUIRED)
ENGLISH 3C06, 3J06, 3L06, 3T03, 3V06

COURSE LIST 2 (SIX UNITS REQUIRED)
ENGLISH 3G06, 3M03, 3MM3, 3N06, 3Q03, 3QQ3

REQUIREMENTS
LEVEL I: 30 UNITS
24 units ARTS&SCI 1A06, 1B06, 1C06, 1D06
6 units ENGLISH 1D06
LEVEL II: 30 UNITS
18 units ARTS&SCI 2A06, 2R06; BIOLOGY 1A06
6 units ENGLISH 2A06
6 units from ENGLISH 2B06, 2G06, 2H06, 2I06
LEVEL III: 30 UNITS
12 units ARTS&SCI 2D06 or 3B03 and 3BB3
6 units Upper-level Inquiry
6 units ENGLISH 3K06
6 units from Course List 1 or 2
LEVEL IV: 30 UNITS
6 units ARTS&SCI 3D03, 3DD3
6 units from Course List 1 or 2 (whichever list requirement not complete)
6 units Level IV English seminars
6 units Language requirement
6 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.

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.
**ARTS & SCIENCE PROGRAMME**

**COURSE LIST 1 (SIX UNITS REQUIRED)**
- FRENCH 4F03, 4I03, 4LL3, 4MM3, 4O03, 4Q03, 4S03, 4U03, 4Y03

**COURSE LIST 2 (THREE UNITS REQUIRED)**
- FRENCH 2G03, 3CC3, 3FO3, 4BB3

**REQUIREMENTS**

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

**LEVEL II: 30 UNITS**
- 12 units ARTS&SCI 2A06, 2B06
- 6 units BIOLOGY 1A06
- 12 units FRENCH 2B03, 2BB3; 2J03 or 2JJ3; 2W03 or 2WW3

**LEVEL III: 30 UNITS**
- 12 units ARTS&SCI 2D06, 3B03, 3BB3
- 6 units Upper-level Inquiry
- 3 units FRENCH 3C03
- 6 units FRENCH 3K03 or 3KK3; FRENCH 3Q03 or 3QQ3
- 3 units from FRENCH 3AA3, 3BB3, 4U03

**LEVEL IV: 30 UNITS**
- 6 units ARTS&SCI 3D03, 3DD3
- 12 units FRENCH 4A03; three units Level III or IV French courses (see Course List 2); two three-unit Level IV French courses from Course List 1
- 3 units from FRENCH 3A03, 3SS3, 4J03
- 8 units Electives

**Honours Arts & Science**

**and Geography**

**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 Geography.

**NOTE**
Students with interest in Human Geography should choose GEOG 1B06 in Level I. Students with interest in Physical Geography or Environmental Science, should choose GEOG 1C03 and 1G03.

**REQUIREMENTS**

**LEVEL I: 30 UNITS**
- 24 units ARTS&SCI 1A06, 1B06, 1C06, 1D06
- 6 units Level I Geography

**LEVEL II: 30 UNITS**
- 12 units ARTS&SCI 2A06, 2B06
- 6 units BIOLOGY 1A06
- 6 units from ARTS&SCI 2R06, GEOG 2LL3, 2N03
- 6 units Level II Geography, excluding 2C03, 2E03, 2P03

**LEVEL III: 30 UNITS**
- 12 units ARTS&SCI 3A06, 3B03, 3BB3
- 6 units Upper-level Inquiry
- 12 units GEOG 3D03; nine units Level III Geography, excluding 3JJ3, 3R03

**LEVEL IV: 30 UNITS**
- 6 units ARTS&SCI 3D03, 3DD3
- 18 units GEOG 4C03 and 15 units Level III/I V Geography, or GEOG 4C06 and 12 units of Level III/I V Geography
- 6 units Electives

**Honours Arts & Science and History**

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

**NOTES**
1. In selecting courses, students must ensure that they take a minimum of three units in each of three fields of History. For this purpose the Department has established the following six fields: European, 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 1A06
- 6 units Level II History

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

**LEVEL IV: 30 UNITS**
- 6 units ARTS&SCI 3D03, 3DD3
- 18 units six units Level III HISTORY; six units Level IV History; six units Level IV History approved as substitutes for ARTS&SCI 4A06 or 4C06
- 6 units Electives

**Honours Arts & Science and Mathematics**

**ADMISSION**
Completion of Arts & Science I with an average of at least 6.0 including a weighted average of 7.0 in ARTS&SCI 1D06 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 1A06

**LEVEL II: 33 UNITS**
- 18 units ARTS&SCI 2A06, 2D06, 2R06
- 12 units MATH 2A03, 2AA3, 2C03, 2R03
- 3 units from MATH 2S03, 2T03

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

**LEVEL IV: 30 UNITS**
- 6 units ARTS&SCI 3D03, 3DD3
- 6 units ARTS&SCI 4A06 or 4C06
- 3 units MATH 4X03
- 12 units Level III or IV Mathematics or Statistics courses
- 3 units Electives

**Honours Arts & Science and Philosophy**

**ADMISSION**
Completion of Arts & Science I with a Cumulative Average of at least 6.0, including a grade of at least B- in any Level I Philosophy course or, if no such course was taken, in six units of work acceptable to the Department of Philosophy.

**NOTES**
1. Students intending to do graduate work in Philosophy are advised to include PHILOS 2B03 in their programme.
2. Students are advised to note carefully the prerequisites for all courses. Students are also advised to take note which courses are offered in alternate years.
3. Upon completion of 60 units of work and with the approval of the Department of Philosophy, the Associate Dean of Humanities (Studies) and the Director of the Arts & Science Programme, one or both terms of Level III may be replaced by courses of study at a designated university abroad.
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 1A06

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

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

LEVEL IV: 30 UNITS
6 units ARTS & SCI 3D03, 3DD3
12 units six units Level III or IV Philosophy; six units Level IV Philosophy
12 units Electives

Honours Arts and Science and Physics 2027440

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

NOTE
Continuation in the programme beyond Level II requires at least C+ in PHYSICS 1A06 or 1B06.

REQUIREMENTS

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

LEVEL II: 30 UNITS
6 units ARTS & SCI 2A06
6 units Upper-level Inquiry
6 units BIOLOGY 1A06, or PHYSICS 1A06 or 1B06, which ever not completed
6 units CHEM 1A06
3 units MATH 2A03
3 units from MATH 2C03, 2D03

LEVEL III: 30 UNITS
12 units ARTS & SCI 3B03, 3BB3, and 3A06 or 3D03 and 3DD3
18 units from PHYSICS 2B06, 2C03, 2D03, 2H03; COMP SCI 1MA3 or 1MCC

LEVEL IV: 29 UNITS
6 units ARTS & SCI 3A06 or 3D03 and 3DD3 (whichever not completed)
17 units PHYSICS 3H04, 3K04, 3M03, 3MM3 and 3N03
6 units MATH 3C03, 3D03

LEVEL V: 32 UNITS
6 units ARTS & SCI 4C06
11 units PHYSICS 4B04, 4F03, 4J04
9 units Level III or IV Physics, excluding PHYSICS 4Q04
6 units Electives

Honours Arts and Science and Political Science 2027450

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

NOTES
(Also, see notes under Faculty of Social Science, Political Science section):  
1. Prerequisites: A number of Level III and IV courses have Level II prerequisites. Students who wish to enter courses but who lack the necessary prerequisites must obtain permission of the instructor.

2. The mathematics requirement for this combined honours programme may be fulfilled by either ARTS & SCI 2R06 (taken in Level II) or POL SCI 3N06 (taken in Level III).

REQUIREMENTS

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

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 3D03, 3DD3
6 units Level III/IV Political Science
6 units Level IV Political Science approved to replace ARTS & SCI 4A06 or 4C06.
12 units Electives

Honours Arts and Science and Psychology 2027460

ADMISSION
Enrolment 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 PHYSICS 1A06 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 2R03 and 2RR3 must be completed before entrance into Level III.
3. BIOLOGY 1A06 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 3C06, 3E03, 3L03, 3LL3, 3F03, 3Q03, 3S03, 3V03, 4G03, 4Q03. 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.

COURSE LIST
PSYCH 3C06, 3E03, 3L03, 3LL3, 3Q03, 3S03, 3V03, 4G03, 4Q03

REQUIREMENTS

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

LEVEL II: 30 UNITS
12 units ARTS & SCI 2A06, 2D06
6 units BIOLOGY 1A06
6 units PSYCH 2R03 and 2RR3 (or ARTS & SCI 2R06)
6 units from PSYCH 2E03, 2F03, 2H03, 2T03

LEVEL III: 30 UNITS
12 units ARTS & SCI 3A06, 3B03, 3BB3
6 units Upper-level Inquiry
3 units MATH 1B03
3 units from PSYCH 2E03, 2F03, 2H03, 2T03 (whichever not taken in Level II)
6 units Level III Psychology (See Note 4 above.)

LEVEL IV: 30 UNITS
6 units ARTS & SCI 3D03, 3DD3
9 units Level III or IV Psychology including one course from Course List, if not already completed. (See Note 4 above.)
6 units PSYCH 4D06 or six units Level IV Psychology approved as substitutes for ARTS & SCI 4A06 or 4C06
9 units Electives
Honours Arts & Science and Women's Studies

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

NOTES
1. Enrolment in the Honours Arts & Science and Women's Studies programme is limited. Application for admission, including a letter explaining the applicant's interest in Women's Studies, should be made to the Director of Women's Studies prior to April 15.
2. Students who have not taken WOMEN ST 1A06 in Level I but who are interested in this combined programme should consult the Director of Women's Studies.
3. Registration in each level of the programme requires written approval of the Director of Arts & Science and the Director of Women's Studies.
4. In Levels II, III, and IV, students must normally take the six-unit Women's Studies course appropriate to their level and six additional units of approved Women's Studies courses from the Course List.

COURSE LIST
All Women's Studies courses above Level I. With approval of the Director of Women's Studies, appropriate courses may be selected from Anthropology, Classics, Comparative Literature, English, French, Modern Languages, Geography, History, Labour Studies, Philosophy, Kinesiology, Religious Studies and Sociology.

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

LEVEL II: 30 UNITS
12 units ARTS&SCI 2A06, 2R06
6 units BIOLOGY 1A06
12 units WOMEN ST 2A06; six units from Course List

LEVEL III: 30 UNITS
6 units ARTS&SCI 2D06
6 units from ARTS&SCI 3A06, 3B03 and 3BB3 or 3D03 and 3DD3
6 units Upper-Level Inquiry
12 units WOMEN ST 3A06; six units from Course List

LEVEL IV: 30 UNITS
12 units from ARTS & SCI 3A06, 3B03 and 3BB3, 3D03 and 3DD3 (whichever not completed)
12 units WOMEN ST 4A06; six units from Course List
6 units Electives
In the Honours Commerce programme, about three-quarters of the work is in Commerce courses, with the remainder of the load being from electives outside the Faculty. In the Commerce programme, about one-half of the course work is in each of Commerce subjects and non-Commerce electives.
Further opportunities for meeting educational requirements for professional designations are available to students in all Commerce and Engineering and Management programmes. Additional course work may be taken as Extras (see Extra Courses below) while in the programme. Further units of credit may also be taken after graduation (see Continuing Students above).

Information concerning credit towards these professional designations can be obtained from the Office of the Administrator, Undergraduate Programmes, School of Business.

MINOR

A minor is an option available to a student enrolled in a four- or five-level programme. 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 programme description of that minor. A student is responsible for ensuring that the courses taken fulfill these requirements. Those who have completed the necessary courses may apply for recognition of 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 Minor in the General Academic Regulations section (page 16) of this Calendar.

ACADEMIC REGULATIONS

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

CHANGE OF PROGRAMME

A student may transfer between Commerce programmes prior to entering Level IV, provided that, after consultation with the Office of the Administrator, Undergraduate Programmes, of the School of Business, it has been determined that the academic requirements of the new programme have been met, and an acceptable revised programme of work can be established. This revised programme of work must be approved by the Office of the Administrator, Undergraduate Programmes.

Students in good standing in the Engineering and Management programme may transfer to a Commerce programme with the permission of the Office of the Administrator, Undergraduate Programmes. The conditions for eligibility for entrance to the Commerce programmes are the same as for students registered in the School of Business.

WORKLOAD

In Business I, a full-time student must complete a 30-unit load in each Fall/Winter session. Advance credit and credit earned during the Spring/Summer session may not be used to reduce this load requirement. Such reductions will be applied as late as possible in a student's programme. A part-time student in Business I is permitted to take a maximum of 18 units in any Fall/Winter session.

In any Fall/Winter session, a student may not register for more than 30 units (including Extra courses) without the approval of the Office of the Administrator, Undergraduate Programmes. Such approval will not be given to a student with a Cumulative Average Grade (CAG) of less than 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 CAG. Voluntary repetitions of non-Commerce courses in which passing grades have been previously attained are designated as Extra courses. (See Extra Courses below and in the Glossary section of this Calendar.)

EXTRA COURSES

Courses in addition to those which constitute the student's programme must be designated Extra at registration. Extra courses may be taken only upon successful completion of Level III of any of the Commerce programmes. No Extra courses may be scheduled in a manner which would delay completion of a student's programme. Commerce courses previously taken cannot be
THE SCHOOL OF BUSINESS HAS INTRODUCED REVISIONS TO THE HONOURS COMMERCE AND COMMERCE PROGRAMMES. STUDENTS ARE ADVISED TO CAREFULLY SELECT THE APPROPRIATE PROGRAMME REQUIREMENTS ACCORDING TO THEIR DATE OF ENTRY INTO THEIR RESPECTIVE PROGRAMMES

PROGRAMMES

FOR STUDENTS WHO ENTERED LEVEL I COMMERCE PRIOR TO SEPTEMBER 1995.

Honours Commerce (Honours B.Com.) 2141
Requirements for continuation towards the Honours B.Com. degree are specified above in Academic Regulations.
REQUIREMENTS
LEVEL I: 30 UNITS
(Last offered in 1996-97)
6 units COMMERCE 4PA3, 4QA3
15-18 units from Groups 1 to 6 below. No more than 12 units from any one Group can be taken in Level IV.
6-9 units Electives from non-Commerce courses

Commerce (B.Com.) 2140
Requirements for continuation towards the B.Com. degree are specified above in Academic Regulations.
REQUIREMENTS
LEVEL I: 30 UNITS
(Last offered in 1996-97)
6 units COMMERCE 4PA3, 4QA3
9 units from Groups 1 to 6 below. No more than six units from any one Group can be taken in Level IV.
15 units Electives from non-Commerce courses

COMMERCE ELECTIVE GROUPS

GROUP 1 (ACCOUNTING)
COMMERCE 3AB3, 4AA3, 4AB3, 4AC3, 4AD3, 4AE3, 4AF3, 4AG3*, 4AH3*, 4AI3*

GROUP 2 (HUMAN RESOURCES & LABOUR RELATIONS)
COMMERCE 3BA3, 3BB3, 3BC3, 4BA3, 4BB3, 4BC3, 4BD3, 4BE3, 4BF3, 4BG3, 4BH3, 4BI3

GROUP 3 (FINANCE)
COMMERCE 3FB3, 3FC3, 4FA3, 4FD3, 4FE3, 4FF3, 4FG3

GROUP 4 (MARKETING)
COMMERCE 3MB3, 4MC3, 4MD3

GROUP 5 (ENVIRONMENT & INTERNATIONAL BUSINESS)
COMMERCE 4PB3, 4PC3, 4PD3, 4PE3

GROUP 6 (PRODUCTION & MANAGEMENT SCIENCE)
COMMERCE 4QB3, 4QC3, 4QD3

PROGRAMMES

FOR STUDENTS WHO ENTERED BUSINESS IN SEPTEMBER 1994 OR LATER OR WHO ENTERED COMMERCE LEVEL II IN SEPTEMBER 1995 OR LATER

REQUIREMENTS
BUSINESS I: 30 UNITS

15 units COMMERCE 1S03; COMP SCI 1BA3; ECON 1A06; MATH 1M03

15 units Electives. Students who do not have OAC Calculus must take MATH 1K03 as an elective before taking MATH 1M03. Students who do not have OAC Finite Mathematics must take STATS 1L03 as an elective. (See International/Cross-Cultural/Language Menu in this section of the Calendar.)
Admission to Commerce II

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

Business Level I Students

To be considered for Commerce Level II a student must have a CA of at least 5.0 on Business I courses with no failures. When calculating the CA and checking for failures only first attempts at Business I courses are considered. However, enrollment in Commerce II is limited to a maximum of 300 students. Therefore, being eligible for consideration for entry to Commerce II does not guarantee entry.

Transfer Students

Transfer students may be admitted to Commerce II from other universities or from other Faculties within McMaster University. A maximum of 50 of the 300 places in Commerce Level II may be given to transfer students. Academic requirements for admission of transfer students may be more demanding than those for Business I students. See the Office of the Administrator, Undergraduate Programmes, School of Business for information.

Requirements

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

Honours Commerce (Honours B.Com.) 2141

Requirements for continuation in the Honours B.Com. programme are specified in the General Academic Regulations section (page 16) of this Calendar.

Requirements

LEVEL III: 30 UNITS
(First offered in 1996-97)
15 units COMMERCE 3BC3, 3FA3, 3MC3, 3QA3, 3QC3
6 units Level III or IV Commerce
9 units Electives from non-Commerce courses. (See International/Cross-Cultural/Language Menu in this section of the Calendar.)

LEVEL IV: 30 UNITS
(First offered in 1997-98)
6 units COMMERCE 4PA3, 4SA3
9 units Level III or IV Commerce
6 units Level III or IV Commerce courses or electives from non-Commerce courses
9 units Electives from non-Commerce courses. (See International/Cross-Cultural/Language Menu in this section of the Calendar.)

Minor in Business

Requirements

6 units ECON 1A06
18 units COMMERCE 2AA3, 2AB3, 2BA3, 2FA3, 2MA3, 2QA3, 2QB3, 3BC3, 3FA3, 3MC3

Note:

Enrolment is limited to 40 students from programmes other than Commerce, Engineering Management, and Labour Studies in each of the Commerce courses comprising the minor. Places in these courses will be allocated to students on a first-come, first-served basis.
At McMaster, Engineering 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 1S03 and ECON 1B03 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 Engineering programmes. In addition to ENGINEER 4A03 or equivalent and 4B03, 15 units of complementary studies electives is required in all B.Eng. programmes. Of these, three must be selected from courses that are designated as being above Level I.

The Associate Dean of Engineering must authorize each student's complementary studies elective courses. An approved list is published each spring and is available from the Associate Dean's office.

**Technical Electives** are Engineering or Applied Science courses in subjects relevant to the particular Engineering 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 engineering 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. Participation in a Theme School (including course selection) will require permission from the Director of the Theme School, the Department Chair and the Associate Dean of Engineering.

**INDUSTRIAL INTERNSHIPS**

The Faculty of Engineering offers 12 to 16-month full-time paid work placements in industry to provide students with the technical work experience based on their course work. Students who qualify compete for placements with participating companies through an application and interview process. 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 Placement. An administrative fee is assessed following the start of the Placement. Industrial Internships are open to all disciplines and programmes within the Faculty of Engineering.

**EXCHANGE PROGRAMMES**

Formal exchange programmes with a number of universities in other countries are available for students wishing to attend a foreign university and receive credit at McMaster. For further information please see International Study in the General Academic Regulations section (page 16) in this Calendar.

For information on the Group of Ten Student Exchange Programme, please refer to the Academic Facilities, Student Services and Organizations section of this Calendar under the heading Student Exchanges Officer.
ACADEMIC REGULATIONS

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 implemented a pilot project (called the M-Opportunity) that provides the opportunity to replace failed courses in second term and/or in the summer. The results of these M-Opportunity courses are used to calculate a new Level I CA. (Failed courses are still counted in the CA.) The Faculty has offered the M-Opportunity in 1994-95, 1995-96 and subject to review, may be available in 1996-97.

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 may be repeated only following failure or inability to achieve prerequisite standing for a required course or approved technical elective course.

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

FALL/WINTER SESSION WORKLOAD
The Faculty of Engineering has set a minimum Fall/Winter session workload of 34 units for Engineering I students. The workload 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 should register in the full load of work prescribed by programme and level. No more than 21 units in one term will be approved.

READMISSION TO ENGINEERING
A student who may not continue may apply for readmission to Engineering after not less than one year of practical work experience. Application for readmission must be made in writing to the Associate Dean of Engineering in March of the year for which readmission is desired and should include a recommendation from the current employer.

Readmission is not guaranteed.
A student who is readmitted after being ineligible to continue at a given level must repeat all the courses at that level, unless specific course exemptions are granted explicitly in the letter of readmission. Students who are readmitted will be placed on 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).

LEVEL I PROGRAMME

ENGINEERING I: 34 UNITS
3 units CHEM 1E03
8 units ENGINEER 1A00, 1C04, 1D04
11 units MATH 1H05, 1N03, 1NN3
6 units PHYSICS 1D03, 1E03
6 units approved complementary studies electives
Chemical Engineering and Management (B.Eng.Mgt.) 4080325

ADMISSION
See Admission to Level II Engineering Programmes above.

LEVEL II: 34 UNITS
16 units CHEM ENG 2A04, 2C02, 2D04, 2F04, 2G02
3 units CHEM 2D03
3 units COMMERCE 2MA3
6 units ECON 1BB3, 2X03
6 units MATH 2M06

LEVEL III: 36 UNITS
17 units CHEM ENG 3D03, 3E04, 3L02, 3M04, 3Q04
15 units COMMERCE 2AA3, 2AB3, 2BA3, 2FA3, 2QA3
3 units ENGINEER 2MM3
1 unit ENGN MGT 3AA1

LEVEL IV: 37-39 UNITS
15 units CHEM ENG 3G03, 3K04, 3P03, 4L02, 4M03
12 units COMMERCE 3BC3, 3FA3, 3MC3, 3QC3
1 unit ENGN MGT 4A01
3 units approved complementary studies electives (above Level I)
6-8 units from BIOCHEM 2E03, CHEM ENG 3Q03, CHEM 2M05, ENGINEER 2003

LEVEL V: 35 UNITS
8 units CHEM ENG 4N04, and 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 4CB3, ENGINEER 4U03, one course must be CHEM ENG 4B03 or 4K03
3 units ENGINEER 4A03 or 4H03 or equivalent
6 units Commerce electives selected from Level III or IV
3 units approved Level III or IV technical electives

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

ADMISSION
See Admission to Level II Engineering Programmes above.

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 2D03
6 units ENGSOCTY 2X03, 2Y03
6 units MATH 2M06
3-6 units Engineering and Society focus electives

LEVEL III: 34-37 UNITS
17 units CHEM ENG 3D03, 3E04, 3L02, 3M04, 3Q04
5 units CHEM 2M05
3 units ENGINEER 2MM3
6 units ENGSOCTY 3Y03, 3Z03
3-6 units Engineering and Society focus electives

LEVEL IV: 33 UNITS
15 units CHEM ENG 3G03, 3K04, 3P03, 4L02, 4M03
3 units ENGSOCTY 3X03
3 units STATS 3N03
6 units from BIOCHEM 2E03, CHEM ENG 3Q03, ENGINEER 2003
6 units Engineering and Society focus electives

LEVEL V: 32 UNITS
8 units CHEM ENG 4N04, and 4W04 or 4Y04
9 units from CHEM ENG 4B03, 4C03, 4E03, 4K03, 4T03, 4X03, 4Z03, ELEC ENG 4CB3, ENGINEER 4U03, one course must be CHEM ENG 4B03 or 4K03
6 units ENGSOCTY 4X03, 4Z03
3 units approved Level III or IV technical electives
6 units Engineering and Society focus electives

Civil Engineering (B.Eng.) 4120

ADMISSION
See Admission to Level II Engineering Programmes above.

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

LEVEL II: 38 UNITS
21 units CIV ENG 2A02, 2C04, 2D03, 2E03, 2J03, 2Q04
11 units ENGINEER 2C03, 2P04, 2Q04
6 units MATH 2M06

LEVEL III: 36 UNITS
26 units CIV ENG 3A03, 3B03, 3G03, 3J04, 3K03, 3M04, 3Q03, 3S03
3 units ENGINEER 3AA1
4 units MATH 3J04
3 units approved complementary studies electives

LEVEL IV: 34-36 UNITS
3 units CIV ENG 4B03
6 units ENGINEER 4A03; 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 4120325 (B.Eng.Mgt.)

ADMISSION
See Admission to Level II Engineering Programmes above.

NOTE
Level IV Civil Engineering courses must be selected in accordance with regulations which require a specified minimum content 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, 2D03, 2J03, 2Q04
6 units COMMERCE 2AA3, 2MA3
6 units ECON 1BB3, 2X03
4 units ENGINEER 2P04
4 units MATH 2M06

LEVEL III: 39 UNITS
13 units CIV ENG 2D03, 2E03, 3M04, 3Q03
9 units COMMERCE 2AB3, 2BA3, 2FA3
7 units ENGINEER 2C03, 2Q04
4 units MATH 3J04
3 units STATS 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: 36-37 UNITS
3 units CIV ENG 4B03
21-22 units from Level IV Civil Engineering technical electives or ENGINEER 4U03
3 units COMMERCE 4PA3
3 units ENGN MGT 5B03
3 units approved complementary studies electives (above Level I)
3 units ENGINEER 4A03, 4H03 or equivalent
(Effective 1997-98 ENGN MGT 4A01 will be in Level V.)
Civil Engineering and Society (B.Eng. Society)  

ADMISSION  
See Admission to Level II Engineering Programmes above.

NOTES  
1. Level IV Civil Engineering courses must be selected in accordance with regulations which require a specified minimum content of engineering design and synthesis. Before the end of Level III, students must complete a Civil Engineering electives form, and ensure that it has been approved by the Department before completing a Level IV 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, 2003  
4 units ENGINEER 2P04  
6 units MATH 2M06  
6 units ENGSOC'TY 2X03, 2Y03  
3-6 units Engineering and Society focus electives

LEVEL III: 33-36 UNITS  
13 units CIV ENG 2D03, 2E03, 3M04, 3Q03  
7 units ENGINEER 2C03, 2Q04  
4 units MATH 2P04  
6 units ENGSOC'TY 3Y03, 3Z03  
3-6 units Engineering and Society focus electives

LEVEL IV: 31-34 UNITS  
19 units CIV ENG 3A03, 3B03, 3G03, 3J04, 3K03, 3S03  
3 units ENGINEER 3P03  
3 units ENGSOC'TY 3X03  
6-9 units Engineering and Society focus electives

LEVEL V: 36-39 UNITS  
3 units CIV ENG 4B03  
3 units ENGINEER 4B03  
6 units ENGSOC'TY 4X03, 4Z03  
3-6 units Engineering and Society focus electives  
21 units from Level IV Civil Engineering technical electives or ENGINEER 4U03

Computer Engineering (B.Eng.)  

ADMISSION  
See Admission to Level II Engineering Programmes above.

LEVEL II: 35 UNITS  
9 units COMP ENG 2HA3, 2KA3, 2YA3  
9 units ELEC ENG 2BA3, 2DA3, 2FA3  
3 units ENGINEER 2003  
8 units MATH 2P04, 2Q04  
6 units approved complementary studies electives

LEVEL III: 36 UNITS  
12 units COMP ENG 3HE3, 3HC3, 3KB3, 3VA3  
18 units ELEC ENG 3AA3, 3BB3, 3CA3, 3D03, 3FB3, 3FC3  
3 units MATH 3K03  
3 units STATS 3X03

LEVEL IV: 34 UNITS  
16 units COMP ENG 4HD3, 4HE3, 4JA4, 4MA3, 4WA3  
3 units ELEC ENG 4QA3  
6 units ENGINEER 4B03, and 4A03 or 4H03 or equivalent  
9 units from COMP SCI 3MG3, 3SD3, 4C03, Level III or IV Electrical Engineering or Engineering Physics or Level IV Computer Engineering

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

ADMISSION  
See Admission to Level II Engineering Programmes above.

LEVEL II: 37 UNITS  
6 units COMMERCE 2A03, 2MA3  
6 units COMP ENG 2HA3, 2YA3  
6 units ECON 1BB3, 2X03  
9 units ELEC ENG 2BA3, 2DA3, 2FA3  
2 units ENGN MGT 2AA2  
8 units MATH 2P04, 2Q04

LEVEL III: 37 UNITS  
9 units COMMERCE 2AB3, 2BA3, 2FA3  
12 units COMP ENG 2K03, 3HB3, 3HC3, 3VA3  
3 units ELEC ENG 3B03  
3 units ENGINEER 2003  
1 unit ENGN MGT 3AA1  
3 units MATH 3K03  
6 units STATS 3X03, 3Y03

LEVEL IV: 37 UNITS  
9 units COMMERCE 3BC3, 3FA3, 3MC3  
9 units COMP ENG 3KB3, 4HD3, 4WA3  
15 units ELEC ENG 3A03, 3CA3, 3DB3, 3FB3, 3FC3  
1 unit ENGN MGT 4A01  
3 units approved complementary studies electives (above Level II)

Level V: 34 units  
6 units COMMERCE 3QC3, 4PA3  
10 units COMP ENG 4HE3, 4JA4, 4MA3  
3 units ENGINEER 4A03 or 4H03 or equivalent  
3 units ENGN MGT 5B03  
6 units Engineering electives selected from Level III and IV Commerce courses or COMMERCE 2B03  
6 units from COMP SCI 3MG3, 3SD3, 4C03, Level III or IV Electrical Engineering or Engineering Physics or Level IV Computer Engineering

Computer Engineering and Society (B.Eng. Society)  

ADMISSION  
See Admission to Level II Engineering Programmes above.

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

LEVEL II: 35 UNITS  
6 units COMP ENG 2HA3, 2YA3  
9 units ELEC ENG 2BA3, 2DA3, 2FA3  
6 units ENGSOC'TY 2X03, 2Y03  
8 units MATH 2P04, 2Q04  
6 units Engineering and Society focus electives

LEVEL III: 33-36 UNITS  
12 units COMP ENG 2KA3, 3HB3, 3HC3, 3VA3  
3 units ELEC ENG 3BB3  
6 units ENGSOC'TY 3X03, 3Z03  
3 units ENGINEER 3B03  
3 units MATH 3K03  
3 units STATS 3X03  
3-6 units Engineering and Society focus electives

LEVEL IV: 30-33 UNITS  
9 units COMP ENG 3KB3, 4HD3, 4WA3  
15 units ELEC ENG 3AA3, 3CA3, 3DB3, 3FB3, 3FC3  
3 units ENGSOC'TY 3X03  
3-6 units Engineering and Society focus electives

LEVEL V: 34 UNITS  
10 units COMP ENG 4HE3, 4JA4, 4MA3  
6 units ENGSOC'TY 4X03, 4Z03  
3 units ENGINEER 4B03  
6 units Engineering and Society focus electives  
9 units from COMP SCI 3MG3, 3SD3, 4C03, Level III or IV Electrical Engineering or Engineering Physics or Level IV Computer Engineering

Electrical Engineering (B.Eng.)  

ADMISSION  
See Admission to Level II Engineering Programmes above.

LEVEL II: 35 UNITS  
6 units COMP ENG 2HA3, 2KA3  
9 units ELEC ENG 2BA3, 2DA3, 2FA3  
6 units ENGINEER 2003, 2S03  
8 units MATH 2P04, 2Q04  
6 units approved complementary studies electives
### LEVEL III: 36 UNITS

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<td>STATS 3X03</td>
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### LEVEL IV: 34 UNITS

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<td>ENGINEER 4B03 and ENGINEER 4A03 or 4H03 or equivalent</td>
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<tr>
<td>12</td>
<td>Electrical Engineering Level IV or Computer Engineering Level III or IV courses</td>
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<tr>
<td>9</td>
<td>Level III or IV approved technical electives</td>
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</tbody>
</table>

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

**ADMISSION**

See Admission to Level II Engineering Programmes above.

### LEVEL II: 37 UNITS

<table>
<thead>
<tr>
<th>Units</th>
<th>Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>COMMERCE 2AA3, 2MA3</td>
</tr>
<tr>
<td>6</td>
<td>COMP ENG 2HA3, 2KA3</td>
</tr>
<tr>
<td>6</td>
<td>ECON 1BB3, 2X03</td>
</tr>
<tr>
<td>9</td>
<td>ELEC ENG 2BA3, 2DA3, 2FA3</td>
</tr>
<tr>
<td>2</td>
<td>ENGN MGT 2AA2</td>
</tr>
<tr>
<td>8</td>
<td>MATH 2P04, 2Q04</td>
</tr>
</tbody>
</table>

### LEVEL III: 37 UNITS

<table>
<thead>
<tr>
<th>Units</th>
<th>Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>COMMERCE 2AB3, 2BA3, 2FA3</td>
</tr>
<tr>
<td>3</td>
<td>COMP ENG 3HB3</td>
</tr>
<tr>
<td>12</td>
<td>ELEC ENG 3CA3, 3DB3, 3FB3, 3FC3</td>
</tr>
<tr>
<td>6</td>
<td>ENGINEER 2003, 2S03</td>
</tr>
<tr>
<td>1</td>
<td>ENGN MGT 3AA</td>
</tr>
<tr>
<td>3</td>
<td>MATH 3K03</td>
</tr>
<tr>
<td>3</td>
<td>STATS 3X03</td>
</tr>
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### LEVEL IV: 34 UNITS

<table>
<thead>
<tr>
<th>Units</th>
<th>Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>COMMERCE 3BAB, 3BA3, 3FA3, 3MC3 (Term 2)</td>
</tr>
<tr>
<td>3</td>
<td>COMP ENG 3KB3</td>
</tr>
<tr>
<td>12</td>
<td>ELEC ENG 3AA3, 3BB3, 3NA3, 3SA3</td>
</tr>
<tr>
<td>3</td>
<td>ENGINEER 4A03 or 4H03 or equivalent</td>
</tr>
<tr>
<td>1</td>
<td>ENGN MGT 4A01</td>
</tr>
<tr>
<td>3</td>
<td>STATS 3Y03</td>
</tr>
<tr>
<td>3</td>
<td>approved complementary studies electives (above Level I)</td>
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</table>

### LEVEL V: 34 UNITS

<table>
<thead>
<tr>
<th>Units</th>
<th>Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>COMMERCE 3QC3, 4PA3</td>
</tr>
<tr>
<td>4</td>
<td>ELEC ENG 4JA4</td>
</tr>
<tr>
<td>3</td>
<td>ENGN MGT 5B03</td>
</tr>
<tr>
<td>6</td>
<td>Commerce electives selected from Level III and IV Courses or COMMERCE 2QB3</td>
</tr>
<tr>
<td>15</td>
<td>Level III or IV approved technical electives, of which at least nine units must be selected from Electrical Engineering Level IV or Computer Engineering Level III or IV courses</td>
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</tbody>
</table>

### LEVEL III: 33-36 UNITS

<table>
<thead>
<tr>
<th>Units</th>
<th>Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>ELEC ENG 3CA3, 3DB3, 3FB3, 3FC3</td>
</tr>
<tr>
<td>6</td>
<td>ENGSOCTY 3Y03, 3Z03</td>
</tr>
<tr>
<td>6</td>
<td>ENGINEER 2003, 2S03</td>
</tr>
<tr>
<td>3</td>
<td>MATH 3K03</td>
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<td>3</td>
<td>STATS 3X03</td>
</tr>
<tr>
<td>3-6</td>
<td>Engineering and Society focus electives</td>
</tr>
</tbody>
</table>

### LEVEL IV: 33-36 UNITS

<table>
<thead>
<tr>
<th>Units</th>
<th>Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>COMP ENG 3HB3, 3KB3</td>
</tr>
<tr>
<td>12</td>
<td>ELEC ENG 3AA3, 3BB3, 3NA3, 3SA3</td>
</tr>
<tr>
<td>3</td>
<td>ENGSOCTY 3X03</td>
</tr>
<tr>
<td>3-6</td>
<td>Engineering and Society focus electives</td>
</tr>
<tr>
<td>9</td>
<td>approved Level III or IV technical electives</td>
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### LEVEL V: 31 UNITS

<table>
<thead>
<tr>
<th>Units</th>
<th>Courses</th>
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<tbody>
<tr>
<td>4</td>
<td>ELEC ENG 4JA4</td>
</tr>
<tr>
<td>6</td>
<td>ENGSOCTY 4X03, 4Z03</td>
</tr>
<tr>
<td>3</td>
<td>ENGINEER 4B03</td>
</tr>
<tr>
<td>6</td>
<td>Engineering and Society focus electives</td>
</tr>
<tr>
<td>12</td>
<td>Electrical Engineering Level IV or Computer Engineering Level III or IV courses</td>
</tr>
</tbody>
</table>

### Electrical Engineering and Society (B.Eng. Soc.)

**ADMISSION**

See Admission to Level II Engineering Programmes above.

### LEVEL II: 35 UNITS

<table>
<thead>
<tr>
<th>Units</th>
<th>Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>COMP ENG 2HA3, 2KA3</td>
</tr>
<tr>
<td>9</td>
<td>ELEC ENG 2BA3, 2DA3, 2FA3</td>
</tr>
<tr>
<td>6</td>
<td>ENGSOCTY 2X03, 2Y03</td>
</tr>
<tr>
<td>8</td>
<td>MATH 2P04, 2Q04</td>
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</tbody>
</table>

### LEVEL III: 33-36 UNITS

<table>
<thead>
<tr>
<th>Units</th>
<th>Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>ELEC ENG 3CA3, 3DB3, 3FB3, 3FC3</td>
</tr>
<tr>
<td>6</td>
<td>ENGSOCTY 3Y03, 3Z03</td>
</tr>
<tr>
<td>6</td>
<td>ENGINEER 2003, 2S03</td>
</tr>
<tr>
<td>3</td>
<td>MATH 3K03</td>
</tr>
<tr>
<td>3</td>
<td>STATS 3X03</td>
</tr>
<tr>
<td>3-6</td>
<td>Engineering and Society focus electives</td>
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### LEVEL IV: 33-36 UNITS

<table>
<thead>
<tr>
<th>Units</th>
<th>Courses</th>
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<tbody>
<tr>
<td>6</td>
<td>COMP ENG 3HB3, 3KB3</td>
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<tr>
<td>12</td>
<td>ELEC ENG 3AA3, 3BB3, 3NA3, 3SA3</td>
</tr>
<tr>
<td>3</td>
<td>ENGSOCTY 3X03</td>
</tr>
<tr>
<td>3-6</td>
<td>Engineering and Society focus electives</td>
</tr>
<tr>
<td>9</td>
<td>approved Level III or IV technical electives</td>
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### LEVEL V: 31 UNITS

<table>
<thead>
<tr>
<th>Units</th>
<th>Courses</th>
</tr>
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<tbody>
<tr>
<td>4</td>
<td>ELEC ENG 4JA4</td>
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<tr>
<td>6</td>
<td>ENGSOCTY 4X03, 4Z03</td>
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<td>3</td>
<td>ENGINEER 4B03</td>
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<tr>
<td>6</td>
<td>Engineering and Society focus electives</td>
</tr>
<tr>
<td>12</td>
<td>Electrical Engineering Level IV or Computer Engineering Level III or IV courses</td>
</tr>
</tbody>
</table>

### Engineering Physics (B.Eng.)

**ADMISSION**

See Admission to Level II Engineering Programmes above.

### 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, 4G03

### LEVEL II: 38 UNITS

<table>
<thead>
<tr>
<th>Units</th>
<th>Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>COMP ENG 2HA3</td>
</tr>
<tr>
<td>11</td>
<td>ENGINEER 2003, 2P04, 2V04</td>
</tr>
<tr>
<td>7</td>
<td>ENG PHYS 2A03, 2E04</td>
</tr>
<tr>
<td>8</td>
<td>MATH 2P04, 2Q04</td>
</tr>
<tr>
<td>3</td>
<td>PHYSICS 2D03</td>
</tr>
<tr>
<td>6</td>
<td>approved English literature</td>
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</tbody>
</table>

### LEVEL III: 37 UNITS

<table>
<thead>
<tr>
<th>Units</th>
<th>Courses</th>
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</thead>
<tbody>
<tr>
<td>16</td>
<td>ENG PHYS 3D03, 3E03, 3F03, 3O03, 3W04</td>
</tr>
<tr>
<td>9</td>
<td>MATH 3C03, 3D03, 4Q03</td>
</tr>
<tr>
<td>9</td>
<td>PHYSICS 3B06, 3M03</td>
</tr>
<tr>
<td>3</td>
<td>Complementary studies electives</td>
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### LEVEL IV: 36-40 UNITS

<table>
<thead>
<tr>
<th>Units</th>
<th>Courses</th>
</tr>
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<tbody>
<tr>
<td>3</td>
<td>ENGINEER 4B03</td>
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<tr>
<td>11-13</td>
<td>ENG PHYS 4D03, 4U04 and 4A04 or 4H06</td>
</tr>
<tr>
<td>4</td>
<td>PHYSICS 4B04</td>
</tr>
<tr>
<td>10-12</td>
<td>from ENG PHYS 4D03, 4E03, 4F03, 4G03, 4N03, 4S04, PHYSICS 4D06</td>
</tr>
<tr>
<td>8</td>
<td>approved Level III or IV technical electives</td>
</tr>
</tbody>
</table>

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

**ADMISSION**

See Admission to Level II Engineering Programmes above.

### LEVEL II: 38 UNITS

<table>
<thead>
<tr>
<th>Units</th>
<th>Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>COMMERCE 2AA3, 2MA3</td>
</tr>
<tr>
<td>3</td>
<td>COMP ENG 2HA3</td>
</tr>
<tr>
<td>3</td>
<td>ECON 2X03</td>
</tr>
<tr>
<td>7</td>
<td>ENGINEER 2003, 2P04, 2V04</td>
</tr>
<tr>
<td>8</td>
<td>ENG PHYS 2A03, 2E04</td>
</tr>
<tr>
<td>3</td>
<td>PHYSICS 2D03</td>
</tr>
</tbody>
</table>

### LEVEL III: 38 UNITS

<table>
<thead>
<tr>
<th>Units</th>
<th>Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>COMMERCE 2AB3, 2BA3, 2FA3</td>
</tr>
<tr>
<td>2</td>
<td>ENGN MGT 2M2</td>
</tr>
<tr>
<td>6</td>
<td>ENG PHYS 3E03, 3F03</td>
</tr>
<tr>
<td>6</td>
<td>MATH 3C03, 3D03</td>
</tr>
<tr>
<td>9</td>
<td>PHYSICS 3B06, 3M03</td>
</tr>
<tr>
<td>3</td>
<td>approved Level III or IV technical electives</td>
</tr>
</tbody>
</table>

### LEVEL IV: 36-40 UNITS

<table>
<thead>
<tr>
<th>Units</th>
<th>Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>ENGINEER 2003, 2P04, 2V04</td>
</tr>
<tr>
<td>7</td>
<td>ENG PHYS 2A03, 2E04</td>
</tr>
<tr>
<td>8</td>
<td>MATH 2P04, 2Q04</td>
</tr>
<tr>
<td>11-13</td>
<td>ENG PHYS 4D03, 4E03, 4F03, 4G03, 4N03, 4S04, PHYSICS 4D06</td>
</tr>
<tr>
<td>8</td>
<td>approved Level III or IV technical electives</td>
</tr>
</tbody>
</table>
LEVEL IV: 38 UNITS
12 units COMMERCE 3BC3, 3FA3, 3MC3, 3QC3
2 units ENGN MGT 3AA1, 4A01
14 units ENGY PHYS 3D03, 3O03, 3W04, 4J04
3 units MATH 4Q03
7 units PHYSICS 3M03, 4B04

LEVEL V: 38-40 UNITS
3 units COMMERCE 4PA3
3 units ENGN MGT 5B03
7 units ENGY PHYS 4A04, 4C03
10-12 units from ENGY PHYS 4D03, 4E03, 4F03, 4G03, 4N03, 4S04, PHYSICS 4D06
6 units Commerce electives selected from Level III and IV Commerce courses or COMMERCE 2QB3
6 units approved Level III or IV technical electives
3 units approved complementary studies electives (above Level I)

Engineering Physics and Society (B.Eng. Society) 4190535

ADMISSION
See Admission to Level II Engineering Programmes above.

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

LEVEL II: 35-38 UNITS
11 units ENGINEER 2003, 2P04, 2V04
7 units ENGY PHYS 2A03, 2E03
6 units ENGSOCTY 2X03, 2Y03
8 units MATH 2P04, 2G04
3-6 units Engineering and Society focus electives

LEVEL III: 33-36 UNITS
3 units COMP ENG 2HA3
6 units ENGY PHYS 3E03, 3F03
6 units ENGSOCTY 3Y03, 3Z03
6 units MATH 3C03, 3D03
9 units PHYSICS 2D03, 3B06
3-6 units Engineering and Society focus electives

LEVEL IV: 33-36 UNITS
14 units ENGY PHYS 3D03, 3O03, 3W04, 4U04
3 units ENGSOCTY 3X03
3 units MATH 4Q03
7 units PHYSICS 3M03, 4B04
6-9 units Engineering and Society focus electives

LEVEL V: 35-40 UNITS
3 units ENGINEER 4B03
7 units ENGY PHYS 4A04, 4C03
6 units ENGSOCTY 4X03, 4Z03
10-12 units from ENGY PHYS 4D03, 4E03, 4F03, 4G03, 4N03, 4S04, PHYSICS 4D06
6-9 units Engineering and Society focus electives
3 units approved Level III or IV technical electives

Manufacturing Engineering (B.Eng.) 4314

ADMISSION
See Admission to Level II Engineering Programmes above.

LEVEL II: 36 UNITS
14 units ENGINEER 2MM3, 2O03, 2P04, 2Q04
3 units MANUFACT 2C03
6 units MATH 2M06
7 units MECH ENG 2A03, 2W04
6 units approved English literature

LEVEL III: 37 UNITS
3 units ENGINEER 3N03
2 units MANUFACT 3M02
3 units MATLS 3P03
23 units MECH ENG 3A03, 3C03, 3E04, 3F03, 3O04, 3R03, 4D03
3 units STATS 3Y03
3 units complementary studies electives (above Level I)

LEVEL IV: 39 UNITS (1996-97 ONLY)
12 units ENGINEER 4A03 or 4H03 or equivalent, 4B03, 4C03, 4J03
9 units MANUFACT 4A03, 4M04, 4P02
12 units MECH ENG 4K03, 4O03, 4R03, 4Z03
3 units complementary studies electives (above Level I)
3 units approved technical electives

LEVEL IV: 39 UNITS (EFFECTIVE 1997-98)
12 units ENGINEER 4A03 or 4H03 or equivalent, 4B03, 4C03, 4J03
9 units MANUFACT 4A03, 4M04, 4P02
15 units MECH ENG 4C03, 4K03, 4Q03, 4R03, 4Z03
3 units approved technical electives

Manufacturing Engineering and Management (B.Eng.Mgt.) 4314535

ADMISSION
See Admission to Level II Engineering Programmes above.

LEVEL II: 37 UNITS
9 units COMMERCE 2AA3, 2BA3, 2MA3
6 units ECON 1BB3, 2X03
4 units ENGINEER 2P04
2 units ENGN MGT 2AA2
3 units MANUFACT 2C03
6 units MATH 2M06
7 units MECH ENG 2A03, 2W04

LEVEL III: 38 UNITS
6 units COMMERCE 2AB3, 2FA3
13 units ENGINEER 2MM3, 2M03 (Term 1), 2Q04, 3N03
2 units MANUFACT 3M02
14 units MECH ENG 3C03, 3E03, 3O04, 3R03
3 units STATS 3Y03

LEVEL IV: 37 UNITS (1997-98)
9 units COMMERCE 3BC3, 3FA3, 3MC3
3 units ENGINEER 4A03
2 units ENGN MGT 3AA1, 4A01
2 units MANUFACT 4P02
3 units MATLS 3P03
12 units MECH ENG 3A03, 3F03, 4D03, 4R03
3 units complementary studies electives (above Level I)
3 units approved technical electives

LEVEL V: 37 UNITS (1998-99)
3 units ENGINEER 4B03
6 units COMMERCE 4PA3
6 units ENGINEER 4A03 or 4H03 or equivalent, ENGINEER 4J03
3 units ENGN MGT 5B03
7 units MANUFACT 4A03, 4M04
12 units MECH ENG 4C03, 4K03, 4Q03, 4Z03
6 units Commerce electives selected from Level III and IV Commerce courses or COMMERCE 2QB3

Manufacturing Engineering and Society (B.Eng.Society) 4314535

ADMISSION
See Admission to Level II Engineering Programmes above.

LEVEL II: 32-35 UNITS
7 units ENGINEER 2003, 2P04
6 units ENGSOCTY 2X03, 2Y03
7 units MANUFACT 2C03
6 units MATH 2M06
7 units MECH ENG 2A03, 2W04
3-6 units Engineering and Society focus electives
LEVEL III: 35-38 UNITS (1997-98)
10 units ENGINEER 2Q04, 2MM3 (Term 1), 3N03
3 units ENGSOCTY 3Z03
2 units MANUFACT 3M02
14 units MECH ENG 3C03, 3E04, 3O04, 3R03
3 units STATS 3Y03
3-6 units Engineering and Society focus electives

6 units ENGINEER 4C03, 4J03
6 units ENGSOCTY 3X03, 3Y03
2 units MANUFACT 4P02
3 units MATLS 4P03
12 units MECH ENG 3A03, 3F03, 4R03, 4D03
3-6 units Engineering and Society focus electives

LEVEL V: 31-34 UNITS (1999-2000)
3 units ENGINEER 4B03
6 units ENGSOCTY 4X03, 4Z03
7 units MANUFACT 4A03, 4M04
12 units MECH ENG 4C03, 4K03, 4Q03, 4Z03
3-6 units Engineering and Society focus electives

Materials Engineering (B.Eng.),
4315

ADMISSION
See Admission to Level II Engineering Programmes above.

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

LEVEL II: 37 UNITS
4 units CHEM 2W04
10 units ENGINEER 2MM3, 2003, 2P04
11 units MATLS 2B06, 2H03, 2X02
6 units MATH 2M06
6 units approved complementary studies electives

LEVEL III: 34-35 UNITS
3 units ENG PHYS 3F03
22 units MATLS 3A03, 3B03, 3E04, 3I05, 3P03, 3T04
3 units MATH 3I03
3 units STATS 3N03 or 3Y03
3-4 units CHEM ENG 3O04 or MECH ENG 3O04 or CHEM ENG 3Q04 or GEOLGY 2B04

LEVEL IV: 36-37 UNITS (1996-97 ONLY)
6 units ENGINEER 4A03 or 4H03 or equivalent, 4B03
15 units MATLS 3P03, 4A02, 4B04, 4L02, and 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 MECH ENG 3O04, unless already taken

LEVEL IV (MATERIALS OPTION): 36-37 UNITS
(Effective 1997-98)
9 units ENGINEER 4A03 or 4H03 or equivalent, 4B03
12 units MATLS 4A02, 4B04, 4L02, 4Z04
3 units approved complementary studies electives (above Level I)
12-13 units approved Level III or IV technical electives, which must include either CHEM ENG 3O04 or MECH ENG 3O04, unless already taken

LEVEL IV (CERAMICS OPTION): 35-36 UNITS
(Effective 1997-98)
3-4 units approved Level III or IV technical electives, which must include either CHEM ENG 3O04 or MECH ENG 3O04, unless already taken

Materials Engineering and Management (B.Eng.Mgmt.),
4315325

ADMISSION
See Admission to Level II Engineering Programmes above.

LEVEL II: 37 UNITS
4 units CHEM 2W04
6 units COMMERCE 2AA3, 2MA3
6 units ECON 1BB3, 2X03
6 units ENGINEER 2MM3, 2003
6 units MATH 2M06
9 units MATLS 2B06, 2H03

LEVEL III: 36 UNITS
6 units COMMERCE 2BA3, 2FA3
3 units ENGN MGT 2AA2, 3AA1
4 units ENGINEER 2P04
3 units ENGN PHYS 3F03
14 units MATLS 2X02, 3A03, 3E04, 3I05
3 units MATH 3I03
3 units STATS 3N03 or 3Y03

LEVEL IV: 37 UNITS (1996-97 ONLY)
4 units CHEM 2W04
4 units CHEM ENG 3O04 or MECH ENG 3O04
12 units COMMERCE 2AB3, 3BC3, 3FA3, 3MC3
1 unit ENGN MGT 4A01
10 units MATLS 3B03, 3P03, 3T04
3 units approved complementary studies electives (above Level I)
3-4 units approved technical electives

LEVEL V: 35-36 UNITS (1996-97 ONLY)
6 units COMMERCE 3CC3, 4PA3
3 units ENGINEER 4A03 or 4H03 or equivalent
3 units ENGN MGT 5B03
11 units MATLS 4A02, 4E03, 4L02 and 4K04 or 4Z04
6 units COMMERCE selected from Level III and IV Commerce courses or COMMERCE 2Q03
6-7 units approved technical electives

LEVEL VI: 35-37 UNITS (EFFECTIVE 1997-98)
6 units COMMERCE 3CC3, 4PA3
3 units ENGINEER 4A03 or 4H03 or equivalent
3 units ENGN MGT 5B03
12 units MATLS 4A02, 4B04, 4L02, 4Z04
6 units COMMERCE selected from Level III and IV Commerce courses or COMMERCE 2Q03
6-7 units approved technical electives

Materials Engineering and Society (B.Eng. Society),
4315535

ADMISSION
See Admission to Level II Engineering Programmes above.

NOTE
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 ENGSOCTY 2X03, 2Y03
9 units MATLS 2B06, 2H03
6 units MATH 2M06
3-6 units Engineering and Society focus electives
LEVEL III: 36-39 UNITS
4 units ENGINEER 2P04
3 units ENG PHYS 3F03
6 units ENGSOCY 3Y03, 3Z03
14 units MATLS 2X02, 3A03, 3E04, 3I05
3 units MATH 3I03
3 units STATS 3N03 or 3Y03
3-6 units Engineering and Society focus electives

LEVEL IV: 31-33 UNITS
3-4 units CHEM ENG 3Q04 or 3Q03 or MECH ENG 3Q04
3 units ENGSOCY 3X03
10 units MATLS 3B03, 3P03, 3T04
6 units Engineering and Society focus electives
9-10 units approved technical electives

LEVEL V: 32-36 UNITS (1996-97 ONLY)
3 units ENGINEER 4B03
6 units ENGSOCY 4X03, 4Z03
8 units MATLS 4A02, 4L02 and 4K04 or 4Z04
12-13 units approved technical electives
3-6 units Engineering and Society focus electives

LEVEL V: 33-37 UNITS (EFFECTIVE 1997-98)
6 units ENGINEER 4B03, 4J03
6 units ENGSOCY 4X03, 4Z03
12 units MATLS 4A02, 4B04, 4L02, 4Z04
6-7 units approved technical electives
3-6 units Engineering and Society focus electives

MECHANICAL ENGINEERING (B.Eng.) 4330

ADMISSION
See Admission to Level II Engineering Programmes above.

LEVEL II: 36 UNITS
11 units ENGINEER 2003, 2P04, 2Q04
6 units MATH 2M06
13 units MECH ENG 2A03, 2B03, 2C03, 2W04
6 units approved English literature

LEVEL III: 37 UNITS
6 units ENGINEER 2M03 (Term 1), 3N03
3 units MATH 3I03
3 units MATLS 3P03
22 units MECH ENG 3A03, 3C03, 3E04,3F03,3M02, 3Q04, 3R03
3 units STATS 3Y03

LEVEL IV: 33 UNITS (1996-97 ONLY)
15 units MECH ENG 4M04, 4P02, 4Q03, 4R03, 4S03
6 units ENGINEER 4A03 or 4H03 or equivalent, 4B03
3 units complementary studies electives (above Level I)
9 units from CHEM ENG 4T03, CIV ENG 3K03, ELEC ENG 3SA3, ENGINEER 4J03, 4X03, ENG PHYS 3F03, 3X03, 4D03, 4L03, MECH ENG 4C03, 4D03, 4G03, 4K03, 4L03, 4T03, 4U03, 4V03, 4X03, 4Z03
(ENGINEER 4A03 may be selected, with the permission of the Department.)

LEVEL IV: 33 UNITS (EFFECTIVE 1997-98)
18 units MECH ENG 3D03, 3M04, 4P02, 4Q03, 4R03, 4S03
6 units ENGINEER 4A03 or 4H03 or equivalent, 4B03
3 units complementary studies electives (above Level I)
6 units from CHEM ENG 4T03, CIV ENG 3K03, ELEC ENG 3SA3, ENGINEER 4J03, 4X03, ENG PHYS 3F03, 3X03, 4D03, 4L03, MECH ENG 4C03, 4D03, 4G03, 4K03, 4L03, 4T03, 4U03, 4V03, 4X03, 4Z03
(ENGINEER 4A03 may be selected, with the permission of the Department.)

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

MECHANICAL ENGINEERING AND MANAGEMENT (B.Eng. Mgt.) 4330325

ADMISSION
See Admission to Level II Engineering Programmes above.

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: 38 UNITS
6 units COMMERCE 2AB3, 2FA3
7 units ENGINEER 2003, 2Q04
1 unit ENGN MGT 3AA1
3 units MATH 3I03
18 units MECH ENG 2C03, 3A03, 3C03, 3M02, 3Q04, 3R03
3 units STATS 3Y03

LEVEL IV: 37 UNITS
9 units COMMERCE 3BC3, 3FA3, 3MC3
3 units ENGINEER 2MM3
1 unit ENGN MGT 4A01
18 units MECH ENG 3A03, 3E04, 3F03, 3P02, 4P03, 4S03
3 units Level III or IV approved technical electives
3 units complementary studies electives (above Level I)

LEVEL V: 34 UNITS (1997-98 ONLY)
3 units COMMERCE 4PA3
3 units ENGN MGT 5B03
10 units MECH ENG 4C03, 4M04, 4Q03
3 units ENGINEER 4A03 or 4H03 or equivalent
6 units Commerce elective courses selected from Level III and IV
Commerce courses or COMMERCE 2GB3
9 units from CHEM ENG 4T03, CIV ENG 3K03, ELEC ENG 3SA3, ENGINEER 3N03, 4J03, 4X03, ENG PHYS 3F03, 3X03, 4D03, 4L03, MECH ENG 4D03, 4G03, 4K03, 4L03, 4T03, 4U03, 4V03, 4X03, 4Z03
(MANUFACT 4A03 may be selected, with the permission of the Department.)

LEVEL V: 34 UNITS (EFFECTIVE 1997-99)
3 units COMMERCE 4PA3
3 units ENGN MGT 5B03
13 units MECH ENG 3C03, 4C03, 4M04, 4Q03
3 units ENGINEER 4A03 or 4H03 or equivalent
6 units Commerce elective courses selected from Level III and IV
Commerce courses or COMMERCE 2GB3
6 units from CHEM ENG 4T03, CIV ENG 3K03, ELEC ENG 3SA3, ENGINEER 3N03, 4J03, 4X03, ENG PHYS 3F03, 3X03, 4D03, 4L03, MECH ENG 4D03, 4G03, 4K03, 4L03, 4T03, 4U03, 4V03, 4X03, 4Z03
(MANUFACT 4A03 may be selected, with the permission of the Department.)

MECHANICAL ENGINEERING AND SOCIETY (B.Eng. Society) 4330535

ADMISSION
See Admission to Level II Engineering Programmes above.

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

LEVEL II: 32 UNITS
7 units ENGINEER 2003, 2P04
6 units ENGSOCY 2X03, 2Y03
6 units MATH 2M06
7 units MECH ENG 2A03, 2W04
6 units Engineering and Society focus electives
LEVEL III: 37 UNITS
4 units ENGINEER 2Q04
6 units ENGSOCTY 3Y03, 3Z03
3 units MATH 3I03
18 units MECH ENG 2C03, 3A03, 3C03, 3M02, 3Q04, 3R03
3 units STATS 3Y03
3 units Engineering and Society focus electives

LEVEL IV: 30 UNITS
3 units ENGSOCTY 3X03
18 units MECH ENG 3A03, 3E04, 3F03, 4P02, 4R03, 4S03
6 units Engineering and Society focus electives
3 units approved Level III or Level IV technical electives

LEVEL V: 31 UNITS (EFFECTIVE 1998-99)
6 units ENGINEER 2MM3, 4B03
6 units ENGSOCTY 4X03, 4Z03
13 units MECH ENG 3D03, 4C03, 4M04, 4Q03
3 units Engineering and Society focus electives
3 units approved Level III or Level IV technical electives

LEVEL V: 31 UNITS (1996-97 ONLY)
6 units ENGINEER 2MM3, 4B03
6 units ENGSOCTY 4X03, 4Z03
10 units MECH ENG 4C03, 4M04, 4Q03
3 units Engineering and Society focus electives
6 units approved Level III or Level IV technical electives

LEVEL V: 31 UNITS (1997-98 ONLY)
6 units ENGINEER 2MM3, 4B03
6 units ENGSOCTY 4X03, 4Z03
13 units MECH ENG 3C03, 4C03, 4M04, 4Q03
3 units Engineering and Society focus electives
3 units approved Level III or Level IV technical electives

Metallurgical Engineering (B.Eng.) 4340

Metallurgical Engineering as a distinct programme is being phased out. In 1994 the final class entered the programme at Level II. However, the Materials Engineering Programmes can, with the appropriate selection of electives, provide significant specialization in topics appropriate to the processing and properties of metallic materials.

LEVEL IV: 37-40 UNITS (LAST OFFERED IN 1996-97)
9 units ENGINEER 3N03; 4A03 or 4H03 or equivalent; 4B03
19 units MATLS 3P03, 4A02, 4C04, 4B04, 4L02 and 4K04 or 4Z04
3 units complementary studies electives (above Level I)
6-9 units Level III or IV approved technical electives
The Faculty of Health Sciences collaborates with the Division of Health Sciences at Mohawk College in educational programmes for other health professions based at the College.

Research programmes encompassing the broad spectrum of health have been established, including basic and applied research and various aspects of health-care delivery. The graduate programmes in medical science 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 Chedoke-McMaster Hospitals) 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 Hamilton General Hospital, Henderson General Hospital, Hamilton Psychiatric Hospital, St. Joseph's Hospital, Chedoke Division of Chedoke-McMaster Hospitals, 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>
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<tr>
<th>Programme</th>
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<tr>
<td>Medicine (M.D.)</td>
<td>November 1</td>
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<tr>
<td>Midwifery (B.H.Sc.)</td>
<td>February 15</td>
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<tr>
<td>Nursing (B.Sc.N.)</td>
<td>February 15</td>
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<tr>
<td>Applicants directly from Ontario Secondary Schools</td>
<td>May 1</td>
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<tr>
<td>Diploma Registered Nurses</td>
<td>February 15</td>
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<tr>
<td>Applicants with Other Qualifications</td>
<td>February 15</td>
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<tr>
<td>Transfers from other degree Nursing programmes</td>
<td>July 1</td>
</tr>
<tr>
<td>Occupational Therapy and Physiotherapy: (Second Degree Programme) (B.H.Sc.)</td>
<td>January 15</td>
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</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 readmission to any student whose academic performance or general conduct has been unsatisfactory, or who has withdrawn from the programme for a period in excess of one academic year.

An evaluation of Unsatisfactory in the School of Medicine signifies that the student has failed to meet these objectives and the University may require the student to withdraw from the School at any time.

The University reserves the right to require the withdrawal of a student should his or her conduct so warrant.
FACULTY OF HEALTH SCIENCES

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, immunizations and chest X-ray. More detailed medical information will be required upon acceptance into the programme.

CLINICAL COURSE REQUIREMENTS
Where, in the opinion of the Faculty, the performance of the student in clinical practice may jeopardize or endanger the welfare of the patient or the patient's family, the student may be removed from clinical experience any time during the academic year, until continuation in the course is reviewed.

INFORMATION AND ACADEMIC COUNSELLING
In certain programmes, a faculty member is selected for each student in the September of entry to a degree programme and provides each student with advice on evaluations, electives and other educational needs throughout the programme. In the M.D. programme, the advisor is also responsible for the collation of all evaluations and completion of the final transcript. Changes in advisors may be entertained as each student becomes acquainted with Faculty well enough to choose his or her own advisor.

The academic advisory role for B.Sc.N. students is fulfilled by the 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. 22962.

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 diploma 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. Participants must be sufficiently motivated to undertake self-directed learning.

Students will be selected to give the class a multidisciplinary character. A relevant university degree or equivalent will normally be required. Admission is based on the number of places available and on the experience of applicants. Those without environmental health experience may also be considered.

Applications must be submitted by the end of March for the study period starting in September 1996. Application can be obtained by contacting the Environmental Health Programme at (905) 525-9140, ext. 27559. Applications received after the deadline date will be notified of admission decisions by the beginning of June.

DIPLOMA PROGRAMME IN OCCUPATIONAL HEALTH AND SAFETY

The Programme in Occupational Health and Environmental Medicine offers two programmes each year for this Diploma. A full-time programme starts in September catering to those who wish to complete the course in three months. A part-time programme is designed so that students within commuting distance from Hamilton can continue their normal employment. This programme also starts in September and continues through the end of April, one day per week, but includes two extended periods of full-time study each lasting two weeks.

While special consideration will be given to those already in the occupational health field, interested individuals without such experience may also be considered. Physicians, nurses, hygienists, related professionals and others are invited to apply. A relevant university degree or equivalent is 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

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 hospital 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 Northern Western 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. in Health Care Practice Programme is interprofessional in nature and is for experienced health professionals who wish advanced preparation as clinicians.

The Undergraduate Medical Programme 7880

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

GENERAL OBJECTIVES

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

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

Enabling objectives consisting of knowledge, skills and professional behaviour comprise the following:

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

Skills
To acquire and use the following skills:
1. Critical Thinking Skills: The application of certain rules of evidence to clinical, investigational and published data in order to determine their validity and applicability.
2. Clinical Skills: The ability to acquire, interpret, synthesize and record clinical information in managing the health problems of patients, considering their physical, social and emotional function. Included is the use of the clinical reasoning process.
3. Self-Directed Learning Skills: The ability to identify areas of deficiency in one's own 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 level of the curriculum. In this way, students understand the relationship 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 physical, biological, population and behavioural principles; the appropriate collection of data and the critical appraisal of evidence. In each problem area, the student may select the most appropriate issues to ensure the understanding and application of fundamental concepts. This flexibility provides an opportunity for early consideration of individual interests and goals. The faculty function as learning resources or guides. Learning by a process of inquiry is stressed.

The central focus of the programme is the tutorial. The class is divided into small groups, each with a tutor. In the tutorial session students develop a series of learning objectives from each health-care problem and negotiate how they will approach their learning tasks. They then acquire the knowledge and skills to meet the objectives of the unit in which they are working. They also learn to work as a team, helping and learning from peers. The study habits and sense of responsibility to self and others provides a basis for life-long working and learning habits. Attendance 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 most policy-making and implementing committees, students can influence decisions in such areas as education, philosophy, faculty recruitment, and curriculum design. It is expected that all students will participate in the continuing reappraisal and improvement of the programme. Such participation is a hallmark of the School.

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 students, their peers, faculty preceptors, and the tutor.

Two problem-solving exercises, carried out individually with each student, are required in each unit. At the completion of the unit, the tutor is responsible for the final summary statement of student learning progress. The tutor prepares a written summary of the student's performance in the tutorials and all associated activities during that unit. A copy of the evaluation summary is given to the student and to the student advisor while the original is kept in the student's evaluation file.

In addition to the tutorial-based evaluation, the accumulation of medical knowledge is assessed at regular intervals by means of the Personal Progress Index. This is a multiple-choice format.
Results are 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 Evaluation Working Group, a subcommittee of the Undergraduate 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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The curriculum of the Undergraduate Medical Programme comprises six units, an elective programme and revision time. The Curriculum Plan showing the relative proportion of time accorded to these units is illustrated on the chart above.

There is less of a division between the preclinical and clinical parts of the M.D. 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 goal of Unit 1 is to provide an introduction to the Undergraduate Medical Programme, emphasizing 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: Health and Healing; 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

This unit is designed as an integrative unit and organized on the overall theme of The Life Cycle. Health-care problems from the community are studied. Major themes include reproduction health, child and adolescent health, occupational and environmental health and health of older persons.

Students have an ongoing opportunity to consolidate their clinical, learning and critical appraisal skills. There are opportunities to make field trips to a variety of health-care settings and agencies.

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 real patients. 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 Gynaecology, 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 which 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 (six weeks), after Unit 4 (four weeks), and during the Clerkship (16 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 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 possible careers in special “frontier” areas of medicine and healthcare. 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 PRACTICE

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-M.D. 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 Debbie Martin, MD Programme Administrator, (905) 525-9140, ext. 22141, or from the MD Admissions and Records Office (Health Sciences).

BASIC CARDIAC LIFE SUPPORT TRAINING
All students are required to have taken a Basic Cardiac Life Support course prior to registration in the medical programme. Courses are readily available in most communities. Specific information will be sent to successful applicants prior to registration.

IMMUNIZATION
All students are required to complete a Faculty of Health Sciences Pre-Entrance Medical Certificate (distributed prior to registration) which details their medical immunization history. Students must have started the three-step immunization process for Hepatitis B before commencing any clinical work. Questions specific to Hepatitis B can be directed to Debbie Martin, MD Programme Administrator, (905): 525-9140, ext. 22141.

Admission Policy for the Medical Programme
The official admission policy for the Undergraduate Medical Programme for September 1997 shall be as published in the 1997 Ontario Medical School Application Booklet. Refer to the 1997 Instruction Book for deadlines. This booklet is available through:

Ontario Medical School Application Service (OMSAS)
PO Box 1328
650 Woodlawn Road West
6500 Room, Ontario, N1H 7P4

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 must be submitted by November 1, 1996, at 4:30 p.m. EST. Approximately 400 applicants will be invited for interviews in Hamilton in March or April. Invitations for interview are determined on the basis of applicants' academic performance, and an assessment of their preparedness for a career in medicine and suitability for the McMaster Undergraduate Medical Programme. From this group a class of 100 is selected.

TRANSCRIPT REQUIREMENTS
It is expected that all applicants will request all transcript materials in a timely fashion, to allow adequate time for processing requests and for receipt at OMSAS by the prescribed deadline. For this reason, applicants are strongly urged to request two sets of transcripts. One must be sent by the institution directly to, and received at OMSAS by December 1, 1996; the second copy should be sent to the applicant to ensure that the request has been fulfilled. Applicants should retain all receipts and correspondence related to their transcript request. Evidence to show that applicants have requested transcripts in a timely fashion may be requested by McMaster University.

It is not normally possible to notify applicants of any outstanding transcripts before December 1, 1996. Therefore, it is the applicant's responsibility to ensure that all transcripts and Registrar statements are received at OMSAS by December 1, 1996. Failure to meet this requirement will result in the disqualification of the application.

All transcripts must be submitted directly to OMSAS by the post-secondary institutions attended. McMaster requires that applicants provide transcripts of all courses/programmes attended at any post-secondary institution. This includes community colleges, CEGEPs, junior colleges, pre-university programmes, etc.

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

ACADEMIC ELIGIBILITY
Applicants must report on the Academic Record Form all grades received in the degree credit courses 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, 1997, applicants must have completed a minimum of three years undergraduate work. Only degree credit courses taken at an accredited post-secondary institution will be considered.

Two of the three years must be above Level I. A "year" is the full block of work specified for a year or level of the programme in the appropriate university calendar. If requested, applicants must provide evidence that the requirement has been met.

An applicant who has completed a diploma at a CEGEP must have completed by September 1, 1997, at least two additional years of degree credit work at an accredited post-secondary institution. One of those years must be a full programme of courses above Level I.

b. By November 1, 1996, 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 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 with regard to length and format of responses. Those instructions are considered to be part of the Admission Policy and Procedures for the McMaster Undergraduate Medical Programme.

Failure to comply with the instructions for the Autobiographical Submission Package will result in disqualification of the application.

GEOGRAPHICAL CONSIDERATION
The geographical status is determined from the 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 November 1, 1996, 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.

INTERVIEWS
Approximately 400 applicants will be invited to Hamilton for an interview. The selection of these applicants is based on the composite score which weights equally the grade point average from the Academic Assessment and the scores from the Autobiographical Submission. Geographical consideration is applied to determine the composition of the pool of applicants that are selected for interview. While all applicants from Geographic Category 4 (other countries) are considered, they may be selected for interview only if they are judged on each criterion to be clearly superior to other applicants.

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 participates in the two components of the interview: the Simulated Tutorial and the Personal Interview.

In the Simulated Tutorial a group of applicants discuss a health problem/situation. The applicant's group skills and problem-exploitation 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.

The Autobiographical Sketch is not assessed but serves as a background for the interviewers. In making the overall assessment of the applicant, the Personal Interview team considers the following areas: problem-exploration skills, self-appraisal skills, interpersonal skills, career choice, and suitability for the McMaster programme.

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 1997.

UNSUCCESSFUL APPLICANTS
Applications from the 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.

APPLICATION FOR DEFERRAL OF REGISTRATION
Applications received in the fall of 1996 are for the academic year commencing in the fall of 1997. 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.

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 by those who have accepted that offer. The application 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 MD Admissions Chair, HSC Room 187, before making a formal application. All relevant information and documentation, including transcripts, must be provided by October 1 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:

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 no more than ten full degree credit courses, obtaining an average overall 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.

First Nation applicants who do not meet the criteria for application through the regular stream must meet all but the first requirement.

Only those who meet the above criteria and are assessed as having made an exceptional contribution to society will be eligible to apply to the programme. In this, candidates must have shown creativity, initiative and leadership. A letter from the candidate, outlining any activities and the contribution to society must accompany the request for assessment.

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 School of Medicine cannot assume this responsibility.

In 1995-96, the academic fees (tuition and student supplementary fees) for a student in the McMaster Undergraduate Medical Programme were:

<table>
<thead>
<tr>
<th>Category</th>
<th>Fees 1995-96</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canadian Citizens and Landed Immigrants</td>
<td>$5,012.00</td>
</tr>
<tr>
<td>Year I and II</td>
<td></td>
</tr>
<tr>
<td>Year III</td>
<td>$3,451.00</td>
</tr>
<tr>
<td>Visa Students</td>
<td></td>
</tr>
<tr>
<td>Year I and II</td>
<td>$22,936.00</td>
</tr>
<tr>
<td>Year III</td>
<td>$15,402.00</td>
</tr>
</tbody>
</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. 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.

Financial assistance is 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. A letter of application for these loans may be obtained from the 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...
FACULTY OF HEALTH SCIENCES

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 10Q Main Street East. Telephone (905) 527-2751.

OTHER 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 source of these funds includes: The Ontario Medical Association Bursaries and Loan Fund; The William Andrew Vanderburgh Sr. Memorial Fund; and the Ripley Estate Bursary and Loan Fund.

For further information, 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 not 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 administered by the Programme's Student Financial Aid Committee 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 Robert Wakefield, (905) 525-9140, ext. 22979.

B.H.SC. MIDWIFERY PROGRAMME 6501

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. Students enrol in one of the three post-secondary institutions. 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 situations. Distance learning formats, such as teleconferencing, are used extensively. Full-time students will complete the programme in three 11-month blocks.

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 three years.

Ryerson Polytechnic University offers the opportunity for part-time study and flexible scheduling. The part-time programme can be completed in four to seven years depending on a student's preference, course availability and on the amount, if any, of transfer credits awarded. Applicants wishing to complete the programme in three years should apply to McMaster or Laurentian University. 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 take part in intensive courses and clinical placements.

Laurentian University offers the opportunity to study in French or English. Laurentian University applicants should be aware that the programme may be offered in sites other than Sudbury.

Each student is assigned to a midwifery practice for an extended period of clinical practice. This ensures that students will provide continuous 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 midwifery 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, sometimes during the three-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 applicant admission process. The programme works closely with practising midwives and other maternity-care providers to ensure a high-quality clinical environment for students.

Curriculum Plan

The full-time sequence, below, sets out the programme in a 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 convene in small groups. These will usually be on the university campus, but may be in other locations. Students undertake some focused clinical activities in Level 1 to foster an understanding of clinical basis of the profession. In Levels 2 and 3 there are extended opportunities to acquire clinical skills and to integrate theoretical material with clinical practice 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 living costs during clinical placements.

There are three (3) 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 1
- Topics in Biological Sciences (HTH SCI 1D06)*
- Social and Cultural Dimensions of Health (HTH SCI 1C06)*
- Women's Studies (WOMEN ST 1A06)*
- Elective* (Term I, three units)
- Critical Appraisal of Research Literature (Term II, HTH SCI 3A03)*
- Introduction to Midwifery (MIDWIF 1A06)+
- Midwifery Care I (MIDWIF 1B03, 1E09)+
- Midwifery Care II (MIDWIF 2B12)+
- Midwifery Care III (MIDWIF 2C12)+
- Principles and Methods of Research (HTH SCI 3LL4)*
- Community Placement (HTH SCI 3A09)*
- Health Education and Health Promotion (MIDWIF 3D03)
- Midwifery Care Clerkship (MIDWIF 3C12)+
- Professional Issues (MIDWIF 3E03)+
- Final Synthesis Paper (MIDWIF 3F03)
Admission Process and Criteria

The following are the requirements for admission in the academic year 1996/97. 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.

A supplemental Midwifery application form including a personal questionnaire is required and must be received at McMaster by February 1.

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

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 application deadline of the year in which the applicant is seeking admission. For those currently registered in required subjects, interim grades must be submitted. Courses must be completed by June 30, 1996, and final grades made available immediately thereafter.

Community College Applicants

Applicants with a post-secondary diploma, and lacking the six required OAC courses, must have full courses that are equivalent to the OACs in the three subject areas specified below. The average from all college work must be a minimum of 70% or better. In addition, students must also have 70% in each of the three prerequisite subjects. Applicants with CEGEP background should consult the OAC equivalence chart found in the Admission Requirements section of this Calendar.

Prior or Current University Applicants

Applicants with at least two full years or equivalent completed at an accredited university at the time of application must present OACs or equivalent university courses in at least two of the three subject areas noted below. The applicant's overall average from the equivalent of 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. Applicants with less than two full years of university work will be considered on a combination of OAC and university work on a case by case basis.

Applicants from Ontario Secondary Schools or Equivalent

Given the keen competition for a limited number of places, OAC applicants should be aware that OAC preparation may not be adequate to gain admission to the Midwifery programme. The following are the minimum academic requirements:

A. Completion of the Ontario Secondary School Diploma or equivalent.

B. 1. One of OAC English I, OAC anglais I or OAC anglais II
   2. One of OAC Biology or Chemistry
   3. One 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%

Mature Applicants

An applicant who does not fulfill the criteria outlined above may be considered as a mature applicant. A mature applicant is defined as a student who is at least 21 years old prior to his/her first day of classes, has not attended secondary school for at least two years and has not previously attended university. To qualify under this category, the applicant must have completed the three OAC courses or equivalent in the three subject areas outlined above, with a minimum overall average of 70%.

Mature applicants lacking the above academic background will be advised to upgrade by either taking OAC courses or equivalent university level courses. If a mature applicant upgrades in preparation for the Midwifery Programme, then the regulation regarding a two year absence from formal studies may be waived.

Transfer or Challenge Credit:

Applicants with previous university courses may be eligible for credit for elective or other non-clinical courses in Level 1 and 2. For students entering the programme in September 1996, 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.

Further details about the availability of challenge exams or other means of obtaining credit for programme requirements will be available later in the admissions process. Applicants who wish to be considered for credit should proceed with the general application materials.

Deferred Registration

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

SELECTION PROCEDURE:

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

Midwives, as primary health care providers within our society, are expected to have well-developed interpersonal skills. They must be highly competent in areas of health education, 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 steps:

1. Assessment of Academic Eligibility: Review of applications for completeness and evidence of academic eligibility according to the criteria listed above.

2. Review of Personal Questionnaire: Each applicant is asked to answer five (5) questions in a typed submission not exceeding five double-spaced pages. The personal questionnaire is the opportunity for applicants to show how their background experiences and personal attributes are well-suited to being a midwife. The personal questionnaire will be scored by teams of two evaluators who have no information about the academic background of the applicant.

3. Personal Interviews: Selected candidates will be invited for a personal interview. Interviews will be conducted by teams of three, consisting of a consumer, faculty member, midwife 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.

A total review of each applicant’s file will help determine offers of admission at the conclusion of this three-step 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. Unsatisfactory applicants may be asked for feedback on their application for the current year. Applicants must make their requests in writing to the programme no later than June 30th of the year of application. Depending on the volume of requests it may take several months to receive a reply.
APPLICATION DEADLINE
Submission of completed application forms to the Ontario Universities' Application Centre and all supporting documents/transcripts, must be received by the University no later than February 1 of the year in which registration is expected.

FINANCIAL INFORMATION
In 1995-96 the tuition fees for a student in the Midwifery Education Programmes were $3,788.00. Supplementary fees are estimated at $400.00 per year. A confirmation fee may be required at the time of acceptance of an offer of admission. Financial assistance is available from the federal and provincial governments through the Ontario Student Assistance Programme (OSAP). Students intending to apply for OSAP may begin their application process to OSAP once they are notified about receiving an interview. The final state 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

CONTINUATION IN THE PROGRAMME
In order to continue in the Midwifery programme students must achieve a CA of at least 4.0 in all graded courses and achieve a pass/satisfactory performance in all clinical (midwifery) courses. Students will be placed on probation if they obtain a CA less than 4.0 but not lower than 3.5, overall in all graded courses or do not achieve a pass/satisfactory performance in all clinical (midwifery) courses. If students fail to meet the minimum grade requirements in the required courses or a pass/satisfactory designation in the clinical courses, they may, at the discretion of the Programme Chair in consultation with a reviewing committee, be allowed to repeat the course. The minimum grade requirements must be met after repeating a course.

Students will be granted programme probation for one reviewing period if their CA is less than 4.0, but no lower than 3.5, and they have not been on probation before. If the CA fall below 3.5, students will be required to withdraw from the programme.

GRADUATION REQUIREMENTS
In order to graduate with a Bachelor of Health Science in Midwifery, students must complete the overall programme including electives, with a CA of at least 4.0 on all graded courses as well as complete and satisfy all the requirements for clinical performance throughout the programme. In addition, all courses for the degree must be completed within five years of attempting 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. Regulations under the Midwifery Act set out the following for registration: attendance at a minimum of 60 births, of which the student must be involved as a primary caregiver for 40; 30 births must include care throughout pregnancy, labour and the puerperium.

Graduation from the Midwifery Education Programme does not guarantee registration with the College of Midwives. All applicants to the College must meet additional registration requirements. Regulatory requirement are subject to change from time to time. The programme will maintain a close working relationship with the regulatory body so that students obtain the required clinical experiences to be eligible for registration.

THE SCHOOL OF NURSING

In 1942, McMaster University began its first programme in Nursing, which was operated cooperatively by the University and the Hamilton General Hospital. Since the establishment of McMaster University's School of Nursing in 1946, students have received a Bachelor of Science in Nursing degree upon graduation. The programme has functioned completely under the supervision of the University, while enjoying the full cooperation of community hospitals and agencies in the operation of its clinical courses. In July 1974, the Schools of Nursing and Medicine became the Faculty of Health Sciences.

In 1982, the Post Diploma Stream of the B.Sc.N. Programme was introduced. This second category of admission is available to provide opportunities for Diploma Registered Nurses to receive a B.Sc.N. degree.

McMaster University is one of ten Ontario universities collaborating with the Ontario Ministry of Health and the College of Nurses of Ontario to offer a Primary Health Care Nurse Practitioner Programme. The programme commenced in September 1995 and is currently funded for five years.

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 graduate programmes. 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-3N26, (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. Details about these sessions are available by calling (905) 525-9140, ext. 24786. Applicants not applying directly from high school who require an application package should call (905) 525-9140, ext. 24786.

The B.Sc.N. Programme
The B.Sc.N. programme promotes the development of nursing as a caring, client-centred, scientifically based profession. With an emphasis on problem-based, small group, self-directed learning, the programme provides a general baccalaureate education in nursing for the preparation of professional nurses who will practise in a variety of health-care settings. Central to our mission is the preparation of nurses who will work to enhance the quality of health of individuals, families, communities and society. In fulfilling its mission, the B.Sc.N. programme promotes in its graduates skills 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 both a process of assessment 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, ability to selectively utilize research findings and the use of a problem-solving process.

We believe that all human beings are unique, self-interpreting individuals with potential and with freedom of choice in determining the quality of life. Both the nurse and the client (individual, group or community) are accountable for their decisions and actions.

The unique contribution of nursing is in professional caring, which has both scientific and humanistic components.

At McMaster, we believe that health care is a team responsibility and that nursing education can be offered most beneficially in an interprofessional setting.

We believe that we can contribute to the development of nursing as a profession by 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 on the part of the applicant of the admission policies and procedures, and the methods by which applicants are chosen for the programme.

As places in the B.Sc.N. programme are limited, admission is based on selection, and possession of published minimum requirements does not guarantee admission.

There are three streams of study for 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, or with qualifications equivalent to OACs, and applicants with other qualifications including mature students and university students.

The Post Diploma (B) Stream normally requires two years of full-time study and is available to Diploma Registered Nurses only.

The Diploma RN/Nurse Practitioner (C) Stream requires up to 24 months of full-time study for diploma prepared nurses. Degree prepared nurses will have up to 12 months on a full-time basis to complete a nurse practitioner programme.

For the 1996-97 academic year, baccalaureate-prepared nurses will not be admitted into the Nurse Practitioner programme at McMaster.

Applications will be accepted for a very limited number of part-time certificate Nurse Practitioner students at nine other university schools of nursing throughout the province.

The requirements and application deadlines vary depending on the applicant's background. Please note carefully the sections that follow as to procedures and requirements.

Applicants from Ontario Secondary Schools or Equivalent
Half of the places in Level I are offered to students with OACs or equivalents. The selection method is by academic qualifications. Offers of admission are made the first part of June and may be based on interim or final grades at that time. Offers based on interim grades will be conditional upon maintaining satisfactory performance on final grades.

Applicants with Other Qualifications and Diploma RNs

The selection method is based on academic qualifications, and a personal qualities score comprised of ratings obtained on an autobiographical questionnaire and a personal interview. The response to the questionnaire is assessed by teams of assessors normally representing the faculty, the students or alumni, and the community. As a further selection process, applicants may be invited to a personal interview 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.

All applicants with other qualifications and Diploma RN applicants will be informed of the admission decision by mid-June. Where courses were in progress at the time of admission, the offer of admission will be conditional upon the applicant achieving a final average of B- in the required course work (i.e., 12 units for other qualifications applicants to the Basic Stream, or six units for applicants to the Post Diploma Stream).

ADMISSION PROCEDURE
Applicants from Ontario Secondary Schools (A Stream)

Applicants currently completing OACs apply through the Ontario Universities' Application Centre (OUAC). Application forms are available in secondary school guidance offices. Your secondary school will forward your application to the OUAC in support of your application. Applications for all studies beginning in September must be received by OUAC no later than 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 Diploma RN Applicants (A and B Stream)

Such applicants should write to the Admissions Coordinator (Nursing) for an application package. Transcripts of courses either completed or in progress and the questionnaire response must be received with the application by February 15. Diploma RN applicants must also include their Certificate of Competence. 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 Certificate of Competence prior to registration in the programme.

Applications for all studies beginning in September must be received no later than February 15 at:

B.Sc.N. Programme
McMaster University, Room HSC-2E10
1200 Main Street West
Hamilton, Ontario, L8N 3Z5

Attention: Ms. V. Lewis,
Admissions Coordinator (Nursing)

Students enrolled in other programmes at McMaster University wishing to apply to the B.Sc.N. programme are considered applicants with Other Qualifications (see section B below). If you wish to apply to the B.Sc.N. programme, submit a completed application to the B.Sc.N. office at the above address by February 15.

Diploma RN Applicants to the Nurse Practitioner Programme (C Stream)

Applicants to the Ontario Primary Health Care Nurse Practitioner Programme should obtain an application kit from the Ontario Universities' Application Centre in Guelph. (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 five categories (A to E) described below.

A. APPLICANTS TO THE BASIC (A) STREAM FROM 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 Requirements
Applicants from other provinces and countries must achieve the equivalent of the qualifications listed above in their secondary school graduation year.

Early Admission Stream (Nursing)
Applicants who qualify in January for early admission may be admitted directly into the B.Sc.N. programme and may begin their elective course work in May.

Nursing courses normally start in September.

B. APPLICANTS TO THE BASIC (A) STREAM WITH OTHER QUALIFICATIONS

Applicants who do not qualify under Category A normally should:
1a. be currently enrolled in first year of a University programme and have achieved a university admission average of at least 75%;
1b. provide evidence of achievement of a minimum of B in at least 12 units (or equivalent) of university degree credit courses. (These courses may be taken as a full-time or part-time student and 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 a completed original and three copies of their response to the questionnaire provided in the application package; applicants will be evaluated on the basis of the material submitted above and may be invited to come to McMaster in early May for an interview. Applicants are responsible for their own travel expenses. Failure to attend the interview will result in cancellation of the application. The scores awarded by the assessors are final.

C. ADMISSION 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. Placement in the programme will be determined by the Level Chair. All transfer students regardless of programme placement must complete all McMaster Nursing courses including Level I Nursing.

Availability of space in the Level requested will be determined by the Office of the Coordinator of Studies following admission to the programme.

1. provide evidence (transcripts) of a minimum grade of B- in at least six units (or equivalent) of University degree credit work. 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 a completed original and three copies of the response to the questionnaire provided in the application package; applicants will be evaluated on the basis of the material submitted in 2 and above. Candidates may be invited to come to McMaster in early May for an interview. Applicants are responsible for their own travel expenses. Failure to attend the interview will result in cancellation of the application. The scores awarded by the assessors are final.

D. DIPLOMA REGISTERED NURSES (B) STREAM

Any nurse holding, or being eligible for, nursing registration prior to the date of entry to the programme will be considered for admission to the Post Diploma (B) Stream of the Undergraduate Bachelor of Science in Nursing programme.

Applicants currently enrolled in a diploma nursing programme must be eligible to write the registration examinations no later than mid June in order to be eligible to apply to the Post Diploma Stream. Advanced credit is granted for 33 units of work to nurses who graduated from an approved diploma nursing programme and who are admitted to the B.Sc.N. programme. Those offered admission to this two-year programme enter at Level III.

Applicants in this category normally should:
1. possess a current Certificate of Competence as a Registered Nurse in Ontario, or be eligible for reciprocity, or be eligible to write and subsequently pass the Registration examinations.

2. provide evidence (transcripts) of a minimum of a grade of B- in at least six units (or equivalent) of University degree credit work. 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.

3. submit a completed original and three (3) copies of the response to the questionnaire provided in the application package.

4. submit two (2) completed personal questionnaires in this section for the Coordinators of Studies.

E. DIPLOMA RN/NURSE PRACTITIONER (C) STREAM

For the 1995-97 academic year, baccalaureate-prepared nurses will not be admitted into the Nurse Practitioner programme at McMaster. Applications will be accepted for a very limited number of part-time certificate Nurse Practitioner students at nine other university schools of nursing throughout the province.

Applicants who hold a diploma in nursing are required to:
1. provide evidence (transcripts) of a minimum grade of B- in at least six units (or equivalent) of University degree credit work. 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. possess a current College of Nurses of Ontario annual registration payment card.

3. have an Ontario diploma in nursing or the equivalent with a minimum overall average of 70%.

4. provide relevant professional experience form. 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.

5. 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).

6. submit two (2) completed personal questionnaires in this section for the Coordinators of Studies.

7. complete personal questionnaire response.

8. provide copies of any additional professional registrations, memberships or certificates listed on the relevant professional experience form (i.e., RNAO, CPR).

All of the above mentioned documentation must be sent directly to the Admissions Coordinator (Nursing) and received no later than February 1. (See Admission Procedure in this section for the appropriate address.)
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. The 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 may be granted only under exceptional circumstances, to those candidates who have been offered a place in the class and have accepted that offer. Deferred registration applies to the subsequent year of admission and no other year. The request for deferral, outlining the reasons for the request, must be postmarked no later than July 31 of the year of admission 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:

Requirements in the B.Sc.N. programme implies acceptance on the part of the student of the objectives of that programme and the methods by which progress toward the achievement of those objectives is evaluated.

Since the academic regulations are continually reviewed, the University reserves the right to change the regulations.

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, in the opinion of faculty, 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
Students will be permitted to enter, proceed through and graduate from the B.Sc.N. programme (A) (B) or (C) stream, on a part-time basis. University and programme regulations governing the full-time undergraduate students will govern the part-time student. 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.

Guidelines have been established for part-time study. Applicants are advised to seek counselling from the B.Sc.N. programme before engaging in part-time study.

B.Sc.N. PROGRAMME ACADEMIC REGULATIONS

Basic (A) and Diploma RN (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 only once in required Health Sciences courses beyond Level I; and
3. achieve a Pass designation in all clinical courses and the clinical component of NURSING 1F04 and 1G04.

The following courses are designated clinical courses:
- Basic (A) Stream: NURSING 2L03, 2P03, 3X04, 3Y04, 4J07, 4K07
- Diploma Registered Nurses (B) Stream: NURSING 3L05, 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.

The following courses are designated clinical courses:

C. 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 NURSING 4AC0, 4A05, 4AA5, 4T05, 4TT5;
4. achieve a Pass designation in the clinical component as well as a grade of B- in the theoretical component in each of NURSING 4AO5, 4AA5, 4T05, 4TT5;

The following courses are designated clinical courses:

NURSING 4AO5, 4AA5, 4C10, 4T05, 4TT5

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.

The Faculty has planned the curriculum so that the study of natural sciences is completed. The nursing component increases progressively through Levels II, III, and IV, as the study of natural sciences is completed.

UNSUCCESSFUL APPLICANTS

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 NURSING 4AC0, 4A05, 4AA5, 4T05, 4TT5;
4. achieve a Pass designation in the clinical component as well as a grade of B- in the theoretical component in each of NURSING 4AO5, 4AA5, 4T05, 4TT5;

The following courses are designated clinical courses:

- NURSING 4AO5, 4AA5, 4C10, 4T05, 4TT5

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.

FAILURE

A student whose CA is less than 3.5, and who has not been granted programme probation, may not continue at the University.

A student who fails to obtain a CA of 3.5 at the completion of the programme probation may not continue at the University.

A student may normally repeat a level of work only once.

If a student fails to meet the minimum grade requirements in the required graded Nursing and required Health Sciences courses or a Pass designation in the clinical nursing courses, the student may, at the discretion of the Programme Chair in consultation with the programme Reviewing Committee, be allowed to repeat the course in which the minimum grade or Pass requirement has not been met. If a student fails to meet the minimum grade or Pass requirements after repeating the course, he or she may not continue in the Faculty. A student may normally be allowed to repeat only one clinical and one non-clinical Nursing or Health Sciences course during the programme.

Only one Nurse Practitioner course may be repeated. If a grade of less than B- or unsatisfactory is obtained in the Nurse Practitioner course on the second attempt, the student will be removed from the programme.

Curriculum for the B.Sc.N. Programme

BASIC (A) STREAM

The Faculty has planned the curriculum so that the study of nursing, the physiological, psychological and social sciences, and the humanities are interrelated and span the entire programme. In Level I, the amount of nursing experience is relatively small; the major proportion of study is in the behavioural and natural sciences. The nursing component increases progressively through Levels II, III, and IV, as the study of natural sciences is completed.

Normally, because of timetable constraints, courses must be taken in the level indicated in the curriculum.

ELECTIVES

Thirty units of electives are to be selected from disciplines of the student's choice, of which a minimum of 12 units are to be chosen from courses designated as Level II or above. For some courses, the amount of duplication of required content will preclude their being used for elective credit in the B.Sc.N. programme.

LEVEL I: 33 UNITS

(Units graded: 33)

13 units HTH SCI 1A06, 1B07
8 units NURSING 1F04, 1G04
6 units PSYCH 1A06
6 units Elective
This programme provides registered nurses with baccalaureate education and advanced preparation to provide individuals, families and communities, with all 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: 51 UNITS**

(Units graded: 51)

**TERMS 1 AND 2: 36 UNITS**

- 22 units HTH SCI 1CC7, 2CC7, 3A03, 3B03, 3L02
- 8 units NURSPRAC 3S03, 3T03, 4A02
- 6 units Electives

**SUMMER TERM: 15 UNITS**

- 15 units Electives

**LEVEL IV: 47 UNITS**

(Units graded: 47)

**TERMS 1 AND 2: 34 UNITS**

- 2 units HTH SCI 4L02
- 26 units NURSPRAC 4A05, 4AA5, 4P03, 4R03, 4T05, 4T05, 4T05
- 6 units Electives

**SUMMER TERM: 13 UNITS**

(Units graded: 3; Units pass/fail: 10)

- 13 units NURSPRAC 4C10, 4S03

**TOTAL UNITS: 127**

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**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 leadership position. Content includes theory and techniques of management, leadership, organizational development and change, motivation, change, 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 NURSPRAC 4B06
- 1 unit NURSPRAC 4C01
- 1 unit NURSPRAC 4D01

**TOTAL UNITS: 8**

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.

**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 First Nations and Northern communities in Canada.
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 nurse in a province or territory in Canada and be employed by Health Canada, Medical Services Branch or a Board 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 relevant knowledge in the physical, biological and behavioural sciences necessary for delivery of nursing care in First Nation 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.

CURRICULUM

(Units graded: 12; Units pass/fail: 10)
8 units NURSING 3A01, 3B07 (taken concurrently)
3 units NURSING 3C03
6 units NURSING 3D06
TOTAL UNITS: 17

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 First Nations 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 practicums are linked to the course content and to each other as they build on progressively more challenging skills and concepts.

CURRICULUM

(Units graded: 12; Units pass/fail: 8)
3 units NURSING 3E03
3 units NURSING 3F03
3 units NURSING 3G03
8 units NURSING 3K08
TOTAL UNITS: 20

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

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 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.

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, and development of assessment, communication, supportive care and collaborative practice skills.

The Adult Oncology programme is offered to nurses within the province of Ontario and will be made accessible through a distance education format.

CURRICULUM

(Units graded: 11; Units pass/fail: 10)
3 units NURSING 3CC3
3 units NURSING 3DD3
5 units NURSING 3G05
5 units NURSING 3H07
2 units HTH SCI 3L02
3 units HTH SCI 3A03
TOTAL UNITS: 21

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

Paediatric Oncology Programme 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: 11; Units pass/fail: 10)
3 units NURSING 3P03
3 units NURSING 3Q03
5 units NURSING 3V05
5 units NURSING 3W05
2 units HTH SCI 3L02
3 units HTH SCI 3A03
TOTAL UNITS: 21

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

SCHOOL OF REHABILITATION SCIENCE

McMaster University offers two Bachelor of Health Science (B.H.Sc.) second-degree programmes in Occupational Therapy and Physiotherapy. McMaster will no longer offer the B.H.Sc. degree completion programme for those who currently hold a diploma from Mohawk College in Occupational Therapy or Physiotherapy.

B.H.Sc. (OT/PT) Second Degree Programmes

The two second degree programmes, offered in collaboration with Lakehead University, have been designed to graduate therapists in two calendar years. These graduates will possess the knowledge, skills and professional behaviour to practice in a complete range of
settings in either urban or rural locations. The collaboration with Lakehead University will add a further dimension, that of understanding the specific health issues unique to northern Ontario, as well as an awareness of the career opportunities available in these regions.

The content of the curricula is in accordance with accreditation guidelines and the scope of practice as described by each of the professions. Students are expected to achieve a sense of the influence of family, society, and culture as they explore the mechanisms of health, disease, disablement, prevention and treatment.

The aim of the Bachelor of Health Sciences programmes in Occupational Therapy and Physiotherapy is to provide students with the opportunity to build on their first degree and to acquire a professional education. Upon graduation they will be able to function as competent basic-level clinicians in a variety of hospital and/or community health settings. Competence entails the integration of knowledge, skills, and professional behaviour in order to analyze and manage health problems.

PROGRAMME GOALS

The B.H.Sc. programmes in Occupational Therapy and Physiotherapy allow graduates to practise their disciplines with the following skills:

**Knowledge**
1. understand and apply the theoretical and scientific bases of Occupational Therapy or Physiotherapy;
2. understand the biological, social, cultural and environmental determinants of health, and their relationship with one another;
3. understand the basic principles and methods of scientific inquiry and critical appraisal;
4. understand the importance of disease prevention, health maintenance, health promotion and treatment;
5. understand the factors which affect health policy and the delivery of health care;
6. understand change.

**Skills**
1. demonstrate clinical reasoning while managing health-care problems;
2. demonstrate competence in assessment and treatment techniques in Occupational Therapy or Physiotherapy;
3. demonstrate effective oral and written communication skills;
4. function as members of an interdisciplinary health-care team;
5. implement programmes for prevention, health maintenance and health promotion;
6. function in advocacy roles in order to enhance quality of life;
7. demonstrate teaching and supervisory skills in professional practice;
8. demonstrate critical thinking and critical appraisal skills;
9. assess effectiveness of professional practice;
10. adapt to and initiate change.

**Personal Qualities**
1. recognize, develop and maintain the personal qualities that are required for professional life:
   a. respect for each person's individuality;
   b. empathy in client relationships;
   c. ethical and professional behaviour;
   d. self-appraisal of personal attributes in order to build on strengths and overcome weaknesses.
2. function as self-directed, life-long learners and leaders in the profession.

Curriculum Design

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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 programmes 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 14-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.

**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 they have been carefully designed and selected for each unit. These problems promote the exploration of the underlying biological, psychological, and behavioral 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 teaching 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 unit.

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 centers, private clinics, and other community facilities throughout Ontario. Students integrate academic learning into practice under the supervision of qualified therapists. Students learn and practice group skills, share knowledge, become comfortable with changing leadership positions, and give and receive feedback.

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 occupational and 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. Applicants 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

Registrar’s Office, Lakehead University

The procedures outlined below must be followed:

a. The OUAC 105 application form and $75 application fee must be submitted to the Ontario Universities’ Application Centre on or before January 15.

b. The autobiographical submission, the academic record form, the $50 assessment fee and transcripts for all university degree credit courses and programmes in which the applicant has been enrolled must be submitted directly to Admissions, OT/PT Building, McMaster University, by January 15.

NOTE: The January 15 deadline is under review, and may be changed for the 1997 admissions cycle. Academically eligible applicants are ranked on the basis of their grade point average over the last 2 years of full-time university study or the equivalent, and the score on their autobiographical submission. Those ranked among the top applicants to each of the Occupational Therapy and Physiotherapy programmes are invited for a personal interview.

Interviews are conducted between April 1 and May 15 in either Hamilton or Thunder Bay, according to the applicant’s preference. Applicants invited to an interview are notified approximately three weeks in advance of their interview. All applicants are responsible for their own travel costs to and from the interview. All applicants will be notified of the admission decision by June 1.
DEFERRAL OF REGISTRATION

All applications received by the January 15 deadline are considered only for admission in the fall of the same calendar year. Applicants who cannot enter the programme as planned in September of that year may withdraw their application or decline their offer of admission at any time without penalty. Application fees cannot be refunded. Subsequent applications to the programmes will be accepted without prejudice.

Deferred registration is normally not granted. Under exceptional circumstances, candidates who have been offered admission may write a letter to the Programme Chair requesting deferral and stating their reasons. If deferral is granted, the individual must register in the following academic year i.e. the approval to defer registration is limited to one year.

FINANCIAL INFORMATION

In 1995-96 the academic fees (tuition and supplementary fees) for a student in the McMaster Undergraduate Occupational Therapy or Physiotherapy Second-Degree programmes are approximately $4,300 for three terms, September to August. It is estimated that books and supplies cost an additional $1,000 annually. Financial difficulties are frequently experienced by second degree students. For these programmes difficulties are intensified by the lack of opportunity for summer employment as well as the relative scarcity of financial assistance available to second degree students.

Financial assistance may be available from the federal and provincial governments through the Ontario Student Assistance Programme (OSAP). To be eligible a student must be a Canadian citizen or permanent resident of Canada and fulfill certain requirements for residency in Ontario.

Academic Regulations

Students in the B.H.Sc.(OT) and B.H.Sc.(PT) programmes, in addition to meeting the general University academic regulations, must follow these specific programme requirements.

Registration in the B.H.Sc.(OT) and B.H.Sc.(PT) programmes implies acceptance on the part of the student of the objectives of that programme and the method by which progress towards those objectives is measured. The University reserves the right to cancel the academic privileges of any student at any time that the student's scholastic record or conduct warrants doing so. Where the performance of the student in a clinical setting may jeopardize the welfare or safety of a patient or a patient's family, the student may be removed from the clinical setting for the remainder of the academic year, until continuation in the course is reviewed.

COURSE LOAD

All courses are required. No exemptions or substitutions will be granted. All course work toward the B.H.Sc.(PT) and B.H.Sc.(OT) must be completed as McMaster University courses. A student may not take a course load consisting of a partial unit. All courses within each unit must be taken concurrently.

DEANS' HONOUR LIST

Students will be evaluated for standing on the Deans' Honour List only upon completion of the programme. Students will be named to the Deans' Honour List if they receive no failing or remedial course grades throughout the programme, and achieve a minimum average of 95.5, 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 credit for a course, but achieves a grade below C-, is required to successfully complete remedial work in order to continue in the programme. Upon successful completion of the remedial work, the new grade assigned for the course is C-.
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 1B06 and 1L06.
2. Students with an OAC in Greek or Latin will register for six units of Level II Greek or Latin in lieu of the 1206 course.
3. Humanities I students are restricted to taking no more than 12 units of introductory (1206) language courses.
4. Portfolio Required: ART 1F06: The prerequisite for ART 1F06 requires permission of the School of Art, Drama and Music based on a required portfolio interview. If you intend to take ART 1F06 which is required for entrance into any Honours Art programme, you must make an appointment with the School for a portfolio interview in 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 1F06 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 1A06 must make arrangements with the School of Art, Drama and Music for qualifying tests.

REQUIREMENTS:
- Students admitted to Humanities I (0700) must complete 30 units as follows:
  - 18 units from ART 1F06, ART HIST 1A06, CAYUGA 1206, CLASSICS 1B06, 1L06, COMP LIT 1A06, DRAMA 1A06, 1B06, ENGLISH 1D06, FRENCH 1A06, 1N06, 1Z06, GERMAN 1B06, 1Z06, GREEK 1Z06, HISPANIC 1A06, 1Z06, HISTORY 1A06, 1L06, ITALIAN 1A06, 1B06, 1Z06, JAPANESE 1Z06, LATIN 1Z06, LINGUIST 1A06, MOHAWK 1Z06, MUSIC 1A06, 1B06, 1CC3, 1D03, (See Note 5 above) OJIBWA 1Z06, PHILOS 1B06, 1D06, POLISH 1Z06, PORTUGUE 1Z06, RUSSIAN 1B06, 1Z06
  - 12 units Electives, which may include Humanities courses

MUSIC I

REQUIREMENTS
- Students admitted to Music I (0370) must complete 30 or 33 units of work as follows:
  - 18-21 units MUSIC 1B06, 1CC3, 1D03, 1E03 (or 1E06), 1G03. (Permission of the School of Art, Drama and Music is required for MUSIC 1E06.)
  - 12 units Electives

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

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, students receive a B.Mus. degree.

COMBINED HONOURS PROGRAMME

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 programme description of that minor. A student is responsible for
ensuring that the courses taken meet these requirements. When registering for courses to be applied towards a minor, in the case of cross-listed courses, students must ensure that they register in the appropriate subject for the minor designation. Those who have the necessary requirements may apply for recognition of that minor when they graduate. If recognition for a minor is granted, this recognition will be recorded on the student's transcript. Minors cannot be revoked once approved, nor applied for retroactively. Students may return for a second degree in the subject in which they have obtained a minor, but only at the Honours level. For further information please refer to "Minors in the General Academic Regulations" section (page 16) in this Calendar.

B.A. PROGRAMME

Two years of study, beyond Level I, concentrated in the work of a single discipline.

The content and the requirements of single Honours, Combined Honours and other B.A. programmes are found after the Academic Regulations below.

There are a number of Humanities courses which may be taken as electives without prerequisites. Individual course descriptions, by Department, are given under the section entitled "Course Listings." Only are students from other Faculties able to take individual courses which have no prerequisites, but they are also able to transfer into any of the degree programmes offered by the Faculty of Humanities. For the majority of programmes in the Faculty, admission may be gained after the successful completion of any Level I programme at the university, providing this includes the necessary programme requisites as outlined in the admission statement for each Humanities programme as described under Programmes for the B.A., B.A. (Honours) and B.Mus. Degrees.

SECOND LANGUAGE PROFICIENCY

Students embarking on Humanities programmes should be aware that most graduate schools require, for admission, proficiency in 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 English Literature, Comparative Literature, Drama and Linguistics. Generally, proficiency in more than one language is a hallmark of most highly-qualifed 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.

It is anticipated that at least the following Honours programmes in the Humanities will be available to those part-time students who are able to take their work only in the evening during the Fall/Winter session: Art History; Drama; English; History; Philosophy.

For part-time students who are able to attend evening classes only during the Fall/Winter session, the following B.A. programmes are available: Art History; Classics; Drama; English; French; History; Philosophy.

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.

ADMISSION AND READMISSION TO THE FACULTY OF HUMANITIES

Because of resource limitations, the University and Faculty of Humanities reserve the right to limit enrolment in any programme or course to the number which can be taught effectively. Enrolment will be by selection based on academic achievement.

Admission as a Second Bachelor's Degree student or as a Continuing Student is by selection and may be limited.

Admission is not guaranteed.

Students completing McMaster Level I programmes may be given preference for admission to limited enrolment programmes over students from other programmes or other universities.

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.

Students who do not meet these requirements must submit a Request for Special Consideration to the Associate Dean of Humanities (Studies). Such requests for transfer are not automatic or guaranteed and will be considered at the same time as applications for readmission (see below).

Applications for readmission must be made, in writing, to the Associate Dean of Humanities (Studies). Readmission requests for September must be submitted by July 15 and for January by November 30.

Applications should explain the reasons for the student's inadequate performance 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. Readmission 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 and the accompanying documentation. Readmission is not guaranteed.

ENGLISH AND HISTORY PROGRAMMES: ADMISSION FROM OTHER POST-SECONDARY INSTITUTIONS

Enrolment in English and History programmes is limited, with priority given to students who have completed Level I at McMaster University.

Applications, together with all supporting documents, from students from other post-secondary institutions who wish to be considered for admission to these programmes at McMaster must be received by the Registrar's Office no later than June 15.

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.

DEADLINES

The Faculty of Humanities will not consider applications for admission after the dates stated in this Calendar. Registrations after the stated deadlines will not be accepted unless documentation is provided showing good cause and including permission of instructors to enter classes late. Dropping and adding of courses will be permitted only within the periods stated in this Calendar.

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 Facilities, Student Services and Organizations section of this Calendar under the heading Student Exchanges Officer.
THIRD YEAR STUDY ELSEWHERE/
HUMANITIES STUDY ABROAD

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) a Third Year Study Elsewhere Programme.

(i) Formal Exchange Programme During
Level III of Honours Programmes

Formal Exchange Programmes are those in which McMaster University has an agreement with another institution involving a temporary exchange of students. Exchange students register and pay tuition fees and supplementary fees at McMaster. No tuition is paid at the other institution. See the General Academic Regulations section (page 16) 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 (page 16) in this Calendar and the sections on Eligibility and Application below.

Eligibility

Students registered in any Honours or Combined Honours programme in the Faculty of Humanities may apply to replace all or part of the work of their third year with an acceptable programme of study taken at a university or equivalent institution approved by the Faculty of Humanities.

To be eligible to take part in this programme, students must have completed at least 30 units of work with a Cumulative Average of at least 7.0. Individual programmes may have additional requirements. All requirements must be satisfied by the end of the Fall/Winter session (September-April) preceding the commencement of study elsewhere. Students taking part in this programme do not have the option of graduating with a three-year B.A. degree on the basis of work completed in this programme, but must return to McMaster University to complete their final 30 units of work.

Students may receive up to 30 units of credit for a full year of study at another institution. The awarding of all credit for work completed elsewhere may be confirmed only after departments have received transcripts and reviewed students' academic achievements following their return and after they have officially registered for Level IV. In certain cases, students may be recommended for the Deans' Honour List on the basis of work completed elsewhere.

Application

Students interested in applying for this programme should consult the Coordinator, Humanities Study Abroad, Togo Salmon Hall, Room 607, and the students' department(s) 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). No later than the end of February, 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.

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 or III who wish to transfer into Level III or IV programmes in Honours English or Honours History or Level III of the B.A. English programme must complete an Application for Transfer to Level III or IV available in Chester New Hall, Room 112.

4. 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

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, and
(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.

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 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.

3. A Minor in Art History is not permitted in the Honours Art programme.

REQUIREMENTS

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

30 units from Level II, III, or IV Art courses

12 units from Level III or IV Art History

6 units from Level III or IV Art History

18 units Electives

Combined Honours in Art and Another Subject

Students wishing to enter this programme must complete an Application for Admission to Level II in mid-March in order to be considered for admission.

ADMISSION

Enrolment in this programme is limited. Selection is based on academic achievement but requires, as a minimum, completion of any Level I programme and:

(a) a Cumulative Average of at least 6.0, and
(b) a grade of at least B- in ART 1F06; and
(c) the successful completion of 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 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.

3. A Minor in Art History is not permitted in the Honours Art programme.
REQUIREMENTS
120 units total (Levels I-IV)
30 units from the Level I programme completed prior to admission into the programme
42 units ART 2A06, 2B06, 2C03, 2F06, 3C03, 3G06, and 12 units of Level III or IV Art, including 4C06
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

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. ART HIST 3J03 and 3K03 are available only as electives for students registered in an Art History programme.
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.

COURSE LIST 1
ART HIST 3AA3, 3BB3, 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, 4I03, 4J03, 4K03, 4L03, 4M03, 4N03, 4O03, 4P03, 4Q03, 4R03, 4S03, 4T03, 4U03, 4V03, 4W03, 4X03

COURSE LIST 2
ART HIST 3X03, 4AA3, 4BB3, 4C03, 4D03, 4E03, 4F03, 4G03, 4H03, 4I03, 4J03, 4K03, 4L03, 4M03, 4N03, 4O03, 4P03, 4Q03, 4R03, 4S03, 4T03

REQUIREMENTS
120 units total (Levels I-IV)
30 units from the Level I programme completed prior to admission into the programme
15 units from ART HIST 2B03, 2C03, 2D03, 2E03, 2G03, 2M03, 2N03
3 units ART HIST 2E03
6 units Level III or IV Art History
24 units from Course List 1
6 units from Course List 2
36 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.

NOTES
1. ART HIST 3J03 and 3K03 are available only as electives for students registered in an Art History programme.
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.

COURSE LIST 1
ART HIST 3AA3, 3BB3, 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, 4I03, 4J03, 4K03, 4L03, 4M03, 4N03, 4O03, 4P03, 4Q03, 4R03, 4S03, 4T03, 4U03, 4V03, 4W03, 4X03

COURSE LIST 2
ART HIST 3X03, 4AA3, 4BB3, 4C03, 4D03, 4E03, 4F03, 4G03, 4H03, 4I03, 4J03, 4K03, 4L03, 4M03, 4N03, 4O03, 4P03, 4Q03, 4R03, 4S03, 4T03

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 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.

NOTE
ART HIST 3J03 and 3K03 are available only as electives for students registered in an Art History programme.

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 through four foundation courses -- in the history of performance, the structures of theatrical texts, the medium of film, and the art of acting. 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. 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 and are listed at the end of the Drama course descriptions. With the approval of the School of Art, Drama and Music, a limited number of courses from the list may be available as substitutes for Drama courses, and counted toward the fulfillment of a programme in Drama. Students are advised that there may be restrictions on enrolment in these courses.
3. 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.

NOTE
A Minor in Film is not permitted in the Honours Drama programme.
A Minor in Film is not permitted in the Honours Drama programme.

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.

NOTE
A Minor in Film is not permitted in the Honours Drama programme.

REQUIREMENTS
120 units total (Levels I-IV)
- 30 units from the Level I programme completed prior to admission into the programme
- 18 units Level II Drama
- 30 units Level III or IV Drama
- 6 units Level IV Drama including at least three units from DRAMA 4C03, 4CC3, 4E03, 4EE3, 4FF3
- 36 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.

NOTE
A Minor in Film is not permitted in the Honours Drama programme.

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, 4FF3
- 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, 3RR3, 3T03, 3TT3

PROGRAMMES IN MUSIC
Completion of a Music degree requires considerable daytime attendance.

Honours Programmes for the B.Mus. Degree

Programme A, Alternative 1: 2373
Music Education
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-IV)
- 30 units Music I programme
- 9 units Music2806, 2BB3, 2C03, 2CC3, 2D03, 2E03, 2G03, 2H03, 3E03, 3G03, 3J03, 3Q03, 3V03
- 15 units from Course List 1
- 9 units from Course Lists 1 and 2
- 3 units Level III or IV Music
- 24 units Electives, 12 of which may be from Music

Programme A, Alternative 2: 2374
Music Education/Performance
Alternative 2 is intended for those students in the Education stream who are able to benefit from an increased performance component in their programme.

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, including Music 1E06, and a Cumulative Average of at least 6.0. Under exceptional circumstances, students may use Music 1E03 in place of 1E06 as a prerequisite for Music 2E06. Students interested in this option must request it in writing by March 15.

REQUIREMENTS
126 units total (Levels I-IV)
- 33 units Music I programme
- 54 units MUSIC 2BB6, 2BB3, 2C03, 2CC3, 2D03, 2E03, 2G03, 2H03, 3E03, 3G03, 3J03, 3Q03, 3V03, 3Y03, 4E06, 4G03
- 15 units from Course List 1
- 6 units from Course Lists 1 and 2
- 18 units Electives, six of which may be from Music

Programme B, Alternative 1: 2375
Music History and 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 Music I and a Cumulative Average of at least 6.0.

REQUIREMENTS
120 units total (Levels I-IV)
- 30 units Music I programme
- 45 units MUSIC 2BB6, 2BB3, 2C03, 2CC3, 2D03, 2E03, 2G03, 2H03, 3E03, 3G03, 3J03, 3Q03, 3V03, 3Y03, 4E06, 4G03
- 15 units from Course List 1
- 6 units from Course Lists 1 and 2
- 3 units Level III or IV Music
- 24 units Electives, 12 of which may be from Music

Programme B, Alternative 2: 2376
Music History and Theory/Performance
Alternative 2 is intended for those students in the History and Theory stream who are able to benefit from an increased performance component in their programme.

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, including MUSIC 1E06, and a Cumulative Average of at least 6.0. Under exceptional circumstances, students may use MUSIC 1E03 in place of 1E06 as a prerequisite for MUSIC 2E06. Students interested in this option must request it in writing by March 15.

COURSE LIST 1
MUSIC 4C03, 4H03, 4I03, 4U03

COURSE LIST 2
MUSIC 2AA3, 3T03, 3U03, 4X03

REQUIREMENTS
126 units total (Levels I-IV)
33 units Music I programme
63 units MUSIC 2B06, 2BB3, 2C03, 2CC3, 2D03, 2E06, 2G03, 2H03, 3C03, 3CC3, 3E06, 3G03, 3H03, 3J03, 3R03, 3Y03, 4E06, 4G03
6 units from MUSIC 3B03, 3BB3, 4B03, 4B03
6 units from Course List 1
6 units from Course Lists 1 and 2
12 units Electives (non-Music courses)

Combined Honours B.A. in Music and Another Subject

Students wishing to enter this programme must complete an Application for Admission to Level II in mid-March in order to be considered for admission.

ADMISSION
Completion of Music I and a Cumulative Average of at least 6.0.

COURSE LIST 1
All Level III and IV Music courses except MUSIC 3G03, 3T03, 3U03, 4E03, 4G03, 4X03.

COURSE LIST 2
MUSIC 2AA3, 3T03, 3U03, 4X03

REQUIREMENTS
120 units total (Levels I-IV)
30 units Music I programme
27 units MUSIC 2B06, 2BB3, 2C03, 2CC3, 2D03, 2E03, 2H03, 3E03, 3Y03
12 units from Course List 1
6 units from Course Lists 1 and 2
36 units Courses specified for the other subject. (Combinations with Social Sciences may require more than 36 units.)
9 units Electives to total 120 units

B.A. in Music

Students wishing to enter this programme must complete an Application for Admission to Level II in mid-March in order to be considered for admission.

ADMISSION
Completion of Music I and a Cumulative Average of at least 3.5.

NOTE
Students from another Level I programme may be admitted with a Cumulative Average of at least 3.5, a grade of at least C- in Music 1A06, and a successful audition.

COURSE LIST 1
All Level II, III and IV Music courses, except MUSIC 3E03, 3G03, 4E03, 4G03.

REQUIREMENTS
90 units total (Levels I-III)
30 units Music I programme
18 units MUSIC 2B06, 2CC3, 2D03, 2H03, 3Y03
12 units from Course List 1
30 units Electives

Minor in Music

24 units of Music, of which no more than six units may be from Level I, subject to the prerequisites and qualifying tests specified in the Calendar.

DEPARTMENT OF CLASSICS

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, the following related courses offered by another department are also available to students in a Classics programme:
   - Ancient Religious Studies: RELIG 2E06, 2F03, 2I13, 3K03, 3L03, 3X03.

3. 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.

4. Students may receive up to six units of credit for archaeological field work at an approved Classical site. Consult the Department for further details.

5. 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.

6. 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 II in mid-March in order to be considered for admission.

ADMISSION
Completion of any Level I programme and a Cumulative Average of at least 6.0 including a grade of at least B- in one of: CLASSICS 1506, 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.)

NOTE
When selecting their courses, students must ensure that the overall total includes at least 24 units of Levels III and IV Classics, Greek and Latin courses.

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, 2Z03, 3G03, 3H03, 3L03, 3M03, 3P03, 3S03, 3U03, 3V03
6 units from CLASSICS 4B03, 4BB3, 4D06, 4E03, 4I06, 4L06, 4T06
18 units Levels II, III and IV Classics, Greek and 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.) Students are encouraged to include a Level I Classics course in their Level I programme.
NOTE
When selecting their courses, students must ensure that the overall total includes at least 24 units of Levels III and IV Classics, Greek and Latin courses.

REQUIREMENTS
120 units total (Levels I-IV)
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 2G06 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-II)
30 units from the Level I programme completed prior to admission into the programme
24 units Classics, Greek and 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

Honours Arts & Science and English
(B.Arts Sc.; See Arts and Science Programme)

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
Enrolment in this programme is limited. Selection is based on academic achievement but requires, as a minimum, completion of any Level I programme and a Cumulative Average of at least 6.0 including a grade of at least B- in ENGLISH 1D06.

NOTES
1. When registering, students should distribute their English courses (see Requirements below) as follows:
   - Level II ENGLISH 2A06; 12 additional units of Level II English
   - Level III 18 units of Level III English
   - Level IV Six units of Level III English; 12 units of Level IV seminars (No student may take more than 12 units of Level IV seminars.)
2. In addition to the 54 units of English courses, students must successfully complete six units of non-introductory work in a language other than English, if this was not completed in Level I, or ENGLISH3L06/3LS6. The Department strongly advises students to fulfil this requirement before Level III.

Note: Students who wish to take Old English Language and
3. With special permission, students may substitute ENGLISH REQUIREMENTS, to be 36 units Electives (98% English and Another Subject admission). Students who wish to take Old English Language and Literature in fulfillment of the language requirement must register in the course as ENGLISH 3LS6 in which case it may not be used to fulfill the English area requirement.

REQUIREMENTS
120 units total (Levels I-IV)
30 units from the Level I programme completed prior to admission into the programme
6 units ENGLISH 2A06
12 units from ENGLISH 2B06, 2G06, 2H06, 2I06
6 units ENGLISH 3K06
6 units from ENGLISH 3C06, 3D03, 3DD3, 3I03, 3J06, 3L06, 3T03, 3V06
6 units from ENGLISH 3G06, 3M03, 3MM3, 3N06, 3Q03, 3QQ3
6 units from ENGLISH 3C06, 3D03, 3DD3, 3G06, 3I03, 3J06, 3L06, 3M03, 3MM3, 3N06, 3Q03, 3QQ3, 3QQQ
12 units Level IV English seminars
36 units Electives (See Note 2 above.)

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
Enrolment in this programme is limited. Selection is based on academic achievement but requires, as a minimum, completion of any Level I programme and a Cumulative Average of at least 6.0 including a grade of at least B- in ENGLISH 1D06.

NOTES
1. When registering, students should distribute their English courses (see Requirements below) as follows:
   - Level II ENGLISH 2A06; six additional units of Level II English
   - Level III 12 units of Level III English
   - Level IV Six units of Level III English and six units of Level IV seminars (No student may take more than six units of Level IV seminars.)

2. In addition to the 36 units of English courses, students combining English 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, or ENGLISH 3L06/3LS6. The Department strongly advises students to fulfill this requirement before Level III.
   - Level IV Six units of Level III English and six units of Level IV seminars (No student may take more than six units of Level IV seminars.)

3. With special permission, students may substitute ENGLISH 4X03 for three units of Level IV seminar work in the second term.

REQUIREMENTS
120 units total (Levels I-IV)
30 units from the Level I programme completed prior to admission into the programme
6 units ENGLISH 2A06
6 units from 2B06, 2G06, 2H06, 2I06
6 units ENGLISH 3K06
6 units from ENGLISH 3C06, 3D03, 3DD3, 3I03, 3J06, 3L06, 3T03, 3V06
6 units from ENGLISH 3G06, 3M03, 3MM3, 3N06, 3Q03, 3QQ3
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 (See Note 2 above.)

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
Enrolment in this programme is limited. Selection is based on academic achievement but requires, as a minimum, completion of any Level I programme and a Cumulative Average of at least 3.5 including a grade of at least C+ in ENGLISH 1D06.

NOTE
In addition to the 30 units of English courses students must successfully complete six units of a language other than English, if this was not completed in Level I, or ENGLISH 3L06/3LS6. The Department strongly advises students to fulfill the language requirement before Level III.

FACULTY OF HUMANITIES

DEPARTMENT OF FRENCH

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.

NOTE
Upon completion of 60 units of work (including 18 units of required Level II French courses), and with the approval of the Department of French and the Associate Dean of Humanities (Studies), Level III of Honours French may be replaced by courses of study at a French-language university.

COURSE LIST 1
FRENCH 4F03, 4I03, 4LL3, 4MM3, 4N03, 4O03, 4Q03, 4S03, 4U03, 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, 4B03, 4BB3
3 units from FRENCH 2J03, 2JJ3
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

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. Students who are interested in entering this programme are advised to take LINGUIST 1A06.

NOTE
Upon completion of 60 units of work (including 18 units of required Level II French courses), and with the approval of the Department of French and the Associate Dean of Humanities (Studies), Level III of Honours French may be replaced by courses of study at a French-language university.

COURSE LIST 1

FRENCH 3A03, 3AA3, 3BB3, 3K03, 3Q03, 3QQ3, 3SS3, 32D3, 4F03, 4I03, 4J03, 4L03, 4MM3, 4N03, 4Q03, 4R03, 4U03, 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, 3GQ3, 3H03
6 units FRENCH 4A03, 4BB3
3 units from FRENCH 2J03, 2JJ3
3 units from FRENCH 2W03, 2WW3
3 units from FRENCH 3AA3, 3BB3, 4U03
9 units from Course List 1
9 units from FRENCH 3I03, 4E03, 4H03, 4S03, 4X03
12 units Linguistics courses beyond Level I
21 units Electives

Combined Honours in French and Another Subject

Students wishing to enter this programme must complete an Application for Admission to Level II in mid-March in order to be considered for admission.

ADMISSION
Completion of any Level I programme and a Cumulative Average of at least 6.0 including a grade of at least B- in FRENCH 1A06 or 2M06.

NOTE
Upon completion of 60 units of work (including at least 12 units of required Level II French courses), and with the approval of the Department of French and the Associate Dean of Humanities (Studies), up to 15 units of Level III French may be replaced by courses of study at a French-language university.

COURSE LIST 1

FRENCH 4F03, 4I03, 4LL3, 4MM3, 4N03, 4Q03, 4R03, 4S03, 4U03, 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
3 units from FRENCH 2J03, 2JJ3
3 units from FRENCH 2W03, 2WW3
3 units from FRENCH 2G03, 2CC3, 2F03, 4BB3
3 units from FRENCH 3K03, 3Q03
3 units from FRENCH 3Q03, 3QQ3
3 units from FRENCH 3AA3, 3BB3, 4U03
9 units from Course List 1
9 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.

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, 2BB3, 3C03
6 units from FRENCH 2G03, 3CC3, 3F03
3 units from FRENCH 2J03, 2JJ3
3 units from FRENCH 2W03, 2WW3
3 units from FRENCH 3K03, 3KK3, 3Q03, 3QQ3
3 units from FRENCH 3A03, 3SS3, 4J03
9 units Levels II, III or IV French
24 units Electives

Minor in Francophonie Studies

FRENCH 1A06/2M06, 2B03, 2BB3, 3C03, and nine additional units of Level II or III French other than FRENCH 2J03, 2JJ3, 2W03, 2WW3.

PROGRAMMES FOR STUDENTS WHO ENTERED PRIOR TO SEPTEMBER 1995.

Honours French

PROGRAMME A: LANGUAGE AND LITERATURE

(Available only to students who entered this programme before September 1995.)

NOTES
1. When selecting their courses, students must ensure that the overall total includes a minimum of 36 units of Level III and IV French courses.
2. Upon completion of 60 units of work (including 18 units of required Level II French courses), and with the approval of the Department of French and the Associate Dean of Humanities (Studies), Level III of Honours French may be replaced by courses of study at a French-language university.

COURSE LIST 1

FRENCH 2D03, 2E03, 2F03, 2FF3, 2H03, 2D03, 2J03, 2JJ3, 2W03, 2WW3, 3A03, 3BB3, 3K03, 3Q03, 3MM3, 3Q03, 3QQ3, 3R03, 32D3

COURSE LIST 2

FRENCH 3S03, 4F03, 4I03, 4J03, 4L03, 4MM3, 4N03, 4Q03, 4R03, 4S03, 4U03, 4Y03

REQUIREMENTS
120 units total (Levels I-IV)
30 units from the Level I programme completed prior to admission into the programme
9 units FRENCH 2A03, 3C03, 4A03
6 units from FRENCH 2G03, 2CC3, 2F03, 3C03, 3Q03, 4BB3
3 units from FRENCH 2J03, 2JJ3
3 units from FRENCH 2W03, 2WW3
3 units from FRENCH 2D03, 2E03, 3A03, 3BB3, 4U03
3 units from FRENCH 3K03, 3KK3
3 units from FRENCH 3Q03, 3QQ3
3 units from Course List 1
9 units from Course List 2
12 units Levels III and IV French
36 units Elective, 12 of which may be French
Honours French

PROGRAMME B: LANGUAGE AND LINGUISTICS 2232
(Available only to students who entered this programme before September 1995.)

NOTE
Upon completion of 60 units of work (including 18 units of required Level II French Area courses), and with the approval of the Department of French and the Associate Dean of Humanities (Studies), Level III of Honours French may be replaced by courses of study at a French-language university.

COURSE LIST 1
FRENCH 3AA3, 3BB3, 3K03, 3JD3, 4LL3, 4MM3, 4ND3, 4IO3, 4JD3, 4LL3, 4MM3, 4N03, 4Q03, 4U03, 4Y03

REQUIREMENTS
120 units total (Levels I-IV)
30 units from the Level I programme completed prior to admission into the programme
9 units FRENCH 2A03, 2G03, 2H03
6 units FRENCH 3C03, 3CC3
6 units FRENCH 4A03, 4BB3
3 units from FRENCH 2J03, 2JJ3
3 units from FRENCH 2W03, 2WW3
3 units from FRENCH 3AA3, 3BB3, 4U03
9 units from Course List 1
15 units from FRENCH 3B03, 3G03, 3I03, 4C03, 4E03, 4H03, 4S03, 4X03
12 units Linguistics courses above Level I
24 units Electives, 12 of which may be French

Combined Honours in French and Another Subject
(Available only to students who entered this programme before September 1995.)

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 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 3S03, 4F03, 4I03, 4J03, 4LL3, 4MM3, 4N03, 4Q03, 4S03, 4U03, 4Y03

REQUIREMENTS
120 units total (Levels I-IV)
30 units from the Level I programme completed prior to admission into the programme
9 units FRENCH 2A03, 3G03, 4A03
3 units from FRENCH 2C03, 2G03, 3CC3, 3F03, 4BB3
3 units from FRENCH 2J03, 2JJ3
3 units from FRENCH 2W03, 2WW3
3 units from FRENCH 3K03, 3KK3
3 units from FRENCH 3Q03, 3QQ3
3 units from FRENCH 3AA3, 3BB3, 4U03
6 units from Course List 1
3 units Level III or IV French
36 units Courses specified for the other subject. (Combinations with Social Sciences may require more than 36 units.)
18 units Electives to total 120 units

DEPARTMENT OF HISTORY

Subfields
The Department has defined six fields of study. Students should consult the Programme Notes for their specific programme to determine the requirements regarding these fields. Level II and III courses are allocated to the fields as follows:
- European 2A06, 2C06, 2I06, 3F03, 3H03, 3H06, 3I03, 3I16, 3R03, 3W03, 3Z03, 3Z23
- Ancient 2L06, 3L03, 3M03, 3U03, 3VW3
- Asian 2B06, 2E06, 3A03, 3A06, 3B03
- Canadian 2J06, 3EE3, 3G03, 3L03, 3M03, 3N03, 3P03, 3U03
- British 2N06, 3J13, 3NN3, 3QQ3, 3R03, 3S03, 3TT3
- The Americas 2H06, 3BB3, 3E06, 3X03, 3XX3, 3YY3

Honours Arts & Science and History
(B.Arts Sc.; See Arts & Science Programme)

Honours History
2290

Students wishing to enter this programme must complete an Application for Admission to Level II in mid-March in order to be considered for admission.

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

NOTES
1. In selecting courses, students must ensure that they take a minimum of six units in each of three fields of History. For this purpose the Department has established the following six fields: European, Ancient, Asian, Canadian, British and the Americas (excluding Canada). This requirement must be satisfied by the end of Level III. All Level II and III History courses from the above list may be used towards this requirement. Students are permitted a maximum of 24 units of work in any one of the preceding fields. Additional History courses may be taken as electives.
2. The first 36 units of History beyond Level I must include one Level IV seminar, to be taken following the completion of at least 12 units of Level II History.

REQUIREMENTS
120 units total (Levels I-IV)
30 units from the Level I programme completed prior to admission into the programme
18 units Level II History
18 units Level III History
18 units Level IV History
36 units Electives

Combined Honours in History and Another Subject
Students wishing to enter this programme must complete an Application for Admission to Level II in mid-March in order to be considered for admission.

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

NOTES
1. In selecting courses, students must ensure that they take a minimum of three units in each of three fields of History. For this purpose the Department has established the following six fields: European, Ancient, Asian, Canadian, British and the Americas (excluding Canada). This requirement must be satisfied by the end of Level III. All Level II and III History courses from the above list may be used towards this requirement. Students are permitted a maximum of 18 units of work in any one of the preceding fields. Additional History courses may be taken as electives.
In selecting courses, students must ensure that they take the purpose the Department has established the following six fields of ADMISSION: Japanese or Japanese Studies courses.

REQUIREMENTS successfully complete JAPANESE 1Z06 and JAPAN ST 2P06 and 12 additional units of 36 units Courses specified for the other subject. (Combinations with Social Sciences may require more than 36 units.)

18 units Elective to total 120 units

B.A. in History 1290

Students wishing to enter this programme must complete an Application for Admission to Level II in mid-March in order to be considered for admission.

ADMISSION Completion of any Level I programme and a Cumulative Average of at least 3.5 including a grade of at least C- in any Level I History course.

NOTE 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.

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. Consult the Course Listings section for course prerequisites and limited enrolment courses.

JAPANESE STUDIES

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

12 units JAPANESE 2Z06, 3Z26, 4L03, 4Z03

6 units JAPAN ST 2P06

12 units from JAPANESE 3B03, JAPAN ST 2C03, 3B03, 3E03, 3H03, 3J03, 3J3, 3P03, 3UU3, 4A06, 4B03, HISTORY 4B86, 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 1206 and JAPAN ST 2P06 and 12 additional units of Japanese or Japanese Studies courses.
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 1206 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, MOD LANG 3G03, 3S03, 3T03, 3U03, PORTUGUE 2Z03, 2003, 3AQ3, 3U03.

REQUIREMENTS
120 units total (Levels I-IV)
30 units from the Level I programme completed prior to admission into the programme
6 units from LINGUIST 2L03, 2M03, 3I03, 3II3, 3M03, 4T03, 4XX3
6 units from LINGUIST 2L03, 2M03, 3I03, 3II3, 3M03, 4T03, 4XX3
6 units from LINGUIST 2L03, 2M03, 3I03, 3II3, 3M03, 4T03, 4XX3
6 units from LINGUIST 2L03, 2M03, 3I03, 3II3, 3M03, 4T03, 4XX3

Honours Modern Languages 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 1NN6, in addition to the 18 units of French, beyond Level I.
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 512 to discuss their computer background.
3. Upon completion of 60 units and with the approval of the Department of Modern Languages and of the Associate Dean of Humanities (Studies), one or both terms of Level III of this programme may be replaced by courses of study at a university or universities under the Humanities Study Elsewhere Programme.

COURSE LIST 1
All Linguistics courses beyond Level I; all language courses; HUMAN 2C03, 2E03, 3F03, 3G03; PHILOS 2B03; PSYCH 2E03, HUMAN 2F03, HUMAN 2J03, HUMAN 3A03, 3Z03, 3P03, 3U03.

REQUIREMENTS
120 units total (Levels I-IV)
30 units from the Level I programme completed prior to admission into the programme
12 units from MOD LANG 2E03, 2H03, 2J03, 3E03, 3G03, 3J03, 3H03, 3I03, 3J03
12 units from MOD LANG 2E03, 2H03, 2J03, 3E03, 3G03, 3J03, 3H03
12 units from MOD LANG 2E03, 2H03, 2J03, 3E03, 3G03, 3J03, 3H03
12 units from MOD LANG 2E03, 2H03, 2J03, 3E03, 3G03, 3J03, 3H03

Honours Linguistics

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 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.

NOTE
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, students will have completed at least six units of one language and 18 units of a second language, including 12 units 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 and their respective literatures (German, Italian, Russian and Spanish) 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 12 units covering two different languages with grades of at least B- in each course chosen from the following:

GERMAN 1A03 and 1AA3, 1B06, 1Z06, HISPANIC 1A06, 1Z06, ITALIAN 1A06, 1Z06, 1ZZ6, 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 18-units from the following courses: GERMAN 1A03 and 1AA3, 1B06, 1Z06, HISPANIC 1A06, 1Z06, ITALIAN 1A06, 1ZZ6, 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.
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, Hispanic Studies, 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 27 units 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 and its literature (German, Italian, Russian or Spanish) 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 1A03 and 1AA3, 1B06, 1Z06, HISPANIC 1A06, 1Z06, ITALIAN 1A06, 1Z06, 1ZZ6, 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, Hispanic Studies, 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
3 units LINGUIST 2A03
3 units from Course List 1
27 units courses above Level I from one of: German, Hispanic Studies, Italian or Russian courses
36 units Courses specified for the other subject. (Combinations with Social Sciences may require more than 36 units.)
18 units Electives to total 120 units

Honours Russian and East European Studies

Students wishing to enter this programme must complete an Application for Admission to Level II in mid-March in order to be considered for admission.

ADMISSION
Completion of any Level I programme and a Cumulative Average of at least 6.0 including a grade of at least B- in RUSSIAN 1Z06. Students are strongly recommended to include HIST 1A06 and POL SCI 1A06 in their Level I programme. If not completed, these courses must be taken in Level II of the programme.

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.

COURSE LIST 1

All Russian courses above Level I; MOD LANG 3D03, 3K03, 3KK3, 3R03, 3RR3; HISTORY 3W03, 4006; ANTHROP 2S03; POLITICAL SCIENCE 2E06 and 3AA3

REQUIREMENTS
120 units total (Levels I-IV)
30 units from the Level I programme completed prior to admission into the programme
18 units RUSSIAN 2C06, 3C06, 4C06
9 units from MOD LANG 3D03, 3K03, 3KK3, 3R03, 3RR3
6 units HISTORY 3H06
12 units POL SCI 3K06, 3M06
9 units from Course List 1
36 units Electives to total 120 units

MINORS

Minor in German
24 units of German, of which no more than six units may be taken from Level I.

Minor in Hispanic Studies
24 units of Hispanic Studies, of which no more than six units may be taken from Level I.

Minor in Italian
24 units of Italian, of which no more than six units may be taken from Level I.

Minor in Linguistics
24 units of Linguistics, of which no more than six units may be taken from Level I.

Minor in Russian
24 units of Russian, of which no more than six units may be taken from Level I.
PROGRAMMES FOR STUDENTS WHO ENTERED PRIOR TO 1996:

Honours Comparative Literature (French Option) 2155
Honours Comparative Literature (Other Languages) 2156

STUDENTS WHO ENTERED THESE PROGRAMMES BEFORE SEPTEMBER 1996 MUST CONSULT THE DEPARTMENTAL COUNSELLOR TO DISCUSS WAYS OF MEETING THEIR PROGRAMME REQUIREMENTS.

DEPARTMENT OF PHILOSOPHY

Honours Arts & Science and Philosophy (B.Arts Sc.; See Arts and Science Programme)

Honours Philosophy 2420
Students wishing to enter this programme must complete an Application for Admission to Level II in mid-March in order to be considered for admission.

ADMISSION
Completion of any Level I programme and a Cumulative Average of at least 6.0 including a grade of at least B- in any Level I Philosophy course or, if no such course was taken, in six units of work acceptable to the Department of Philosophy.

NOTES
1. Students 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
27 units PHILOS 2A06, 2C06, 3A06, 3G03, 3O03, 4H03
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.

REQUIREMENTS
120 units total (Levels I-IV)
30 units from the Level I programme completed prior to admission
12 units PHILOS 2A06, 2C06
3 units from PHILOS 2B03, 2R03
15 units Levels III 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 BIOLOGY 1A06 or 1G06 with a grade of at least B- and six units of Level I Mathematics. Students are cautioned to observe that CHEM 11B06, 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
120 units total (Levels I-IV)
30 units from the Level I programme completed prior to admission
12 units BIOLOGY 2B03, 2C03, 2F03, 2G03 (CHEM 2006 may replace six units of Biology courses)
24 units Level III and IV Biology courses
21 units PHILOS 2A06, 2C06, 2M03, 3O03, 4H03
3 units from PHILOS 2B03, 2R03
3 units from PHILOS 2D03, 2F03, 2G03
3 units from PHILOS 3G03, 3N03
3 units from Level III or IV Philosophy
3 units Level IV Philosophy
18 units Electives to total 120 units

Honours Philosophy and Mathematics (B.A.) 2320420
Students wishing to enter this programme must complete an Application for Admission to Level II in mid-March in order to be considered for admission.

ADMISSION
Completion of any Level I programme and a Cumulative Average of at least 6.0 including a grade of at least B- in each of MATH 1A03 or 1AA3 and MATH 1B03, and a grade of at least B- in any Level I Philosophy course or, if no such course was taken, in six units of work acceptable to the Department of Philosophy.
NOTES
1. Students 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)

<table>
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<tr>
<th>Units</th>
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<td>MATH 2A03, 2AA3, 2C03, 2R03, 3A03, 3AA3, 3E03, 3EE3, 3X03, 4X03</td>
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<td>from MATH 2S03, 2T03</td>
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<td>9</td>
<td>from Level III and IV Mathematics, Statistics</td>
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<tr>
<td>12</td>
<td>PHILOS 2A06, 2C06</td>
</tr>
<tr>
<td>3</td>
<td>from PHILOS 2B03, 2R03</td>
</tr>
<tr>
<td>21</td>
<td>Level III or Level IV Philosophy</td>
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<td>3</td>
<td>Level IV Philosophy course</td>
</tr>
<tr>
<td>9</td>
<td>Electives</td>
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</tbody>
</table>

B.A. in Philosophy

Students wishing to enter this programme must complete an Application for Admission to Level II in mid-March in order to be considered for admission.

ADMISSION
Completion of any Level I programme and a Cumulative Average of at least 3.5 including a grade of at least C- in any Level I Philosophy course.

NOTE
Students are advised to note carefully the prerequisites for all courses. Students are also advised to take note which courses are offered in alternate years.

REQUIREMENTS
90 units total (Levels I-III)

<table>
<thead>
<tr>
<th>Units</th>
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<tr>
<td>30</td>
<td>from the Level I programme completed prior to admission into the programme</td>
</tr>
<tr>
<td>12</td>
<td>PHILOS 2A06, 2C06</td>
</tr>
<tr>
<td>3</td>
<td>from PHILOS 2B03, 2R03</td>
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<td>3</td>
<td>Levels II, III or IV Philosophy</td>
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<td>6</td>
<td>Levels III or IV Philosophy</td>
</tr>
<tr>
<td>24</td>
<td>Electives</td>
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</tbody>
</table>

Minor in Philosophy
Any Level I Philosophy course and PHILOS 2A06 or 2C06; and 12 additional units of Philosophy
FACULTY OF SCIENCE

WEB ADDRESS: http://www.science.mcmaster.ca

Dean of Science
H. P. Weingarten/B.Sc., M.S., M. Phil., Ph.D.

Associate Dean of Science (Studies)
T.M.K. Davison/B.Sc., M.A., Ph.D.

Student Advisors
P.G. Henry/B.Sc.
P.G. Henry/B.Sc.

Programmes Assistant/Student Advisor
J. Kaspey

The Faculty of Science provides studies through the following Departments:

- Biochemistry
- Biology
- Chemistry
- Computer Science and Systems
- Geography
- Geology
- Mathematics and Statistics
- Materials Science and Engineering
- Physics and Astronomy
- Psychology

PROGRAMMES AND DEGREES

A. Level I Programme

NATURAL SCIENCES I: 30 UNITS 0710

REQUIREMENTS
3 units MATH 1A03
3 units from MATH 1A03, 1B03, STATS 1C03
6 units from CHEM 1A06, PHYSICS 1A06, 1B06, 1C06
12 units from Course List 1 (see below)
6 units from Course Lists 1 and 2 (see below)
1 course SCIENCE 1A00

COURSE LIST 1 - LEVEL I SCIENCE CORE COURSES

BIOLOGY 1A06 Adaptation in the Biological World
CHEM 1A06 Introductory Chemistry
COMP SCI 1SA3 Computing Fundamentals
COMP SCI 1MC3 Computer Science I
COMP SCI 1MD3 Computer Science II
ENVIR SC 1A06 Introduction to Environmental Science
GEOG 1C03 Introductory Climatology
GEOG 1G03 Introductory Geomorphology
GEOLOGY 1C03 Earth Processes
MATS 1A03 Introduction to Materials
MATH 1A03 Calculus II
MATH 1B03 Linear Algebra I
PHYSICS 1A06 Mechanics, Electricity and Modern Physics
PHYSICS 1B06 General Physics I
PHYSICS 1C06 Introductory Physics
PSYCH 1A06 General Psychology
STATS 1C03 Introductory Computer-Aided Statistics

COURSE LIST 2 - LEVEL I ELECTIVES

Level I Science Core courses (see above)
All Level I Humanities courses
All Level I Social Sciences courses, excluding Kinesiology
ASTRON 1F03
WOMEN ST 1A06

With the exception of Mathematics, no more than six units may be taken from any single subject.

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

Level I students should select courses carefully to meet the Level II admission requirements of a specific programme. A suitable choice of Level I options will allow successful students to enter Level II of any one of several programmes.

It is possible to complete Natural Sciences 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 earth, life, mathematical 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 Biotechnology 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 while the Honours Science (Environmental Science Option) programme has a Committee of Instruction involving many departments in the Faculty of Science.

Honours Co-op Programmes

The Faculty of Science has instituted Cooperative Education programmes in Honours Biochemistry, Honours Biology and Pharmacology, Honours Chemistry, Honours Geography and Environmental Science, 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 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. All work for the Minor, with the exception of the Level I introductory course(s), must be completed at McMaster.

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 Minor in the General Academic Regulations section (page 16) 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 Earth Science, 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 programme descriptions in this section.

Limited Enrolment

Admission is limited for all Honours Co-op programmes and all four-level B.A., B.Arts Sc. and B.Sc. programmes involving Biochemistry, Biology, Molecular Biology and Biotechnology, and Psychology.

Because of resource limitations, the University reserves the right to limit enrolment in any programme to the number which can be effectively taught. In the Faculty of Science, enrolment is by selection, based on academic achievement. Students should consult with the Department concerned if there are any questions about entry to limited enrolment programmes.

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 Earth, Life, Mathematical 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 (page 16) in this Calendar.

Programme Probation (Changes Beginning in 1996-97)

Please refer to the General Academic Regulations section (page 16) in this Calendar for changes to regulations concerning Programme Probation in the Faculty of Science.

ADMISSION TO THE FACULTY OF SCIENCE

A student who is ineligible to continue in the Faculty of Science or who is "May Not Continue At The University" may normally not apply for readmission for one full academic year. Exceptions may be made only when there are extenuating circumstances which are supported by documentation.

Application for readmission must be made in writing by July 15 to the Associate Dean of Science (Studies), to seek permission to continue their studies. The letter should explain academic activities since the last registration.

If five years have passed since the last registration at McMaster please see the Application Procedures section of this Calendar.

DEADLINES

The Faculty of Science will not consider applications for admission, admission to a second degree or continuing studies, registration, deleting, cancelling, or adding of courses after the deadlines stated in this Calendar under Sessional Dates and Application Procedures sections, unless documentation showing good cause is submitted to the Associate Dean of Science (Studies).

SEQUENCE OF COURSES

Students in the Faculty of Science must have completed or be registered in the courses required for Level I before they may register for courses beyond Level I.

COURSE SELECTION

It is the responsibility of the student to ensure that the selection of courses meets the degree requirements for the programme in which the student is registered and that the stated prerequisite courses were completed with a grade of at least D-.

COURSE CHANGES

All course changes must be made through the Office of the Associate Dean of Science (Studies) and are subject to the deadline dates for adding and withdrawing established by the University. (See Sessional Dates section of this Calendar.)

Beyond the September deadline date, first-term three-unit courses may be cancelled up to the November deadline. A cancelled three-unit first-term course may not be replaced by second-term course for students who were registered for a full academic load in September. Beyond the January deadline date, second-term courses may not be replaced. Students may cancel a full-year course by the January deadline date may add a three-unit second-term course.

To add a limited enrolment course or a course requiring permission, a signed permission slip must be attached to the Application for Change of Student Record.

WORKLOAD

All programmes in the Faculty of Science may be taken by full-time and part-time students, with the exception of the Honours Co-op programmes. Students enrolled in Co-op programmes must be registered in full-time studies during the academic terms of their programme.

Students must maintain a full academic load during the Fall/Winter session to be eligible for scholarships available to full-time students. To be eligible for the Deans’ Honour List, an academic load in the Fall/Winter session of at least 30 units is necessary.

Students are expected to avoid timetable conflicts among their courses, and students on a full academic load should ensure the number of courses is balanced in each term.

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

LETTERS OF PERMISSION

Students enrolled in science programmes may apply to the Office of the Associate Dean of Science (Studies) to take courses at another university on Letter of Permission. A fee must be paid to the Office of the Registrar. Students must achieve a grade of at least C- for transfer credit. The transcript designation reads COM, indicating complete, when a grade of C- or better is attained, or NC, indicating 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. Courses towards a
Students registered in single or Combined Honours programmes are eligible to apply for transfers from a RSc. programme through an application and interview process. In order to accept a transfer, the student must be in Level II or III of a four-level programme, and be eligible to return to complete their undergraduate degree. Further detailed guidelines should be addressed 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 (page 16) 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. 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. Students in need of financial assistance can apply for a Letter of Permission. If a Letter of Permission is issued, with the exception of the Level II introductory course(s), any course(s) may not be taken on a Letter of Permission.

Students interested in this programme should begin discussion with the Associate Dean of Science (Studies) about one year before they plan to enroll 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 achievements 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: Rhône-Alpes (France), Baden-Württemberg (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 course requirements 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 in order 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 (page 16) 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 (page 16) 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.

Special Course Requirements

SCIENCE INQUIRY COURSE LIST

The following are restricted to students in an Honours (Complementary Studies Option) programme:

CHEM 4103 Inquiry in Chemistry
COMP SCI 4Z13 Computer Science Inquiry
SCIENCE 4J03 Inquiry: Relativity and Gravitation
SCIENCE 4J03 Inquiry: Energy, Physics and the Environment

The following are open to students with the specified course prerequisites:

BIOCHEM 4C03 Biochemistry Inquiry
BIOCHEM 4P03 Research Project
BIOLOGY 4C09 Senior Thesis
BIOLOGY 4F06 Senior Project
BIOLOGY 4F03 Biology Inquiry
CHEM 4G06 Senior Thesis
COMP SCI 4ZP6 Project
GEOG 4C06 Research Paper
GEOG 4C33 Review Paper
GEOG 4V6 Ecology and Geology of Coral Reefs
GEOLOGY 4K06 Geology Thesis
PHYSICS 4A03 Special Topics

The following are open to students with the specified course prerequisites:

GEOLOGY 4C03 Climate Change: A Geological Perspective
GEOLOGY 4D03 Ecology and Geology of Coral Reefs
GEOLOGY 4I03 Minerals and Society
GEOLOGY 4W03 Environmental Analysis: A Case History Approach
MATH 3G03 Problem Solving
MATH 3Z03 History of Mathematics
FIELD COURSES
Field courses are offered through the Departments of Biology, 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 Level I, II, III, and IV obtain up-to-date Degree Status Reports (Degree Audits) for the programmes in which they are registered, and 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 Level 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, 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 1996-97 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 1995-96 Calendar. Admission to limited enrolment programmes is also based on Cumulative Average Achievement; students will be admitted by a selection committee. See Limited Enrolment 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 enter Level I, except when a later Calendar explicitly modifies such requirements.

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 Natural Sciences I, or apply to transfer to another Faculty. Students may repeat or upgrade any of the previous Level I courses but are advised to take only twelve units of additional Level I courses. Only forty-two units of Level I courses may be used as credit towards a three-level programme.

TRANSFER PROCEDURES
To be eligible to transfer between programmes in the Faculty of Science, students must meet the criteria as described under the heading Programme Transfers in this section of the Calendar.

Students in Levels I 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 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 ENROLMENT 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. If a limited enrolment course is an absolute requirement for a programme, then students in that programme have a guaranteed place in the course. This will be noted in the course prerequisite.

2) Limited enrolment courses 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.

DEPARTMENT OF BIOCHEMISTRY
Honours Arts & Science and Biochemistry
(B.Arts.Sc; See Arts & Science programme)
Honours Molecular Biology and Biotechnology
(See Molecular Biology and Biotechnology)
(See also Honours Biochemistry (Specialist Option), Level IV Molecular Biology, Biotechnology and Genetic Engineering Option; and Honours Biochemistry Co-op, Year 4 Molecular Biology, Biotechnology and Genetic Engineering Option)
Honours Biochemistry (Complementary Studies Option) 2042

ADMISSION
Enrolment in this programme is limited. Selection is based on academic achievement but requires, as a minimum, completion of the Natural Sciences I requirements, including:
- 3 units MATH 1A03
- 3 units from STATS 1CC3, MATH 1AA3
- 6 units CHEM 1A05
- 6 units BIOLOGY 1A05
- 6 units from Level I Science Core courses
- 6 units from Level I Electives
- 1 course SCIENCE 1A00

The election of PHYSICS 1B06 (or 1A06 or 1C06) in Level I or II is recommended.

Minimum averages/grades:
A Cumulative Average of 5.0 and a weighted average of at least 6.0 in 18 units including BIOLOGY 1A03, CHEM 1A06, and 6 units from MATH 1A03, 1AA3, STATS 1CC3, PHYSICS 1A06 (or 1B06 or 1C06).

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 2006, 2R03
- 6 units from the Faculty of Humanities and/or the Department of Religious Studies
- 6 units Electives, excluding Biochemistry

If not completed: SCIENCE 1A00

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, excluding Physical Geography and Psychology
- 6 units Electives, excluding Biochemistry (students wishing to take BIOCHEM 4I03 in Level IV must elect CHEM 3F03; students wishing to take BIOCHEM 4D03 must elect BIOLOGY 3E03)

LEVEL IV: 30 UNITS
- 3 units BIOCHEM 4C03
- 3 units from the Science Inquiry Course List
- 3 units from BIOCHEM 3C03, 3H03, 3N03, 4Q03
- 3 units from BIOCHEM 4D03, 4E03, 4I03, 4M03
- 3 units from Level IV Biochemistry
- 3 units from Level III, IV Science 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 Natural Sciences I requirements, including:
- 3 units MATH 1A03
- 3 units from STATS 1CC3, MATH 1AA3
- 6 units CHEM 1A05
- 6 units BIOLOGY 1A06
- 6 units from Level I Science Core courses.

6 units from Level I Electives
1 course SCIENCE 1A00

The election of PHYSICS 1A06 (or 1B06 or 1C06) in Level I or II is recommended.

Minimum averages/grades:
A Cumulative Average of 5.0 and a weighted average of at least 6.0 in 18 units including BIOLOGY 1A06, CHEM 1A06, and 6 units from MATH 1A03, 1AA3, STATS 1CC3, PHYSICS 1A06 (or 1B06 or 1C06).

NOTES
1. This programme fulfills the academic requirements for membership in the Chemical Institute of Canada.
2. In Level IV a Biochemistry and a Molecular Biology, Biotechnology and Genetic Engineering option are available.
3. 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, 206
- 3-6 units from CHEM 2P03, 2R03
- 3-6 units Electives. CHEM 2C03, COMP SCI 1S01 (or 1MC3) and STATS 2MA3 are suggested

If not completed: SCIENCE 1A00

LEVEL III: 30 UNITS
- 12 units from BIOCHEM 3B03, 3B03, 3L03, 3P03
- 6 units BIOLOGY 3P03, CHEM 3F03
- 6 units from Level III, IV Biochemistry, Biology, Chemistry
- 6 units Electives, excluding Biochemistry (Students considering Level IV Molecular Biology, Biotechnology and Genetic Engineering Option must elect BIOLOGY 3E03)

LEVEL IV: 30 UNITS (Biochemistry Option) 2040
- 9 units BIOCHEM 4E03, 4I03, 4M03
- 12 units from Level III, IV Biochemistry courses which must include one of BIOCHEM 4B06, 4G03, 4P03 (maximum of six units from BIOCHEM 4B06, 4G03, 4P03)
- 3 units from Level III, IV Science courses, excluding Biochemistry
- 6 units Electives

LEVEL IV: 30 UNITS (Molecular Biology, Biotechnology and Genetic Engineering Option) 2041
Completion of Level III Honours Biochemistry (Specialist Option) with a Cumulative Average of at least 6.0 is required for admission. Students must indicate this option on registration form for Level IV.
- 12 units BIOCHEM 4D03, 4E03, 4I03, 4M03
- 9 units from Level III, IV Biochemistry courses which must include one of BIOCHEM 4B06, 4G03, 4P03 (maximum of six units from BIOCHEM 4B06, 4G03, 4P03)
- 3 units from Level III, IV Science courses, excluding Biochemistry (BIOLOGY 3X03 or 4V03 is recommended)
- 6 units Electives

Honours Biochemistry (Co-op) 2045

ADMISSION
Enrolment in this programme is limited. Selection is based on academic and other achievement (see below) but requires, as a minimum, completion of Level II Honours Biochemistry (Specialist Option) or Honours Biochemistry and Chemistry or Honours Molecular Biology and Biotechnology with a Cumulative Average of at least 6.0. Enrolment in this programme will be limited to a maximum of 25 students per year. 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 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. 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.
5. 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 Natural Sciences I requirements

LEVEL II
30 units from Honours Biochemistry (Specialist Option), Honours Biochemistry and Chemistry (Biochemistry 2B03 and 2C03 must be completed), Honours Molecular Biology and Biotechnology (Chemistry 2N03 must be completed)

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
9 units BIOCHEM 3B03, 3L03, BIOLOGY 3003
3 units from Level III, IV Biochemistry, Biology, Chemistry
3 units Electives (Students considering Level IV Molecular Biology, Biotechnology and Genetic Engineering Option must elect BIOLOGY 3E03) Work Orientation Course

TERM 2 AND SUMMER
Work Term

(Biochemistry Option)

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.

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

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. Students may take BIOCHEM 4I03 instead of BIOCHEM 3BB3 in 1996-97)
3 units from Level III, IV Biochemistry, Biology, Chemistry
3 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
6 units BIOCHEM 4E03, 4A03
3 units from BIOCHEM 4G03, 4P03
3 units from Levels III, IV Science courses, excluding Biochemistry
3 units Electives

Honours Biochemistry and Chemistry 2040070

ADMISSION
Enrolment in this programme is limited. Selection is based on academic achievement but requires, as a minimum, completion of the Natural Sciences I requirements, including:

9 units MATH 1A03, 1AA3, 1B03
6 units CHEM 1A06
6 units from PHYSICS 1A06, 1B06, 1C06
6 units BIOLOGY 1A06
3 units Level I Electives
1 course SCIENCE 1A00

(Molecular Biology, Biotechnology and Genetic Engineering Option)

Completion of Year 3 Honours Biochemistry (Co-op Option) with a Cumulative Average of at least 6.0 is required for admission. Students must indicate this option on registration form for Year 4.

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.

TERM 1
6 units BIOCHEM 4D03, 4M03
3 units from Level III, IV Biochemistry, Biology, Chemistry
3 units from Level III, IV Biochemistry
3 units Electives

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. Students may take BIOCHEM 4I03 instead of BIOCHEM 3BB3 in 1996-97)
3 units from Level III, IV Biochemistry, Biology, Chemistry
3 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.
Minimum averages/grades:
A Cumulative Average of 5.0 and a grade of C+ in each of BIOLOGY 1A06, CHEM 1A06, MATH 1A03, 1A3.

NOTES
1. This programme fulfills the academic requirements for membership in the Chemical Institute of Canada.
2. Students should seek counselling for this programme in the Department of Chemistry.

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
27 units
BIOCHEM 2A06, CHEM 2A03, 2B06, 2C03, 2P06; MATH 2A03
3 units
Electives. Students considering Level III Honours Biochemistry (Specialist Option) should elect BIOLOGY 2C03. Students considering Level III Honours Chemistry (Specialist Option) should elect PHYSICS 2A03.

LEVEL III: 30 UNITS
12 units
BIOCHEM 3B03, 3BB3, 3L03, 3P03
9 units
CHEM 3B06, 3D03
1 course
from CHEM 3A03, 3E06, 3Q03
3-6 units
Electives

LEVEL IV: 30 UNITS
9 units
BIOCHEM 4E03, 4I03, 4M03
3 units
from BIOCHEM 4D03, 4Q03
6 units
from BIOCHEM 4B06 or CHEM 4G06, or both BIOCHEM 4P03 and either CHEM 4TA3 or 4TB3
3 units
from CHEM 3Z03, 4A03, 4D03
3 units
from Level III, IV Chemistry
6 units
Electives

Minor in Biochemistry

6 units
CHEM 1A06
6 units
from CHEM 2B06, 2B06
6 units
from BIOCHEM 3G03 and 3GG3, or 3A03 and 3AA3, or 3B03 and 3BB3
6 units
from Level IV Biochemistry

DEPARTMENT OF BIOLOGY

Honours Philosophy and Biology
(B.A.; See Faculty of Humanities, Department of Philosophy)

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

Honours Molecular Biology and Biotechnology
(See Molecular Biology and Biotechnology)
(See also Honours Biochemistry (Specialist Option), Level IV Molecular Biology, Biotechnology and Genetic Engineering Option; and Honours Biochemistry Co-op, Year 4 Molecular Biology, Biotechnology and Genetic Engineering Option)

Honours Biology 2052
(Complementary Studies Option)

ADMISSION
Enrolment in this programme is limited. Selection is based on academic achievement but requires, as a minimum, completion of the Natural Sciences I requirements, including:

6 units
MATH 1A03, STATS 1CC3
6 units
CHEM 1A06
6 units
BIOLOGY 1A06
6 units
from Level I Science Core courses
6 units
Level I Electives
1 course
SCIENCE 1A00

The election of PHYSICS 1B06 (or 1A06 or 1C06) in Level I or II is recommended.

Minimum averages/grades:
A Cumulative Average of 5.0 and a grade of C+ in BIOLOGY 1A06.
NOTES
1. Students are advised to note carefully the prerequisites for all Levels III and IV courses listed in the following programme, particularly BIOCHEM 3G03 and 3GG3.
2. The Department of Biology has the following areas of specialization:
   a) Animal Physiology
   b) Cell, Developmental, Molecular Biology and Biotechnology
   c) Ecology
   d) Genetics and Evolution
   e) Microbiology

COURSE LIST
All Levels III and IV Biology courses: BIOCHEM 3A03, 3AA3, 3B03, 3BB3, 3C03, 3G03, 3GG3, 3H03, 3N03, 4D03, 4E03, 4M03; ENGINEER 4X03; GEOG 3P03, 4P03; GEOLOGY 2J03, 3J03, 4D03; MOI BIOL 4F03, 4H03; PHARMAC 4B03; PSYCH 2F03, 3F03, 3FA3, 3FB3, 3FF3, 3RO3, 3SO3, 3TO3, 4F03, 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
   BIOLOGY 2B03, 2C03, 2D03, 2E03, 2F03; CHEM 206
   3-6 units from STATS 2MA3, 2R06
   3-6 units Electives, excluding Biochemistry and Biology. CHEM 2R03 is recommended.

If not completed: Science 1A00

LEVEL III: 30 UNITS
18 units from Levels III, IV Biology
   6 units from the Course List (see above)
   3 units Electives, excluding Biochemistry and Biology
   3 units Electives

LEVEL IV: 30 UNITS
9 units BIOLOGY 4C09
9 units from Levels III, IV Biology
6 units from the Course List (see above)
6 units Electives

Honours Biology and Mathematics 2050320

ADMISSION
Enrolment in this programme is limited. Selection is based on academic achievement but requires, as a minimum, completion of the Natural Sciences I requirements, including:
   6 units MATH 1A03, 1AA3
   6 units CHEM 1A06
   6 units BIOLOGY 1A06
   6 units from Level I Science Core courses
   6 units from Level I Electives
   1 course SCIENCE 1A00

The election of MATH 1B03 in Level I is recommended. It must be completed by the end of Level II.

Minimum averages/grades:
A Cumulative Average of 5.0 and a grade of C+ in each of BIOLOGY 1A06 and MATH 1AA3.

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 Biology are recommended to complete BIOLOGY 4C09 or BIOLOGY 4F06.
4. Students considering graduate studies in Mathematics are recommended to complete MATH 1B03 by the end of Level I, and to select MATH 2AA3, 2P03 and either 2S03 or 2T03 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 courses.

REQUIREMENTS
120 units total (Levels I to IV), of which no more than 48 units may be Level I courses and with at least 9 units from Level IV courses

LEVEL I
30 units (See Admission above.)

LEVEL II: 30 UNITS
12 units BIOLOGY 2B03, 2C03, 2D03, 2E03, 2F03
12 units MATH 2A03, 2C03, 2E03, 2F03
3 units from MATH 2S03, 2T03
3 units Electives

If not completed: MATH 1B03, SCIENCE 1A00

LEVEL III: 30 UNITS
(For students who entered Level II in 1995-96)
12 units from Levels III, IV Biology, BIOCHEM 3G03, 3GG3 (See Note 5 above.)
6 units MATH 3F03, 3N03
6 units STATS 2D03, 2MB3
6 units Electives

If MATH 2B06 or 2J06 not completed then students must take MATH 2R03 and one of MATH 2S03, 2T03

LEVEL IV: 30 UNITS
(Beginning in 1997-98)
12 units from Level III, IV Biology, BIOCHEM 3G03, 3GG3 (See Note 5 above.)
9 units MATH 3AA3, 3F03, 3N03
3-6 units STATS 2D03, 2MB3
3-6 units Electives

LEVEL IV: 30 UNITS
(For students who entered Level II or III in 1995-96)
18 units from Level III, IV Biology, Mathematics, Statistics, MOL BIOL 4F03, 4H03, PHARMAC 4B03, PSYCH 4U03, 4I03 (See Note 5 above.)
12 units Electives

LEVEL IV: 30 UNITS
(Beginning in 1998-99)
18 units from Level III, IV Biology, Mathematics, Statistics, MOL BIOL 4F03, 4H03, PHARMAC 4B03, PSYCH 4U03, 4I03 (See Note 5 above.)
3-6 units from MATH 3AA3, 3E03, 3FF3, 3X03, STATS 3D06, 3S03, 3U03
6-9 units Electives

Honours Biology and Pharmacology (Co-op) 2050419

ADMISSION
Enrolment in this programme is limited. Selection is based on academic and other achievement (see below) but requires, as a minimum, completion of Level II in an Honours Biology programme with a cumulative average of at least 6.0.

The student enrolment in this programme will be limited to a maximum of 25 per year. 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. It is highly recommended that students interested in enrolling in the programme attend the Information Session. It is highly recommended that students interested in enrolling in the programme attend the Information Session.

NOTES
1. This is a five-year co-op programme, three terms of which must be spent off-campus in work related to pharmacology, toxicology or pharmaceutics. These three terms will include the summer term following the completion of Level III, the second term of Level IV and the first term of the fifth year. Level IV continues through the fourth and fifth year of the programme. A senior thesis will be completed during the summer of the fourth year.
PHARMAC 3A06, 3B06, 4A03, 4A03, 4C03, 4D03 and 4E03 will be based on 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 placements.

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** 3G03, 3G03, 3H03, 3N03; All Level III and IV Biology courses; GEOG 3P03, 3U03, 3U03, 3W03, 4P03; MOL BIOL 4F03, 4H03, 4J03; PSYCH 4F03

**REQUIREMENTS.**

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

**LEVEL I**

30 units from the Natural Sciences I requirements

**LEVEL II: 30 UNITS**

15 units BIOLOGY 2B03, 2C03, 2D03, 2E03, 2F03

6 units CHEM 2006

3-6 units from STATS 2MA3, 2R06

3-6 units Electives, excluding Biochemistry and Biology; CHEM 2R03 is recommended.

**YEAR 3**

30 units from Academic Level III, Terms 1 and 2, plus Work Orientation course, and completion of first four-month work term, Summer Term

**TERMS 1 AND 2**

6 units from the Course List (see above). If BIOCHEM 2A06 is not completed, students must take BIOCHEM 3G03, 3G03

9 units BIOLOGY 3P03, 3U03, 3U03

12 units PHARMAC 3A06, 3B06

3 units Electives

→ Work Orientation Course

**SUMMER**

Work Term

**YEAR 4**

15 units from Academic Level IV, Term 1, completion of second four-month work term, Term 2, completion of senior thesis, Summer Term

**TERM 1**

6 units BIOLOGY 3X03; PHARMAC 4A03

3 units from PHARMAC 4B03, 4C03

6 units from the Course List (see above)

**TERM 2**

Work Term

**SUMMER**

9 units from PHARMAC 4F09, BIOLOGY 4L09

**YEAR 5**

15 units from Academic Level IV, Term 2, and completion of third four-month work term, Term 1.

**TERM 1**

Work Term

**TERM 2**

6 units from PHARMAC 4A03, 4D03, 4E03

3 units from the Course List (see above)

6 units Electives

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**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 Natural Sciences I requirements, including:

- 3 units from MATH 1A03
- 3 units from MATH 1B03, 1A03, STAT 1CC3
- 6 units from CHEM 1A06
- 6 units from BIOLOGY 1A06
- 6 units from PSYCH 1A06
- 6 units from Level I Electives
- 1 course from BIOLOGY 1A06

Enrolment in this programme is shared by the Departments of Biology and Psychology and alternates each year.

**MINIMUM AVERAGES/GRADUATES:**

A Cumulative Average of 5.0 and a grade of C+ in each of BIOLOGY 1A06, CHEM 1A06, PSYCH 1A06.

**NOTES**

1. Counselling for this programme is shared by the Departments of Biology and Psychology and alternates each year.

2. MATH 1B03 must be completed by the end of Level II.

3. In Level III or IV students must complete at least one laboratory course in Psychology (see Course List 4). Enrolment is limited for the Psychology laboratory courses.

4. Students who hope to obtain scholarships should complete all 33 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 include one of Physics 1B06, 1A06, 1C06.

6. Students who entered Level II of this programme in 1993-94 or later must complete one of BIOLOGY 4C09, 4F06 or PSYCH 4D06.

7. A minor in Biochemistry is not permitted in the Honours Biology and Psychology programme.

**COURSE LIST 1**

All Level III Biology courses and BIOLOGY 2D03, 2E03, 2F03; BIOCHEM 3H03, 3N03

**COURSE LIST 2**

All Level IV Biology courses; BIOCHEM 4D03, 4E03, 4M03; MOL BIOL 4F03, 4H03; PHARMAC 4B03

**COURSE LIST 3**

All Level III and IV Psychology courses except PSYCH 3C06, 3D03, 3D03

**COURSE LIST 4**

PSYCH 3E03, 3L03, 3L03, 3QQ3, 3S03, 3V03, 4G03, 4QQ3

**REQUIREMENTS**

126 units total (Levels I to IV), of which no more than 48 units may be Level I courses.
LEVEL I
30 units (See Admission above.)

LEVEL II: 33 UNITS
12 units BIOLOGY 2B03, 2C03; CHEM 2006
6 units from PSYCH 2E03, 2F03, 2H03, 2T03, 2V03
6 units from both PSYCH 2R03 and 2RR3 or STATS 2R06
9 units Electives. CHEM 2R03 is recommended.

LEVEL III: 33 UNITS
6 units BIOCHEM 3G03, 3GG3
12 units from Course List 1 (see above)
3 units from Course List 4 (see above)
3 units from PSYCH 2E03, 2F03, 2H03, 2T03 or all Level III Psychology courses, except PSYCH 3C06, 3CC3, 3D03, and 3DD3
6 units from all Level III Psychology courses, except PSYCH 3C06, 3CC3, 3D03, and 3DD3 (See Note 3 above.)
3 units Electives

LEVEL IV: 30 UNITS
24 units from Course Lists 1, 2 and 3 (see above), including at least nine units from Course Lists 1 and 2, and at least nine units from Course List 3. One of BIOLOGY 4C09, 4F06 or PSYCH 4D06 is required.
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 BIOLOGY 1A06
18 units from Level II, III, IV Biology courses, including at least six units from Level III, IV Biology courses

DEPARTMENT OF CHEMISTRY
NOTES
1. Students in all Chemistry programmes are required to complete three units of Computer Science before completion of Level II. Students are expected to have basic skills in the use of personal computers, word processing software and spreadsheet software. Those without these skills should enrol in COMP SCI 1SA3. Students with these skills should select COMP SCI 1MC3. Students are strongly recommended to complete this Computer Science requirement in Level I.

2. Students are advised that joint Honours programmes are more challenging than single Honours programmes.

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

Honours Biochemistry and Chemistry
(See Department of Biochemistry)

Honours Chemistry
(Complementary Studies Option) 2072

ADMISSION
Completion of the Natural Sciences I requirements, including:
9 units MATH 1A03, 1AA3, 1B03
6 units CHEM 1A06
9 units from Level I Science Core courses
6 units from Level I Electives
1 course SCIENCE 1A00

One of PHYSICS 1A06, 1B06, 1C06 must be completed by the end of Level II. Its election in Level I is strongly recommended.

COMP SCI 1MC3 (or 1SA3) must be completed by the end of Level II.

Minimum averages/grades:
A Cumulative Average of 5.0 and a grade of C+ in CHEM 1A06.

NOTES
1. This programme fulfills the academic requirements for membership in the Chemical Institute of Canada.

2. COMP SCI 2MF3, MATH 2003, and PHYSICS 2A03 or 2B06 are recommended electives.

3. For those considering postgraduate studies in Chemistry, it should be noted that 18 units of Level IV Chemistry are required for consideration for admission at McMaster.

4. In some cases there are Level II (and III) prerequisites for Level III (and Level IV) courses. The prerequisites should be considered when choosing your Level II (III) programme.

5. Students who wish to transfer from Level II of the B.Sc. in Physical Science to Level III of Honours Chemistry (Complementary Studies Option) must attain a CA of at least 6.0 including CHEM 2A03, 2B06 or 2006, 2C03 and 2P06 and MATH 2A03 or 2N03 or both MATH 2G03 and 2003.

6. Students who wish to transfer from Level III of the B.Sc. in Physical Science to Level IV of the Honours Chemistry (Complementary Studies Option) must attain a CA of at least 6.0 including CHEM 2A03, 2B06 or 2006, 2C03 and 2P06 and MATH 2A03 or 2N03 or both MATH 2G03 and 2003, CHEM 3A03, 3B06 (or 3B03 and 3C03), 3D03 and 3Q03.

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 CHEM 2A03, 2B06, 2C03, 2P06
3 units MATH 2A03
6 units from the Faculty of Humanities and/or the Department of Religious Studies
3 units Electives, excluding Chemistry

LEVEL III: 30 UNITS
15 units CHEM 3A03, 3B06, 3D03, 3Q03
3 units HUMAN 2C03
6 units from Business, Humanities, Social Sciences, excluding Physical Geography and Psychology
6 units Electives, excluding Chemistry

LEVEL IV: 30 UNITS
6 units from the Science Inquiry Course List
6 units CHEM 4T06
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 Natural Sciences I requirements, including:
9 units MATH 1A03, 1AA3, 1B03
6 units CHEM 1A06
9 units from Level I Science Core courses
6 units from Level I Electives
1 course SCIENCE 1A00

PHYSICS 1A06 (or 1B06 or 1C06) must be completed by the end of Level II; its election in Level I is strongly recommended.

COMP SCI 1MC3 (or 1SA3) must be completed by the end of Level II.

Minimum averages/grades:
A Cumulative Average of 5.0 and a grade of C+ in CHEM 1A06.

Notes
1. This programme fulfills the academic requirements for membership in the Chemical Institute of Canada.

2. For students interested in physical chemistry recommended electives throughout the programme include MATH 2003 (or 2C03), STATS 1GC3, 2MA3 and MATH 3C03, 3D03.

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 CHEM 2A03, 2B06, 2C03, 2P06
3 units MATH 2A03
1 course from PHYSICS 2A03, 2B06
3-6 units Electives, excluding Chemistry
If not completed: SCIENCE 1A00, one of COMP SCI 1MA3, 1MC3, 1SA3, 1ZA3, and one of PHYSICS 1A06, 1B06, 1C06

LEVEL III: 30 UNITS
21 units CHEM 3A03, 3B06, 3D03, 3E06, 3Z03
6 units Electives, excluding Chemistry
3 units Electives

LEVEL IV: 30 UNITS
6 units from CHEM 4G06, 4T06
12 units from Level IV Chemistry
6 units from Level III, IV Science, Engineering
6 units Electives

Honours Chemistry (Co-op) 2073

ADMISSION
Enrolment in this programme is limited. 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 Applied Chemistry or Honours Biological Chemistry or Honours Biochemistry and Chemistry with a Cumulative Average of at least 6.0.

Enrolment in this programme will be limited to a maximum of 10 students per year. 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 Institute of Canada.

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

LEVEL I
30 units from the Natural Sciences I requirements

LEVEL II
30 units from Level II of Honours Chemistry (Complementary Studies Option), Honours Chemistry (Specialist Option), Honours Applied Chemistry, Honours Biological Chemistry, or Honours Biochemistry and Chemistry

Year 3
15 units from Academic Level III, Term 1, plus Work Orientation course, and first work term of eight months duration, Term 2 and Summer term.

TERM 1
6 units CHEM 3A03, 3Q03
3 units HUMAN 2C03
6 units Electives, including Chemistry → Work Orientation Course

TERM 2 AND SUMMER
Work Term

YEAR 4
(Beginning in 1997-98)
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 3B06, 3D03, 3I03, 4TA3
3 units from the Science Inquiry Course List
6 units from Business, Humanities, Social Sciences, excluding Physical Geography and Psychology
6 units from Level III, IV courses, excluding Chemistry

SUMMER
Work Term

YEAR 5
(Beginning in 1999-98)
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 CHEM 4TB3
3 units from Level IV Chemistry
3 units from the Science Inquiry List
8 units Electives

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Honours Applied Chemistry 2015

ADMISSION
Completion of the Natural Sciences I requirements, including:
9 units MATH 1A03, 1AA3, 1B03
6 units CHEM 1A06
9 units from Level I Science Core courses
6 units from Level I Electives
1 course SCIENCE 1A00

PHYSICS 1A06 (or 1B06 or 1C06) must be completed by the end of Level II; its election in Level I is strongly recommended. COMP SCI 1MC3 (or 1SA3) must be completed by the end of Level II.

Minimum averages/grades:
A Cumulative Average of 5.0 and a grade of C+ in CHEM 1A06.

NOTES
1. Level II of the Honours Applied Chemistry programme will not be offered after August 1997. An Honours Chemistry Co-op programme begins in Level III and admission is from Level II of a number of Honours Chemistry programmes. Students interested in applied chemistry should consider one of those programmes.
2. This programme fulfills the academic requirements for membership in the Chemical Institute of Canada.

3. Recommended electives throughout the programme include ENGINEER 2003; MATHS 2C04, 4D03, 4E03; METALL 3C03, 4C04, 4N03; CHEM ENG 3D03, 3P03, 3Q03, 4C03, 4K03, 4N04; BUSINESS 3W06, 3X03, 3Y03, 3Z03; PHYSICS 2A03.

REQUIREMENTS
123-24 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: 32 UNITS
(Last offered in 1996-97)
12 units CHEM 2A03, 2B06, 2C03
8 units CHEM ENG 2D04, 2F04
3 units MATH 2A03
9 units Electives, excluding Chemistry
If not completed: SCIENCE 1A00, one of COMP SCI 1MA3, 1MC3, 1SA3, 1ZA3, and one of PHYSICS 1A06, 1B06, 1C06

LEVEL III: 31 UNITS
(Last offered in 1997-98)
22 units CHEM 3B06, 3D03, 3E06, 3I03; CHEM ENG 3M04
9 units Electives, excluding Chemistry

LEVEL IV: 30-31 UNITS
(Last offered in 1998-99)
3 units CHEM 3A03
6 units from CHEM 4G06, 4T06
3-4 units from CHEM 3D03, CHEM ENG 3K04
6 units from Level I Chemistry, Chemical Engineering
3 units from Level III, IV Science, Engineering
9 units Electives.

Honours Biological Chemistry

ADMISSION
Completion of the Natural Sciences I requirements, including:
9 units MATH 1A03, 1AA3, 1B03
6 units CHEM 1A06
6 units BIOLOGY 1A06
3 units from Level I Science Core courses
6 units from Level I Electives
1 course SCIENCE 1A00

Minimum averages/grades:
A Cumulative Average of 5.0 and a grade of C+ in MATH 1A03, 1AA3, 1B03.

NOTES
1. This programme fulfills the academic requirements for membership in the Chemical Institute of Canada.
2. A minor in Biochemistry is not permitted in the Honours Biological Chemistry programme.

REQUIREMENTS
120 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 UNITS
3 units BIOLOGY 2B03
18 units CHEM 2A03, 2B06, 2C03, 2P06
3 units MATH 2A03
6 units Electives, excluding Chemistry
If not completed: SCIENCE 1A00, one of COMP SCI 1MA3, 1MC3, 1SA3, 1ZA3, and one of PHYSICS 1A06, 1B06, 1C06

LEVEL III: 30 UNITS
9 units BIOCHEM 3G03, 3GG3; BIOLOGY 2C03
9 units CHEM 3A03, 3B06
3 units from CHEM 3D03, 3F03
3-6 units from CHEM 3E06, 3Q03
3-6 units Electives.

LEVEL IV: 30 UNITS
9 units BIOCHEM 4I03; CHEM 4D03, 4D4A
8 units from CHEM 4G06, 4T06
3 units from BIOCHEM 3L03, Level IV Biochemistry
3 units from Level III, IV Biology
3 units Electives, excluding Biology
6 units Electives

Honours Chemistry and Mathematics

ADMISSION
Completion of the Natural Sciences I requirements, including:
9 units MATH 1A03, 1AA3, 1B03
6 units CHEM 1A06
3-6 units from GEOLOGY 1C03, ENVIR SC 1A06
3-6 units from Level I Science Core courses
6 units from Level I Electives
1 course SCIENCE 1A00

Minimum averages/grades:
A Cumulative Average of 5.0 and a grade of C+ in each of CHEM 1A06, MATH 1A03, 1AA3.

NOTES
1. This programme fulfills the academic requirements for membership in the Chemical Institute of Canada.
2. Students must register for GEOLOGY 2E01 in Level II, but normally take it immediately after the April exam period.
3. Students should seek counselling for this programme in the Department of Chemistry.

REQUIREMENTS
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: 33 UNITS
15 units CHEM 2B06, 2C03, 2P06
15 units GEOLOGY 2B06, 2C03, 2D03, 2E01, 2EE2
3 units MATH 2A03
If not completed: SCIENCE 1A00

LEVEL III: 30 UNITS
15 units CHEM 2A03, 3B06, 3E06
9 units GEOLOGY 3C03, 3G03, 3Q03
3 units from GEOLOGY 2I03, 2J03
3 units Electives

LEVEL IV: 30 UNITS
3 units CHEM 3A03
6 units from Level III, IV Chemistry
6 units from Level III, IV Geology
6 units from Level III, IV Chemistry, Geology
9 units Electives

Honours Chemistry and Geology

ADMISSION
Completion of Natural Sciences I, including:
9 units MATH 1A03, 1AA3, 1B03
6 units CHEM 1A06
3-6 units from GEOLOGY 1C03, ENVIR SC 1A06
3-6 units from Level I Science Core courses
6 units from Level I Electives
1 course SCIENCE 1A00

The election of PHYSICS 1A06 is recommended.

Minimum averages/grades:
A Cumulative Average of 5.0 and a grade of C+ in CHEM 1A06 and either GEOLOGY 1C03 or ENVIR SC 1A06.

NOTES
1. This programme fulfills the academic requirements for membership in the Chemical Institute of Canada.
2. Students must register for GEOLOGY 2E02 in Level II, but normally take it immediately after the April exam period.
3. GEOLOGY 2E01 is taken during the regular term of Level II.

REQUIREMENTS
123-24 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 CHEM 2B06, 2C03, 2P06
15 units GEOLOGY 2B06, 2C03, 2D03, 2E01, 2EE2
3 units MATH 2A03
If not completed: SCIENCE 1A00

LEVEL III: 30 UNITS
15 units CHEM 2A03, 3B06, 3E06
9 units GEOLOGY 3C03, 3G03, 3Q03
3 units from GEOLOGY 2I03, 2J03
3 units Electives

LEVEL IV: 30 UNITS
3 units CHEM 3A03
6 units from Level III, IV Chemistry
6 units from Level III, IV Geology
6 units from Level III, IV Chemistry, Geology
9 units Electives

Honours Chemistry and Mathematics

ADMISSION
Completion of the Natural Sciences I requirements, including:
9 units MATH 1A03, 1AA3, 1B03
6 units CHEM 1A06
9 units from Level I Science Core courses
6 units from Level I Electives
1 course SCIENCE 1A00

COMP SCI 1MC3 (or 1SA3) must be completed by the end of Level II.

Minimum averages/grades:
A Cumulative Average of 5.0 and a grade of C+ in each of CHEM 1A06, MATH 1A03, 1AA3.
NOTES
1. This programme fulfills the academic requirements for membership in the Chemical Institute of Canada.
2. Students should seek counselling for this programme in either the Department of Chemistry or in the Department of Mathematics and Statistics.
3. A minor in Statistics is not permitted in the Honours Chemistry and Mathematics programme.
4. Students interested in graduate school in Mathematics should consider taking MATH 3E03, 3EE3.
5. Students interested in graduate studies in Chemistry at McMaster must take 18 units of Level IV Chemistry.

REQUIREMENTS
120 units total (Levels I to IV), of which no more than 48 units may be Level I courses and with at least 12 units from Level IV courses

LEVEL I
30 units (See Admission above.)

LEVEL II: 30 UNITS
15 units CHEM 2B06, 2C03, 2P06
9 units MATH 2A03, 2C03, 2R03
3 units from MATH 2S03, 2T03
3 units from MATH 2A3, 2E03; STATS 2D03
If not completed: SCIENCE 1 A00, one of COMPSCI 1 MA3, 1MC3, 1SA3, 1ZA3, one of PHYSICS 1A06, 1B06, 1C06

LEVEL III: 30 UNITS
(For students who entered Level II in 1995-96)
15 units CHEM 2A03, 3B06, 3D03, 3Q03
6 units MATH 3F03, 3FF3
6 units from MATH 2R03, 2S03 (or 2T03), Level III, IV Mathematics, Level II, III, IV Statistics
3 units Electives, excluding Chemistry
If MATH 2J06 (or 2B06) not completed, then students must take MATH 2R03 and one of MATH 2S03, 2T03

LEVEL III: 30 UNITS
(Beginning in 1997-98)
15 units CHEM 2A03, 3B06, 3D03, 3Q03
12 units MATH 3A03, 3F03, 3FF3, 3X03
3 units Electives

LEVEL IV: 30 UNITS
(For students who entered Level III in 1995-96 and 1996-97)
6 units CHEM 4G06
3 units MATH 4Q03
6 units from Level III, IV Chemistry
6 units from Level III, IV Mathematics
6 units from Level III, IV Chemistry, Mathematics, Statistics
3 units Electives

LEVEL IV: 30 UNITS
(Beginning in 1998-99)
6 units CHEM 4G06
9 units MATH 3A03, 4Q03, 4X03
6 units from Level III, IV Chemistry
6 units from Level III, IV Chemistry, Mathematics, Statistics
3 units Electives

Honours Chemistry and Physics 2070440

ADMISSION
Completion of the Natural Sciences I requirements, including:
9 units MATH 1A03, 1AA3, 1B03
6 units CHEM 1A06
6 units from PHYSICS 1A06, 1B06, 1C06
3 units from Level I Science Core courses
6 units from Level I Electives
1 course SCIENCE 1A00
Students will be considered for admission if they have completed PHYSICS 1B06 (or 1C06) instead of 1A06. However, PHYSICS 1A06 is strongly recommended.
COMP SCI 1MC3 (or 1SA3) must be completed by the end of Level II.

Minimum averages/grades:
A Cumulative Average of 5.0 and a grade of C+ in each of CHEM 1A06, MATH 1A03, 1AA3, PHYSICS 1A06 (or 1B06 or 1C06).

NOTES
1. This programme fulfills the academic requirements for membership in the Chemical Institute of Canada.
2. Students should seek counselling for this programme in the Department of Chemistry.
3. A minor in Astronomy is not permitted in the Honours Chemistry and Physics programme.

REQUIREMENTS
127 to 131 units total (Levels I to IV), of which no more than 48 units may be Level I courses

LEVEL I
30 units (See Admission above.)

LEVEL II: 33 UNITS
15 units CHEM 2B06, 2C03, 2P06
3 units MATH 2A03
3 units from MATH 2C03, 2O03
9 units PHYSICS 2B06, 2D03
3 units Electives
If not completed: SCIENCE 1 A00, one of COMPSCI 1 MA3, 1MC3, 1SA3, 1ZA3

LEVEL III: 33-34 UNITS
12 units CHEM 2A03, 3B06, 3Q03
6 units MATH 3C03, 3D03
6 units PHYSICS 3M03, 3MM3
6-10 units from PHYSICS 3B06, 3K04, 3N03
0-3 units Electives. (Courses which are prerequisites for desired Level IV courses should be considered.)

LEVEL IV: 31-34 UNITS
6 units CHEM 4B03; PHYSICS 4F03
1 course from CHEM 4G06, PHYSICS 4J04, 4Q04
13-15 units from Level III, IV Astronomy, Chemistry, Physics, including either CHEM 4Y03 or PHYSICS 3K04
6 units Electives

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 CHEM 1A06
18 units Level II, III, IV Chemistry courses, including at least 6 units from Level III, IV Chemistry courses

DEPARTMENT OF COMPUTER SCIENCE AND SYSTEMS

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

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

Honours Computer Science 2147
(Complementary Studies Option)

ADMISSION
Completion of any Level I programme, including:
9 units MATH 1A03, 1AA3, 1B03
6 units COMPSCI 1MC3, 1MD3
15 units Level I courses to complete a Level I programme

Minimum averages/grades:
A Cumulative Average of 5.0 and a grade of C+ in each of COMPSCI 1MC3, 1MD3.
1. Students may choose their electives to complete a minor or some other coherent set of courses, such as:
   - Numerical Analysis: MATH 3Q03, 4Q03, 4QQ3 and 4RR3
   - Hardware: PHYSICS 2B06, 3B06, 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 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
6 units COMP SCI 2MD3, 2MF3
6 units from COMP SCI 2MC3, 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 3CA3, 3GA3, 3IA3, 3TA3
3 units from COMP SCI 2ME3, MATH 2G03, 3B03
3 units HUMAN 2C03
6 units from Business, Humanities, Social Sciences, excluding Physical Geography and Psychology
6 units Electives, excluding Computer Science

LEVEL IV: 30 UNITS
6 units COMP SCI 3EA3, 3MI3
6 units from COMP SCI 4RP6 or the Science Inquiry Course List
6 units from Level IV Computer Science, excluding COMP SCI 4MP6, 4Z13, 4ZP6
6 units Electives from Level III, IV, excluding Computer Science
6 units Electives

Honours Computer Science (Specialist Option) 2145

ADMISSION
Completion of any Level I programme, including:
9 units MATH 1A03, 1AA3, 1B03
6 units COMP SCI 1MC3, 1MD3
15 units Level I courses to complete a Level I programme

Minimum averages/grades:
A Cumulative Average of 5.0 and a grade of C+ in each of COMP SCI 1MC3, 1MD3.

NOTES
1. Students may choose their electives to complete a minor or some other coherent set of courses, such as:
   - Numerical Analysis: MATH 3Q03, 4Q03, 4QQ3 and 4RR3
   - Hardware: PHYSICS 2B06, 3B06, 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 of specialization are satisfied.
4. Students are encouraged to specialize in Level III and IV by choosing one of the following sets of courses:
   - Computer Systems: three of COMP SCI 4CB3, 4CC3, 4CD3, 4TB3
   - Software Engineering: three of COMP SCI 4EB3, 4EC3, 4ED3, 4TB3
   - Artificial Intelligence: three of COMP SCI 4IB3, 4IC3, 4EB3, MATH 4C03, 4J03
   - Theory of Computation: three of COMP SCI 4TB3, 4TC3, 4TD3, 4GB3, MATH 4C03, 4J03
5. A minor in Mathematics is not permitted in the Honours Computer Science (Specialist Option) programme.

COURSE LIST
All Level III and IV Computer Science (excluding COMP SCI 4Z13), Mathematics and Statistics courses and PHYSICS 3B06, 4D06

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

LEVEL I
30 units (See Admission above.)

LEVEL II: 30 UNITS
6 units COMP SCI 2MD3, 2MF3
6 units from COMP SCI 2MC3, 2MJ3, 2SC3
6 units MATH 2A03, 2AA3
3 units MATH 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
3 units from COMP SCI 3CA3, 3GA3, 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 (See Note 4 above.)
6 units Electives

Honours Computer Science and Mathematics 2145320

ADMISSION
Completion of any Level I programme, including:
9 units MATH 1A03, 1AA3, 1B03
6 units COMP SCI 1MC3, 1MD3
15 units Level I courses to complete a Level I programme

Minimum averages/grades:
A Cumulative Average of 5.0 and a grade of C+ in each of COMP SCI 1MC3, 1MD3; MATH 1A03, 1B03.

NOTE
A minor in 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; PHYSICS 2C03, 2D03; 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 from COMP SCI 2MC3, 2MD3, 2MF3, 2SC3
12 units MATH 2A03, 2AA3, 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, 3MG3, 3MH3, 3MI3
3 units from COMP SCI 2CA3, 3EA3, 3GA3, 3IA3, 3TA3
6 units MATH 3A03, 3X03
3 units from Level III, IV Mathematics, Statistics
6 units Electives
LEVEL IV: 30 UNITS
(for students entering Level IV in 1996-97)
6 units COMP SCI 4MP6
3 units from MATH 3A03, 3C03, 3J03, 3Q03, 4S03
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
LEVEL IV: 30 UNITS
(Beginning in 1997-98)
6 units COMP SCI 4MP6
3 units from MATH 3A03, 3C03, 3J03, 3Q03, 4S03, 4X03
6 units COMP SCI 3CA3, 3EA3, 3GA3, 3IA3, 3TA3
3 units from Level III, IV Mathematics, Statistics
6 units Electives, excluding Computer Science, Mathematics, Statistics
6 units Electives
Honours Computer Science and Psychology 2145460

ADMISSION
Enrolment in this programme is limited. Selection is based on
academic achievement but requires, as a minimum, completion of the Natural Sciences I requirements, including:
9 units MATH 1A03, 1AA3, 1B03
6 units from CHEM 1A06, PHYSICS 1B06, 1A06, 1C06
6 units COMP SCI 1MC3, 1MD3
6 units PSYCH 1A06
3 units Level I Electives
1 course SCIENCE 1A00
Minimum averages/grades:
A Cumulative Average of 5.0 and a grade of C+ in each of COMP
SCI 1MC3, 1MD3, MATH 1AA3, PSYCH 1A06.
NOTE
In Level III or IV students must complete at least one laboratory
course in Psychology (see the Course List). Enrolment is limited in
the laboratory courses, and permission of the department must be
obtained in March.
COURSE LIST
PSYCH 3C06, 3E03, 3L03, 3LL3, 3QQ3, 3S03, 3V03, 3G03, 3QQ3

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
3 units MATH 2R03
3 units from MATH 2S03, 2T03
9 units from PSYCH 2E03, 2F03, 2H03, 2T03, 2V03
3-6 units from either one of STATS 2MA3, 2MB3, 2R06, or both
PSYCH 2R03 and 2RR3
0-3 units Electives
If not completed: SCIENCE 1A00
LEVEL III: 30 UNITS
9 units COMP SCI 3MG3, 3MH3, 3MI3
3 units from COMP SCI 3CA3, 3EA3, 3GA3, 3IA3, 3TA3
3 units from COMP SCI 2ME3, 2MJ3, Level III, IV Computer
Science (excluding COMP SCI 4Z13)
12 units from Level III Psychology, PSYCH 4G03, 4QQ3, including
at least one course from the Course List (see above)
3 units Electives
LEVEL IV: 30 UNITS
6 units from COMP SCI 4MP6 or PSYCH 4D06 (the project or
thesis must be approved by the Chairs of both depart-
ments)
12 units from Level III, IV Computer Science, excluding COMP
SCI 4Z13
9 units from Level III, IV Psychology
3 units Electives

Honours Computer Science and Statistics 2145542

ADMISSION
Completion of any Level I programme, including:
9 units MATH 1A03, 1AA3, 1B03
6 units COMP SCI 1MC3, 1MD3
15 units from Level I courses to complete a Level I programme
Minimum averages/grades:
A Cumulative Average of 5.0 and a grade of C+ in each of COMP
SCI 1MC3, 1MD3, MATH 1AA3, 1B03.
NOTE
A minor in Mathematics 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, 2AA3, 2R03, 2S03, STATS 2D03
6 units Electives
If not completed: SCIENCE 1A00
LEVEL III: 30 UNITS
12 units COMP SCI 2ME3, 3MG3, 3MH3, 3MI3
3 units from MATH 2C03, 2D03
9 units from Level I, II, III Computer Science
3 units Electives, excluding Computer Science, Mathematics, Statistics
3 units Electives
LEVEL IV: 30 UNITS
3 units from COMP SCI 3CA3, 3EA3, 3GA3, 3IA3, 3TA3
6 units COMP SCI 4MP6
6 units from Level III, IV Mathematics
9 units from Level III, IV Statistics
3 units from Level III, IV Computer Science (excluding
COMP SCI 4Z13), Mathematics, Statistics
3 units Electives, excluding Computer Science, Mathematics, Statistics

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 from COMP SCI 1MC3, 1MD3 or (1MA3, 1MB3)
3 units from COMP SCI 2MC3, 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 Geology (B.A.)
and
Honours Geography and Environmental Studies (B.A.)
(See B.A. programmes in Geography, Faculty of Social Sciences, Department of Geography)

Honours Arts & Science and Geography
(B.Ars Sc.; See Arts & Science programme)

Honours Geography (B.Sc.)

ADMISSION
Completion of the Natural Sciences I requirements, including:
- 6 units MATH 1A03, STAT 1C03
- 6 units from CHEM 1A06, PHYSICS 1B06, 1A06, 1C06
- 6 units GEOG 1C03, 1G03
- 6 units from BIOLOGY 1A06, ENVIR SC 1A06
- 6 units from Level I Electives
- 1 course SCIENCE 1A00

Minimum averages/grades:
A Cumulative Average of 5.0 and a grade of C+ in each of GEOG 1C03, 1G03.

COURSE LIST 1
GEOG 3F03, 3G03, 3K03, 3M03, 3N03, 3NN3, 3P03, 3W03, 4A03, 4D03, 4E03, 4K03, 4KK3, 4NN3, 4P03, 4Q03, 4R03, 4S03, 4T03, 4W03; GEOLOGY 4S03, 4W03

COURSE LIST 2
BIOLOGY 3FF3, 3R03, 3SS3, 3TT3, 4A03, 4AA3, 4J03, 4Y03, ENGSOCTY 3Z03

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

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 GEOG 2F03, 2K03, 2N03, 2T03, 2W03, 3E03
- 12 units Electives
If not completed: SCIENCE 1A00

LEVEL III: 30 UNITS
(For students who entered Level II in 1995-96)
- 6 units GEOG 3E03, 3G03
- 12 units from the Course List (see above)
- 6 units Electives, excluding Geography
- 6 units Electives

LEVEL IV: 30 UNITS
(Begining in 1997-98)
- 3 units GEOG 3O03
- 15 units from the Course List (see above)
- 6 units Electives, excluding Geography
- 6 units Electives

LEVEL I: 30 UNITS
- 12-15 units from the Course List (see above), including at least nine units from Level IV courses
- 6 units Electives, excluding Geography
- 6 units Electives

Honours Geography and Environmental Science Co-op (B.Sc.)

ADMISSION
Enrolment in this programme is limited. 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.

Enrolment in this programme will be limited to a maximum of 10 students per year. 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 three four-month work terms which must be spent in placements related to Environmental Science. A senior thesis 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. No minors or Theme Schools are permitted in the Honours Geography and Environmental Science Co-op programme.
5. At least nine units of Level IV courses from Course Lists 1 and 2 must be completed after Year 3.

COURSE LIST 1
GEOG 3F03, 3G03, 3K03, 3M03, 3N03, 3NN3, 3P03, 3W03, 4A03, 4D03, 4E03, 4K03, 4KK3, 4NN3, 4P03, 4Q03, 4R03, 4S03, 4T03, 4W03; GEOLQY 4S03, 4W03

COURSE LIST 2
BIOLOGY 3FF3, 3R03, 3SS3, 3TT3, 4A03, 4AA3, 4J03, 4Y03, ENGSOCTY 3Z03

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

REQUIREMENTS
129 units total (Levels I to IV), of which no more than 48 units may be Level I courses.
LEVEL I
30 units from the Natural Sciences I requirements

LEVEL II
30 units from Level II Honours Geography and Environmental Science (B.Sc.)

YEAR 3
30 units from Academic Level III, Terms 1 and 2, plus Work Orientation course, and completion of first four-month work term, Summer Term.

TERMS 1 AND 2
18 units GEOG 3C03, 3E03, 3J03, 3003, 3U03, 3UU3
3 units from Course Lists 2 and 3 (see above)
3 units from Course Lists 1 and 2 (see above)
6 units Electives ➔ Work Orientation Course

SUMMER
Work Term

YEAR 4
24 units from Academic Studies Level IV, Term 1, completion of second four-month work term, Term 2, plus senior thesis, Summer Term.

TERM 1
3 units GEOG 4CC3
3 units from Course Lists 2 and 3 (see above)
6 units from Course Lists 1 and 2 (see above) (At least nine units of Level IV courses from Course Lists 1 and 2 must be completed after Year 3)
3 units Electives

TERM 2
Work Term

SUMMER
9 units GEOG 4B09

YEAR 5
15 units from Academic Level IV, Term 2, and completion of third four-month work term, Term 1.

TERM 1
Work Term

TERM 2
6 units from Course Lists 2 and 3 (see above)
6 units from Course Lists 1 and 2 (see above)
3 units Electives

Honours Geography and Geology (B.Sc.)

ADMISSION
Completion of the Natural Sciences I requirements, including:
6 units MATH 1A03, STAT 1C03
6 units from CHEM 1A06, PHYSICS 1A06, 1B06, 1C06
6 units GEOG 1C03, 1G03
3-6 units from ENVIR SC 1A06, GEOLOGY 1C03
0-3 units from Level I Science Core courses
6 units from Level I Electives
1 course SCIENCE 1A00
CHEM 1A06 must be completed by the end of Level II.

Minimum averages/grades:
A Cumulative Average of 5.0 and a grade of C+ in each of GEOG 1C03, 1G03 and one of GEOLOGY 1C03, ENVIR SC 1A06.

NOTES
1. Students must register for GEOLOGY 2EE2 in Level II, but normally take it immediately after the April exam period. GEOLOGY 4A03 is normally taken in the summer after Level III, but is included in the Level IV registration.
2. Students must take GEOLOGY 3S03 in Level III or IV when offered.

COURSE LIST 1
GEOG 4A03, 4C06, 4CC3, 4D03, 4E03, 4K03, 4KK3, 4NN3, 4P03, 4Q03, 4R03, 4W03

COURSE LIST 2
All Level IV Geology courses

COURSE LIST 3
GEOG 3C03, 3F03, 3I03, 3K03, 3L03, 3N03, 3NN3, 3P03, 3U03, 3UU3, 3V03, 3W03

COURSE LIST 4
All Level III Geology courses

REQUIREMENTS
120-123 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: 30 UNITS
6 units GEOG 2N03, 2T03
6 units from GEOG 2F03, 2K03, 2W03
15 units GEOLOGY 2B06, 2C03, 2D03, 2E01, 2EE2
3 units from Science, Engineering
If not completed: CHEM 1A06, SCIENCE 1A00

LEVEL III: 30 UNITS
6 units GEOG 3E03, 3M03, 3O03
3 units from GEOG 3F03, 3K03, 3N03, 3NN3, 3P03, 3U03, 3UU3, 3W03
6 units GEOLOGY 3C03, 3S03
3 units from GEOLOGY 2I03, 2J03, 2K03, 3F03,
3 units Electives, excluding Geography, Geology
6 units Electives

LEVEL IV: 30 UNITS
6 units from Course List 1 (see above)
6 units from Course List 2 (see above)
9 units from Course Lists 1, 2, 3 and 4 (see above)
9 units Electives
If not completed: GEOLOGY 3S03

B.Sc. Three-Level Degree
A three-level programme with a Geography orientation is available through the B.Sc. in Earth Science which is listed under the heading Three-Level B.Sc. Programmes in this section.

Minor in Geography
6 units from Level I Geography
18 units from Level II, III, IV Geography courses, including at least six units of Level III, IV courses
No more than six units may come from GEOG 2C03, 2E03, 2P03, 3J03 and 3R03. It is possible for a student to complete this Minor through evening and summer study.

DEPARTMENT OF GEOLOGY

Honours Chemistry and Geology
(See Department of Chemistry)

Honours Geography and Geology (B.Sc.)
(See Department of Geography)

Honours Geography and Geology (B.A.)
(See Faculty of Social Sciences, Department of Geography)
Honours Geology (Complementary Studies Option) 2252

ADMISSION
Completion of the Natural Sciences I requirements, including:
- 6 units MATH 1A03, STATS 1CC3
- 6 units CHEM 1A06
- 6 units from BIOLOGY 1A06, PHYSICS 1A06, 1B06, 1C06
- 3-6 units from GEOLOGY 1C03, ENVIR SC 1A06
- 0-3 units from Level I Science Core courses
- 6 units from Level I Electives
- 1 course SCIENCE 1A00

The election of PHYSICS 1A06 (or 1B06 or 1C06) in Level I or II is strongly recommended.

Minimum averages/grades:
A Cumulative Average of 5.0 and a grade of C+ in GEOLOGY 1C03 or ENVIR SC 1A06.

NOTES
1. Students must register for GEOLOGY 2EE2 in Level II, but normally take it immediately after the April exam period. GEOLOGY 4A03 is normally taken in the summer after Level III, but is included in the Level IV registration.
2. In some cases there are Level II (and III) prerequisites for Level III and (Level IV) courses. These should be considered when choosing your Level II (III) 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
15 units GEOLOGY 2B06, 2C03, 2D03, 2E01, 2EE2
3 units from GEOLOGY 2003, 2J03
6 units from the Faculty of Humanities and/or the Department of Religious Studies
6 units Electives, excluding Geology. The election of GEOG 2N03 is strongly recommended.

If not completed: SCIENCE 1A00

LEVEL III: 30 UNITS
12 units from Level III, IV Geology
3 units HUMAN 2C03
6 units from Business, Humanities, Social Sciences, excluding Physical Geography and Psychology
6 units Electives, excluding Geology
3 units Electives

LEVEL IV: 30 UNITS
6 units from the Science Inquiry Course List
15 units from Level III, IV Geology
6 units from Level III, IV courses, excluding Geology
3 units Electives

Honours Geology (Specialist Option) 2250

ADMISSION
Completion of the Natural Sciences I requirements, including:
- 6 units MATH 1A03, STATS 1CC3
- 6 units CHEM 1A06
- 6 units from PHYSICS 1A06, 1B06, 1C06
- 3-6 units from GEOLOGY 1C03, ENVIR SC 1A06
- 0-3 units from Level I Science Core courses
- 6 units from Level I Electives
- 1 course SCIENCE 1A00

Minimum averages/grades:
A Cumulative Average of 5.0 and a grade of C+ in GEOLOGY 1C03 or ENVIR SC 1A06.

NOTES
1. Students must register for GEOLOGY 2EE2 in Level II, but normally take it immediately after the April exam period. GEOLOGY 4A03 is normally taken in the summer after Level III, but is included in the Level IV registration.
2. GEOLOGY 3A03 and 3B03 must be completed but are offered in alternate years. These courses should be taken when they are offered.
3. A minor in Astronomy is not permitted in the Honours Geology and Physics programme.

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: 33 UNITS
15 units GEOLOGY 2B06, 2C03, 2D03, 2E01, 2EE2
3 units GEOLOGY/PHYSICS 2I03
3 units MATH 2A03
3 units from MATH 2C03, 2D03
9 units PHYSICS 2B06, 2D03
If not completed: SCIENCE 1A00

Honours Geology and Physics 2250440

ADMISSION
Completion of the Natural Sciences I requirements, including:
- 9 units MATH 1A03, 1A33, 1B03
- 6 units CHEM 1A06
- 6 units PHYSICS 1A06
- 3-6 units from GEOLOGY 1C03, ENVIR SC 1A06
- 0-3 units from Level I Science Core courses
- 3 units from Level I Electives
- 1 course SCIENCE 1A00

Students will also be considered for admission if they have completed PHYSICS 1B06 (or 1C06) instead of PHYSICS 1A06. However, PHYSICS 1A06 is strongly recommended. The election of COMP SCI 1MC3 is strongly recommended.

Minimum averages/grades:
A Cumulative Average of 5.0 and a grade of C+ in either GEOLOGY 1C03 or ENVIR SC 1A06 and either a C+ in PHYSICS 1A06 (or 1B06 or 1C06) or an average of 6.0 in 6 units of Level I Mathematics.

NOTES
1. Students must register for GEOLOGY 2EE2 in Level II, but normally take it immediately after the April exam period. GEOLOGY 4A03 is normally taken in the summer after Level III, but is included in the Level IV registration.
2. GEOLOGY 3A03 and 3B03 must be completed but are offered in alternate years. These courses should be taken when they are offered.
3. A minor in Astronomy is not permitted in the Honours Geology and Physics programme.

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: 33 UNITS
15 units GEOLOGY 2B06, 2C03, 2D03, 2E01, 2EE2
3 units GEOLOGY/PHYSICS 2I03
3 units MATH 2A03
3 units from MATH 2C03, 2D03
9 units PHYSICS 2B06, 2D03
If not completed: SCIENCE 1A00
LEVEL III: 30 UNITS
3 units GEOLOGY 3C03
3 units from GEOLOGY 3A03, 3B03
3 units GEOLOGY 3F03
6 units MATH 3C03, 3D03
3-6 units from PHYSICS 2H03, CHEM 2P06
6 units PHYSICS 3M03, 3MM3
3-6 units Electives

LEVEL IV: 31 UNITS
3 units GEOLOGY 4T03
3 units from GEOLOGY 3A03, 3B03
7 units PHYSICS 4B04, 4K03
9 units from Level III, IV Astronomy, Geology, Physics
9 units Electives

B.Sc. Three-Level Degree
A three-level programme with a Geology orientation is available through the B.Sc. in Earth Science which is listed under the heading Three-Level B.Sc. Programmes in this section.

Minor in Geology
3-6 units from ENVIR SC 1A06 or GEOLOGY 1C03
18-21 units from Level II, III and IV Geology courses, including at least six units from Level III, IV Geology courses.

An emphasis on environmental geology can be obtained by selection of GEOLOGY 2K03, 4C03, 4I03, 4QQ3, and 4W03.

MATERIALS SCIENCE AND ENGINEERING

Honours Materials Science (Specialist Option) 2360

ADMISSION
Completion of the Natural Sciences I requirements, including:
9 units MATH 1A03, 1AA3, 1B03
6 units CHEM 1A06
6 units from PHYSICS 1A06, 1B06, 1C06
3 units from Level I Science Core courses
6 units from Level I Electives
1 course SCIENCE 1A00

COMP SCI 1MC3 must be completed by the end of Level II. PHYSICS 1A06 is recommended.

Minimum averages/grades:
A Cumulative Average of 5.0 and a grade of at least C+ in each of CHEM 1A06, MATH 1AA3.

OR
Completion of the Engineering I requirements, including:
3 units CHEM 1E03
8 units ENGINEER 1A00, 1C04, 1D04
5 units MATH 1H05
6 units from MATH 1N03, 1NN3, 1N06
6 units PHYSICS 1D03, 1E03
6 units Approved complementary studies electives

Minimum averages/grades:
A Cumulative Average of at least 4.0

COURSE LIST
All Level III and IV Materials courses; ENGINEER 3P03, 4J03; CHEM ENG 3Q03; ENG PHYS 3E03, 3F03, 4F03, 4Z03; MECH ENG 3O04; PHYSICS 3M03, 3Q03, 4K03

REQUIREMENTS
124-129 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.)
NOTES
1. Students contemplating graduate studies in Mathematics should consider Honours Mathematics (Specialist Option) or (Applied Option).
2. In some cases there are Level I (and III) prerequisites for Level III (and IV) courses. These should be considered when choosing your Level II (and III) programme.
3. A minor in Statistics is not permitted in the Honours Mathematics (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
15 units MATH 2A03, 2AA3, 2C03, 2R03, STATS 2D03
3 units MATH 2S03, 2T03
6 units from the Faculty of Humanities and/or the Department of Religious Studies
6 units Electives, excluding Mathematics, Statistics
If not completed: SCIENCE 1A00

LEVEL III: 30 UNITS
(For students who entered Level II in 1995-96)
15 units from Level III, IV Mathematics, Statistics, MATH 2K03, STATS 2MB3
6 units from Business, Humanities, Social Sciences, excluding Physical Geography and Psychology
6 units Electives, excluding Mathematics, Statistics
3 units Electives

LEVEL III: 30 UNITS
(Beginning in 1997-98)
9 units from MATH 3A03, 3E03, 3X03
6 units from Level III, IV Mathematics, Statistics, MATH 2K03, STATS 2MB3
3 units from HUMAN 2C03, MATH 2D03, 2E03
6 units from Business, Humanities, Social Sciences, excluding Physical Geography and Psychology
6 units Electives, excluding Mathematics, Statistics

LEVEL IV: 30 UNITS
6 units from the Science Inquiry Course List
12 units from Level III, IV Mathematics, Statistics
6 units from Level III, IV courses, excluding Mathematics, Statistics
6 units Electives

Honours Mathematics (Specialist Option) 2320

ADMISSION
Completion of any Level I programme, including:
9 units MATH 1A03, 1AA3, 1B03
21 units Level I courses to complete a Level I programme

Minimum averages/grades:
A Cumulative Average of 6.0 and a grade of C+ in each of MATH 1AA3, 1B03.

NOTES
1. By electing STATS 2D03 and STATS 2MB3 in Level II of this programme, a student can also complete Level II Honours Statistics (Specialist Option) or Level II Honours Mathematics and Statistics (Specialist Option).
2. A minor in Statistics is not permitted in the Honours Mathematics (Specialist Option) programme.

COURSE LIST 1
MATH 2D03, 2E03, STATS 2D03, 2MA3, 2MB3

COURSE LIST 2
All Level III and IV Mathematics and Statistics courses

LEVEL I
30 units (See Admission above.)

LEVEL II: 30 UNITS
12 units MATH 2A03, 2AA3, 2C03, 2R03
3 units from MATH 2S03, 2T03
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, 3EE3, 3X03
6 units from Course Lists 1 and 2 (see above)
9 units Electives

LEVEL IV: 30 UNITS
(For students entering Level IV in 1996-97)
6 units MATH 3X03, 4X03
15 units from Course List 2 (see above)
9 units Electives

Honours Mathematics (Applied Option) 2324

ADMISSION
Completion of any Level I programme, including:
9 units MATH 1A03, 1AA3, 1B03
21 units Level I courses to complete a Level I programme

Minimum averages/grades:
A Cumulative Average of 5.0 and a grade of C+ in each of MATH 1B03, 1AA3.

NOTES
1. Students will acquire a strong mathematical background and a solid background in at least one area of engineering and applied science by selecting courses from the course list.
2. PHYSICS 1A06 is an adequate prerequisite for any course in the course list requiring PHYSICS 1D03.

COURSE LIST
CHEM 2P06, 3C03; CHEM ENG 3004; CIV ENG 2C04, 2F03, 3B03, 3Q03; COMP SCI 2S03, 4GB3; ELEC ENG 3CA3, 4CB3; ENGINEER 2P04, 2Q04, 2V04, 3P03; ENG PHYS 3003; GEOLOGY 4J03; MATLS 3P03; MECH ENG 3004, 4S03; PHYSICS 2B06, 3C03, 3K04, 3M03, 3MM3, 4B04

REQUIREMENTS
120-126 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
18 units MATH 2A03, 2AA3, 2C03, 2E03, 2R03, STATS 2D03
3 units from MATH 2S03, 2T03
9-11 units Electives. (Courses which are prerequisites for desired Level III and IV courses should be considered.)
If not completed: SCIENCE 1A00

LEVEL III: 30-32 UNITS
18 units MATH 3A03, 3E03, 3F03, 3FF3, 3Q03, 3X03
12-14 units from the Course List (see above)

LEVEL IV: 30-32 UNITS
18 units MATH 3AA3, 4Q03, 4QQ3, 4V03, 4X03; STATS 3U03
12-14 units from the Course List (see above)

Honours Mathematics and Physics 2320440

ADMISSION
Completion of the Natural Sciences I requirements, including:
9 units MATH 1A03, 1AA3, 1B03
6 units from PHYSICS 1A06, 1B06; 1C06
6 units CHEM 1A06
3 units from Level I Science Core courses
6 units from Level I Electives
It is recommended that COMP SCI 1MC3 be taken in Level I.
Minimum averages/grades:
A Cumulative Average of 5.0 and a grade of C+ in each of MATH 1A03, 1B03, PHYSICS 1A06 (or 1B06 or 1C06).

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; MATH 2E03; STATS 2D03, 2MB3; all Level III and IV Astronomy courses; all Level III and IV Mathematics and Statistics courses; PHYSICS 4J04, all Level III and IV Physics courses except PHYSICS 3G03, 3S03, 3T03, 4R03, 4T03

REQUIREMENTS
124-126 units total (Levels I to IV), of which no more than 48 units may be Level I courses

LEVEL I
30 units (See Admission above.)

LEVEL II: 33 UNITS
12 units MATH 2A03, 2AA3, 2C03, 2R03
3 units from MATH 2S03, 2T03
15 units PHYSICS 2B06, 2C03, 2D03, 2H03
6 units Electives
If not completed: SCIENCE 1A00

LEVEL III: 31-32 UNITS
9 units MATH 3A03, 3F03, 3X03
13 units PHYSICS 3C03, 3K04, 3M03, 3MM3
3-4 units from the Course List (see above)
6 units Electives

LEVEL IV: 30-31 UNITS
(For students entering Level IV in 1996-97)
6 units MATH 3X03, 3X03; STATS 3D06
4 units PHYSICS 4B04
14-15 units from the Course List (see above)
6 units Electives

LEVEL IV: 30-31 UNITS
(Beginning in 1997-98)
6 units MATH 3A03, 3A03, 4X03
4 units PHYSICS 4B04
14-15 units from the Course List (see above)
6 units Electives

Honours Mathematics and Statistics 2320543
(Specialist Studies Option)

ADMISSION
Completion of any Level I programme, including:
9 units MATH 1A03, 1AA3, 1B03
21 units Level I courses to complete a Level I programme

Minimum averages/grades:
A Cumulative Average of 5.0 and a grade of C+ in each of MATH 1A03, 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.

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, 2C03, 2R03; STATS 2D03, 2MB3
3 units from MATH 2S03, 2T03

LEVEL III: 30 UNITS
(For students entering Level III in 1996-97)
6 units PHYSICS 3C03
3 units from Level III, IV Mathematics, MATH 2K03
3 units from Level III, IV Statistics
6 units from Business, Humanities, Social Sciences, excluding Physical Geography and Psychology
6 units Electives, excluding Mathematics, Statistics
3 units Electives

LEVEL IV: 30 UNITS
(For students entering Level IV in 1996-97 or 1997-98)
6 units Electives, excluding Mathematics, Statistics
3 units from the Science Inquiry Course List
6 units from Level III, IV Mathematics courses
6 units from Level III, IV Statistics courses
6 units Electives

LEVEL IV: 30 UNITS
(Beginning in 1998-99)
6 units Electives, excluding Mathematics, Statistics
3 units from the Science Inquiry Course List
6 units from Level III, IV Mathematics courses, MATH 2K03
9 units from Level III, IV Statistics courses
6 units Electives
LEVEL IV: 30 UNITS
(Beginning in 1997-98)

21 units Level I courses to complete a Level I programme

A Cumulative Average of 5.0 and a grade of C+ in each of MATH 1AA3, 1B03.

NOTES
1. Students contemplating graduate studies in Statistics should consider Honours 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. A minor in Mathematics is not permitted in the Honours Statistics (Specialist 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
12 units MATH 2A03, 2R03, STAT 2D03, 2MB3
3 units from MATH 2S03, 2T03
6 units from the Faculty of Humanities and/or the Department of Religious Studies
3 units from HUMAN 2C03, MATH 2D03, 2E03
6 units Electives, excluding Mathematics, Statistics
If not completed: SCIENCE 1A00

 LEVEL III: 30 UNITS
6 units STAT 3D06
9 units from Level III, IV Mathematics, Statistics, MATH 2K03
6 units from Business, Humanities, Social Sciences, excluding Physical Geography and Psychology
6 units Electives, excluding Mathematics, Statistics
3 units Electives

 LEVEL IV: 30 UNITS
6 units from the Science Inquiry Course List
12 units from Level III, IV Statistics
3 units from Level III, IV Mathematics, Statistics
6 units from Level III, IV courses, excluding Mathematics, Statistics
3 units Electives

Honours Statistics (Specialist Option) 2542

ADMISSION
Completion of any Level I programme, including:
9 units MATH 1A03, 1AA3, 1B03
21 units Level I courses to complete a Level I programme

Minimum averages/grades:
A Cumulative Average of 5.0 and a grade of C+ in each of MATH 1AA3, 1B03.

NOTE
A minor in Mathematics is not permitted in the Honours Statistics (Specialist Option) programme.

COURSE LIST 1
COMP SCI 2MA3; 2MB3, 2MC3, 2MD3, 2ME3, 2SB3; MATH 2D03, 2E03

COURSE LIST 2
All Level III and IV Statistics courses

COURSE LIST 3
COMP SCI 3IA3, 3SC3, MATH 3E03, 3EE3, 3F03, 3FF3, 3G03, 3R03, 4A06, 4C03, 4J03, 4K03, 4Q03, 4QQ3, 4RR3, 4W03

REQUIREMENTS

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

 LEVEL I
30 units  (See Admission above.)

 LEVEL II: 30 UNITS
12 units MATH 2A03, 2AA3, 2C03, 2R03
3 units from MATH 2S03, 2T03
6 units STAT 2D03, 2MB3
9 units Electives
If not completed: SCIENCE 1A00

 LEVEL III: 30 UNITS
15 units MATH 3A03, 3AA3, 3X03; STAT 3D06
6 units from Course Lists 1, 2 and 3 (see above)
9 units Electives

 LEVEL IV: 30 UNITS
6 units STAT 4D03, 4M03
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
3 units from MATH 1A03, 1C03
6 units MATH 1AA3, 1B03
18 units from Level II, III, IV Mathematics, including at least six units from Level III, IV Mathematics

Minor in Mathematics and Statistics
3 units from MATH 1A03, 1C03
6 units MATH 1AA3, 1B03
18 units from Level II, III, IV Mathematics and Statistics, including at least three units from Level III, IV Mathematics and three units from Level III, IV Statistics

Minor in Statistics
3 units from MATH 1A03, 1C03
6 units MATH 1AA3, 1B03
18 units from Level II, III, IV Statistics, including at least six units from Level III, IV Statistics

NOTE
Due to Mathematics prerequisites for Statistics courses, a Minor in Statistics cannot be completed without at least three units of Mathematics beyond Level I.
It is possible for a student to complete these Minors through evening and summer study.

Molecular Biology

AND BIO TECHNOLOGY

Honours Molecular Biology 2365

ADMISSION
Enrolment in this programme is limited. Selection is based on academic achievement but requires, as a minimum, completion of the Natural Sciences I requirements, including:
6 units MATH 1A03, STATS 1CC3
6 units CHEM 1A06
6 units from PHYSICS 1B06, 1A06, 1C06
6 units BIOLOGY 1A06
6 units from Level I Electives
1 course SCIENCE 1A00
Minimum averages/grades:
A Cumulative Average of 5.0 and a weighted average of at least 6.0 in BIOLOGY 1A06, CHEM 1A06, and 6 units from MATH 1A03, STATS 1C03, PHYSICS 1B06 (or 1A06 or 1C06).

NOTES
1. This Honours degree programme is administered within the Faculty of Science through a Committee of Instruction and also draws on the Departments Biology, Biochemistry and Pathology and the McMaster Institute for Molecular Biology and Biotechnology.
2. Information and counselling may be obtained through the Programme Coordinator.
3. A Minor in 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 2MJ3, 3GA3, 3IA3, 3SD3, 3TA3, 4IB3, 4TC3; MATH 2E03, 4S03

REQUIREMENTS
121-122 units total (Levels I to IV), of which no more than 48 units may be Level I courses

LEVEL I
3 units from Level I Science Core courses
6 units from Level I Electives
LEVEL II: 30 UNITS
21 units BIOCHEM 2A06; BIOLOGY 2B03, 2C03; CHEM 2D06, 2E03
3 units from BIOLOGY 2D03, 2E03, CHEM 2N03
6 units Electives. BIOLOGY 2D03, 2E03, CHEM 2N03 are recommended
If not completed: SCIENCE 1A00

LEVEL III: 30 UNITS
3 units from BIOLOGY 3H03, BIOCHEM 3B03
6 units BIOCHEM 3B03, 3L03
15 units BIOLOGY 3E03, 3N03, 3O03, 3V03; CHEM 3F03
6 units Electives

LEVEL IV: 30 UNITS
3-9 units from BIOCHEM 4B06, 4G03, 4P03; BIOLOGY 4C09, 4F06
9 units BIOCHEM 4D03, 4E03; BIOLOGY 4M03
3 units from BIOCHEM 3C03, 4I03, 4M03, 4Q03
3 units from BIOLOGY 3C03, 3X03, 4I03, 4P03, 4P53, 4R03, 4V03
3 units from MOL BIOL 4F03, 4H03, 4J03
3-9 units Electives

NEURAL COMPUTATION
Honours Neural Computation 2381

ADMISSION
Enrolment in this programme is limited. Selection is based on academic achievement but requires, as a minimum, completion of the Natural Sciences I requirements, including:
3 units from MATH 1A03, 1C03
3 units MATH 1AA3
6 units from PHYSICS 1B06, 1A06, 1C06
6 units BIOLOGY 1A06
6 units PSYCH 1A06
6 units COMP SCI 1MC3, 1MD3, (or 1MA3, 1MB3)
1 course SCIENCE 1A00

Minimum averages/grades:
A Cumulative Average of 5.0, a grade of B- in PSYCH 1A06 and a weighted average of 6.0 in 12 units from COMP SCI 1MA3 (or 1MC3), 1MB3 (or 1MD3), MATH 1A03 (or 1C03), 1AA3, PHYSICS 1A06 (or 1B06 or 1C06)

NOTES
1. This Honours degree programme is administered within the Faculty of Science through a Committee of Instruction and also draws on the Departments Psychology, Mathematics and Statistics, Computer Science and Electrical and Computer Engineering.
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 2MJ3, 3GA3, 3IA3, 3SD3, 3TA3, 4IB3, 4TC3; MATH 2E03, 4S03

REQUIREMENTS
121-122 units total (Levels I to IV), of which no more than 48 units may be Level I courses

LEVEL I
30 units (See Admission above.)

LEVEL II: 30-31 UNITS
6 units from MATH 1B03, STATS 2D03
3-4 units from MATH 2A03, 2Q04
3 units COMP SCI 2MD3
6 units from PSYCH 2E03, 2H03, 2T03, 2V03
3 units PSYCH 2F03
3 units NEURCOMP 3W03
6 units Electives
If not completed: SCIENCE 3A00

LEVEL III: 31 UNITS
3 units from the Course List (see above)
4 units MATH 2P04
6 units MATH 2R03, 2T03
6 units PSYCH 3FA3, 4I03
6 units STATS 3D06
6 units Electives

LEVEL IV: 30 UNITS
12 units from the Course List (see above)
9 units NEURCOMP 4D09
9 units Electives

DEPARTMENT OF PHYSICS AND ASTRONOMY

Honours Chemistry and Physics
(See Department of Chemistry)

Honours Geology and Physics
(See Department of Geology)

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

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

Honours Physics
2442

(Complementary Studies Option)

ADMISSION
Completion of the Natural Sciences I requirements, including:
9 units MATH 1A03, 1AA3, 1B03
6 units from PHYSICS 1A06, 1B06, 1C06
6 units CHEM 1A06
3 units from Level I Science Core courses
6 units from Level I Electives
1 course SCIENCE 1A00

COMP SCI 1MC3 must be completed by the end of Level II, and is recommended in Level I.

PHYSICS 1A06 is strongly recommended.

Minimum grades:
A Cumulative Average of 5.0 and either a grade of C+ in PHYSICS 1A06 (or 1B06 or 1C06) or an average of 6.0 in MATH 1A03, 1AA3.
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NOTES
1. If COMP SCI 1MC3 is completed in Level I then in Level II PHYSICS 2G03 may be replaced by PHYSICS 2C03 and 2D03.
2. The Physics Department considers Honours Physics (Specialist Option) to be more appropriate for graduate studies in
   Physics.
3. A minor in Astronomy or Mathematics is not permitted in the Honours Physics (Complementary Studies Option) programme.

REQUIREMENTS
122-124 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: 30 UNITS
18 units MATH 2A03, 2003: PHYSICS 2B06, 2G03, 2H03
  6 units from the Faculty of Humanities and/or the Department of Religious Studies
  6 units Electives
If not completed: COMP SCI 1MA3 (or 1MC3), SCIENCE 1A00

LEVEL III: 31-32 UNITS
7 units MATH 3C03; PHYSICS 3H04
3 units from PHYSICS 3A03, 3M03
6-7 units from Level III Physics, Level III Astronomy, MATH 3D03
3 units HUMAN 2C03
6 units from Business, Humanities, Social Sciences, excluding Physical Geography and Psychology
6 units Electives, excluding Physics, Astronomy

LEVEL IV: 31-32 UNITS
3 units PHYSICS 4A03
3 units from the Science Inquiry Course List
4 units PHYSICS 4J04
9-10 units from Level III, IV Physics, Level III Astronomy
6 units from Level III, IV courses, excluding Physics, Astronomy
6 units Electives

Honours Physics (Specialist Option) 2440

ADMISSION
Completion of the Natural Sciences I requirements, including:
9 units MATH 1A03, 1AA3, 1B03
6 units from PHYSICS 1A06, 1B06, 1C06
6 units CHEM 1A06
3 units from Level I Science Core courses
6 units from Level I Electives
1 course SCIENCE 1A00
COMP SCI 1MC3 must be completed by the end of Level II, and
is recommended in Level I.

PHYSICS 1A06 is strongly recommended.

Minimum averages/grades:
A Cumulative Average of 5.0 and either a grade of C+ in PHYSICS 1A06 (or 1B06 or 1C06) or an average of 6.0 in MATH 1A03, 1AA3,

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 (Theory Option), or Honour Astrophysics (with completion of either ASTRON 1F03 or 2E03). They may also be considered for admission to Level III of Honours Materials Science, preferably if MATHS 1A03 or ENGINEER 2003, has been completed in Level II.
2. At least one of PHYSICS 3B06 or 4D06 must be completed and the requirement is listed in Level III, but may be taken in Level IV. Students will generally find that more choices are offered by the timetable if PHYSICS 3B06 is taken in Level III and if PHYSICS 4D06 is taken in Level IV.
3. Students interested in Applied Physics should include PHYSICS 3B06, 4D06 in their programme.
4. Students transferring to this programme who have credit in PHYSICS 2G03 must replace it with PHYSICS 2C03 and 2D03.
   MATH 2003 does not have to be replaced with MATH 2C03, but
   MATH 2A03 must be completed.
5. A minor in Astronomy or Mathematics is not permitted in the Honours Physics (Specialist Option) programme.

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

LEVEL I
30 units (See Admission above.)

LEVEL II: 33 UNITS
9 units MATH 2A03, 2AA3, 2C03
15 units PHYSICS 2B06, 2C03, 2D03, 2H03
6 units Electives, excluding Physics, Astronomy
3 units Electives
If not completed: COMP SCI 1MA3 (or 1MC3), SCIENCE 1A00

LEVEL III: 32 UNITS
6 units MATH 3C03, 3D03
6 units from PHYSICS 3B06, 4D06 (See Note 2 above.)
17 units PHYSICS 3H04, 3K04, 3M03, 3MM3, 3N03
3 units Electives

LEVEL IV: 32 UNITS
14 units PHYSICS 4A03, 4B04, 4F03, 4J04
3 units from PHYSICS 3A03, 3C03, 4E03, 4G03, 4K03, 4U03,
   ASTRON 3X03, 3Y03
6 units from Level III, IV Science
9 units Electives (See Note 3 above.)

Honours Physics (Theory Option) 2441

ADMISSION
Completion of Level II Honours Physics (Specialist Option) or Level II Honours Mathematics and Physics with a Cumulative Average of at least 6.0.

NOTES
1. PHYSICS 3C03 must be completed but is offered in alternate years. The requirement is listed in Level III but the course should be taken when offered.
2. Students who opt for PHYSICS 3A03 as part of the requirement for Level IV should note that it is offered in alternate years. They should take it when offered.
3. A minor in Astronomy or Mathematics is not permitted in the Honours Physics (Theory Option) programme.

REQUIREMENTS
126-127 units total (Levels I to IV), of which no more than 48 units may be Level I courses

LEVEL I
30 units from the Natural Sciences I requirements

LEVEL II
33 units from either the Honours Physics (Specialist Option) Level II or the Honours Mathematics and Physics Level II requirements

LEVEL III: 32 UNITS
9 units MATH 3C03, 3D03, 3Q03
3 units PHYSICS 3C03. (See Note 1 above.)
17 units PHYSICS 3H04, 3K04, 3M03, 3MM3, 3N03
3 units Electives (See Note 2 above.)
If not completed: one of COMP SCI 1MA3, 1MC3

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, 4K03, 4U03
6-7 units from Level III, IV Science
3 units Electives (See Note 1 above.)
Honours Astrophysics 2444

ADMISSION
Completion of Level II Honours Physics (Specialist Option), including either ASTRON 1F03 or 2E03, with a Cumulative Average, of at least 6.0.

NOTES
1. ASTRON 3X03 and 3Y03 must be completed but are offered in alternate years. These courses should be taken when they are offered.
2. At least one of PHYSICS 3B06 or 4D06 must be completed and the requirement is listed in Level III, but may be taken in Level IV. Students will generally find that more choices are offered by the timetable if PHYSICS 3B06 is taken in Level III and PHYSICS 4D06 is taken in Level IV.
3. A minor in Mathematics or Physics is not permitted in the Honours Astrophysics program.

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

LEVEL I
30 units from the Natural Sciences I requirements

LEVEL II
33 units from the Honours Physics (Specialist Option) Level II requirements, including one of ASTRON 1F03, 2E03
If not completed: SCIENCE 1A00, one of COMP SCI 1MA3, 1MC3

LEVEL III: 32 UNITS
3 units from ASTRON 3X03, 3Y03
6 units from PHYSICS 3B06, 4D06 (See Note 2 above.)
17 units PHYSICS 3H04, 3K04, 3M03, 3MM3, 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 (See Note 2 above.)

Honours Medical and Health Physics 2443

ADMISSION
Completion of the Natural Sciences I requirements, including:
6 units MATH 1A03, 1AA3
6 units from PHYSICS 1A06, 1B06, 1C06
6 units CHEM 1A06
6-9 units from BIOLOGY 1A06, COMP SCI 1MC3, MATH 1B03
3-6 units from Level I Electives
1 course SCIENCE 1A00
BIOLOGY 1A06, COMP SCI 1MC3, MATH 1B03 must be completed by the end of Level II and are recommended in Level I.
PHYSICS 1A06 is strongly recommended.

Minimum averages/grades:
A Cumulative Average of 5.0 and either a grade of C+ in PHYSICS 1A06 (or 1B06 or 1C06) or an average of 6.0 in MATH 1A03, 1AA3.

NOTES
1. The Department recommends that students interested in this programme elect PHYSICS 1A06, MATH 1A03, 1AA3, 1B03, BIOLOGY 1A06, CHEM 1A06, COMP SCI 1MC3 in Level I.
2. A minor in Astronomy or Mathematics is not permitted in the Honours Medical and Health Physics programme.

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

LEVEL I
30 units (See Admission above.)

LEVEL II: 30 UNITS
6 units from BIOCHEM 2E03, CHEM 2003, 2006
6 units MATH 2E03, 2A03
3 units from MATH 2003, 2C03

Honours Medical and Health Physics Co-op 2330

ADMISSION:
Enrolment in this programme is limited. 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. Enrolment in this programme will be limited to a maximum of 10 students per year. 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 Natural Sciences I requirements

LEVEL II
30 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 I
3 units MATH 3C03
11 units PHYSICS 3HA2, 3N03, 3003, 3T03
3 units Electives
If BIOCHEM 2E03 was not completed in Level II, then students must take BIOCHEM 3G03, 3GG3

LEVEL IV: 33 UNITS
3 units BIOLOGY 4U03
3 units from PHYSICS 4A03, 4D06, 4E03
12 units PHYSICS 4A03, 4D06, 4E03
12 units PHYSICS 4K03, 4R06, 4T03
3 units Electives

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.
Honours Biology and Psychology (B.Sc.; See Department of Biology)

Honours Computer Science and Psychology (B.Sc.; See Department of Computer Science and Systems)

Honours Arts & Science and Psychology (B.A./Sc.; See Arts & Science -programme)

Honours Psychology (B.Sc.) (Complementary Studies Option)

ADMISSION
Enrolment in this programme is limited. Selection is based on academic achievement but requires, as a minimum, completion of the Natural Sciences I requirements, including:
- 3 units MATH 1A03
- 3-6 units from MATH 1B03, 1A03, STATS 1CC3
- 6 units from CHEM 1A06, PHYSICS 1B06, 1A06, 1C06
- 6 units PSYCH 1A06
- 6 units from BIOLOGY 1A06, CHEM 1A06, COMP SCI 1MC3, 1MD3, PHYSICS 1B06, 1A06, 1C06
- 3-6 units from Level I Electives
1 course SCIENCE 1A00
1 BIOLOGY 1A06 and MATH 1B03 are recommended. MATH 1B03 must be completed by the end of Level II.

Minimum averages/grades:
A Cumulative Average of 5.0 and a grade of C+ in PSYCH 1A06.

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 3C06, 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
- 6 units PSYCH 2R03, 2R03
- 9 units from PSYCH 2E03, 2F03, 2H03, 2T03, 2V03
- 3 units HUMAN 2C03
- 6 units from the Faculty of Humanities and/or the Department of Religious Studies
- 3 units Electives, excluding Psychology
- 3 units Electives
If not completed: MATH 1B03, SCIENCE 1A00

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, excluding Physical Geography and Psychology
- 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

Enrolment in this programme is limited. Selection is based on academic achievement but requires, as a minimum, completion of the Natural Sciences I requirements, including:

<table>
<thead>
<tr>
<th>Units</th>
<th>Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>MATH 1A03</td>
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<tr>
<td>3-6</td>
<td>from MATH 1B03, 1A03, STAT 1CC3</td>
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<td>from CHEM 1A06, PHYSICS 1B06, 1A06, 1C06</td>
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<td>from BIOLOGY 1A06, CHEM 1A06, COMP SCI 1MC3, 1MD3, PHYSICS 1B06, 1A06, 1C06</td>
</tr>
<tr>
<td>3-6</td>
<td>from Level I Electives</td>
</tr>
<tr>
<td>1</td>
<td>SCIENCE 1A00</td>
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</tbody>
</table>

BIOLOGY 1A06 and MATH 1B03 are recommended in Level I. MATH 1B03 must be completed by the end of Level II.

Minimum grades:
A Cumulative Average of 5.0 and a grade of C+ in PSYCH 1A06.

NOTES

1. In Level III or IV a student must complete at least one laboratory course in Psychology (see the Course List). Enrolment is limited in the laboratory courses.
2. Completion of MATH 1A03 and both CHEM 1A06 and PHYSICS 1B06 (or 1A06 or 1C06) by the end of Level II is recommended.

COURSE LIST

PSYCH 3C06, 3E03, 3L03, 3LL3, 3QQ3, 3S03, 3V03, 4G03, 4Q03

REQUIREMENTS

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

LEVEL I

30 units (See Admission above.)

LEVEL II: 30 UNITS

6 units PSYCH 2R03, 2RR3
9 units from PSYCH 2E03, 2F03, 2H03, 2T03, 2V03
9 units from Levels I and II Biochemistry, Biology, Chemistry, Computer Science, Mathematics, Statistics, Physics
6 units from Business, Humanities, Social Sciences, excluding Physical Geography and Psychology

If not completed: MATH 1B03, SCIENCE 1A00

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

6 units PSYCH 1A06
18 units from Level II, III Psychology courses, including at least six units from Level III Psychology courses

It is possible for a student to complete this Minor through evening and summer study.

When choosing Level II courses students should consider the prerequisite requirements for the various Level III courses.

Honours Science (Complementary Studies Option)

2512

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). Please note however, that the admission requirements as published in the 1995-96 Calendar will still apply for entry to Level II of the revised programme in 1996-97.
2. Students currently registered in Levels 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 1996-97 programme outlined below.

Honours Science

(Complementary Studies Option)

2512

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). Please note however, that the admission requirements as published in the 1995-96 Calendar will still apply for entry to Level II of the revised programme in 1996-97.
2. Students currently registered in Levels 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 1996-97 programme outlined below.

Honours Science

(Complementary Studies Option)

2512

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). Please note however, that the admission requirements as published in the 1995-96 Calendar will still apply for entry to Level II of the revised programme in 1996-97.
2. Students currently registered in Levels 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 1996-97 programme outlined below.

Stream A

2513

Stream B

2514

Stream C

2515

Stream D

2516

ADMISSION

Completion of Natural Sciences I, including:

<table>
<thead>
<tr>
<th>Units</th>
<th>Course</th>
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</thead>
<tbody>
<tr>
<td>3</td>
<td>MATH 1A03</td>
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<tr>
<td>3</td>
<td>from MATH 1AA3, 1B03, STAT 1CC3</td>
</tr>
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<td>from CHEM 1A06, PHYSICS 1B06, 1A06, 1C06</td>
</tr>
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<td>from BIOLOGY 1A06, PSYCH 1A06</td>
</tr>
<tr>
<td>6</td>
<td>from Level I Science Core courses</td>
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<td>6</td>
<td>from Level I Electives</td>
</tr>
<tr>
<td>1</td>
<td>SCIENCE 1A00</td>
</tr>
</tbody>
</table>

One of ENVIR SC 1A06, GEOG 1C03, 1G03 or GEOLOGY 1C03 must be completed by the end of Level II.

One of COMP SCI 1M3, 1MC3, 1SA3, 1ZA3 must be completed by the end of Level III.

The completion of all the requirements in Level I is strongly recommended.

Minimum averages/grades:
A Cumulative Average of 5.0 and one of:

for Stream A: a grade of C+ in ENVIR SC 1A06 or a grade of C+ in two courses from GEOG 1C03, 1G03, GEOLOGY 1C03

for Stream B: a grade of C+ in one of BIOLOGY 1A06, PSYCH 1A06

for Stream C: a grade of C+ in two courses from COMP SCI 1MC3, 1MD3, MATH 1A03, 1AA3, 1B03, STATS 1CC3

for Stream D: a grade of C+ in one of CHEM 1A06, PHYSICS 1B06, 1A06, 1C06

NOTES

1. This Honours degree programme is administered within the Faculty of Science through a Committee of Instruction.
2. Initial counselling for this programme may be obtained from the Chair of the Committee of Instruction.
3. There are Level II (and III) prerequisites for many Level III (and IV) courses. These should be considered when choosing your Level II programme.
4. Minors within the Faculty of Science are not permitted in the Honours Science (Complementary Studies Option) programme.
5. 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: Earth Sciences: Geography and Geology
- Stream B: Life Sciences: Biology and Psychology
- Stream C: Mathematical Sciences: Computer Science, Mathematics, Statistics
- Stream D: Physical Sciences: Chemistry and Physics
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COURSE LIST 1 (Stream A)
All Level II, III and IV Physical Geography*, and Geology courses
*Physical Geography courses are marked with an asterisk in the Geography course listing.

COURSE LIST 2 (Stream B)
BIOCHEM 3B03, 3BB3, 3C03, 3G03, 3GG3, 3H03, 3N03, 4C03,
4D03, 4E03, 4I03, 4M03, 4Q03; ENGINEER 4X03; ENG PHYS
3X03; MOL 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, 3C06, 3CC3, 3D03, 3DD3, 4D06, 4U3, 4V03,
4V3

COURSE LIST 3 (Stream C)
All Level II, III and IV Computer Science, Mathematics and Statistics courses

COURSE LIST 4 (Stream D)
All Level II, III and IV 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: SCIENCE 1A00, one of ENVIR SC
1A06, GEOG 1C03, 1G03, GEOLOGY 1C03
If not completed for:
Stream B: BIOLOGY 1A06, PSYCH 1A06
Stream C: 9 units from COMP SCI 1MC3, 1MD3, MATH 1A03,
1B03, STATS 1CC3
Stream D: CHEM 1A06, PHYSICS 1A06 (or 1B06 or 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, excluding
Physical Geography and Psychology
6 units Electives, excluding courses from the selected stream
Course List

If not completed for all streams: one of COMP SCI 1MA3, 1MC3,
1SA3 or 1ZA3

LEVEL IV: 30 UNITS
6 units from the Science Inquiry Course List
12 units from Level III, IV courses in the selected stream Course List
6 units from Level III, IV courses in any Course List, excluding courses
from the selected stream Course List
6 units Electives, excluding courses from the selected stream
Course List

Honours Science
(Environmental Science Option)

ADMISSION
Completion of Natural Sciences I requirements, including:
6 units MATH 1A03, STATS 1CC3
6 units CHEM 1A06
6 units BIOLOGY 1A06
6 units ENVIR SC 1A06
1 course SCIENCE 1A00

Minimum averages/grades:
A Cumulative Average of 3.5 and a weighted average of at least 4.0
in 12 units including one of CHEM 1A06, PHYSICS 1B06, 1C06,
1A06 and 8 units from ENVIR SC 1A06, GEOG 1C03, 1G03,
GEOLOGY 1C03.

NOTES
1. This Honours degree programme is administered within
the Faculty of Science through a Committee of Instruction,
and involves the Departments of Biochemistry, Biology, Chemistry,
Geography and Geology.
2. Initial counselling for this programme may be obtained from the
Chair of the Committee of Instruction.
3. There are Level II (and III) prerequisites for many Level III (and
IV) courses. These should be considered when choosing your Level II programme.
4. Minors within the Faculty of Science are not permitted in the
Honours Science (Environmental Science Option) programme.
5. The completion of Physics 1B06 is recommended by the end of
Level III.

COURSE LIST
BIOLOGY 3E03, 3L03, 3U03, 3UU3, 3A03, 4P03, 4S03, 4U03,
4Y03; CHEM 3A03, 4P03; GEOG 3F03, 3K03, 3M03, 3P03, 3W03,
4A03, 4D03, 4K03, 4P03, 4Q03, 4R03, 4W03; GEOLOGY 3A03,
3B03, 3F03, 3J03, 4D03, 4J03, 4K06, 4Q03, 4QQ3, 4S03

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

LEVEL I:
30 units (See Admission above.)

LEVEL II: 30 UNITS
6 units GEOG 2T03, 2W03
9 units CHEM 2N03, 2Q06
3 units from GEOLOGY 2I03, 2J03
3 units GEOLOGY 2E01, 2EE2
3 units BIOLOGY 2F03
6 units Electives
If not completed: SCIENCE 1A00

LEVEL III: 30 UNITS
(Beginning in 1997-98)
6 units from GEOG 2F03, 3U03, 3UJ3
6 units from CHEM 3E03, 3G03
3 units ENVIR SC 3A03
6 units GEOLOGY 2K03, 3Q03
6 units from BIOLOGY 3SS3, 3TT3, 3R03
3 units Electives

LEVEL IV: 30 UNITS
(Beginning in 1998-99)
18 units from Course List
6 units ENVIR SC 4I03, 4W03
6 units Electives

THREE-LEVEL B.Sc. PROGRAMMES

B.Sc. in Earth Science

ADMISSION
Completion of the Natural Sciences I requirements, including:
3 units MATH 1A03
3 units from MATH 1A03, 1B03, STATS 1CC3
6 units from CHEM 1A06, PHYSICS 1B06, 1A06, 1C06
6 units from ENVIR SC 1A06, GEOG 1C03, 1G03, GEOLOGY
1C03
6 units from Level I Science Core courses
6 units from Level I Electives

Minimum averages/grades:
A Cumulative Average of 5.0 and a weighted average of at least 4.0
in 12 units including one of CHEM 1A06, PHYSICS 1B06, 1C06,
1A06 and 8 units from ENVIR SC 1A06, GEOG 1C03, 1G03,
GEOLOGY 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 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 Geography or Geology. Those who do not intend a particular emphasis should obtain counselling from the Department of Geography.

COURSE LIST 1
GEOG 2FO3, 2K03, 2LL3, 2N03, 2T03, 2W03 and all Level II Geology courses

COURSE LIST 2
GEOG 3E03, 3F03, 3I03, 3K03, 3L03, 3M03, 3N03, 3NN3, 3O03, 3P03, 3W03 and 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 Biology courses, may be taken
6 units from Level I Electives
1 course SCIENCE 1A00

B.Sc. in Life Science

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. Many Level III Psychology courses have as a prerequisite a Statistics course offered by the Faculty of Science.

4. Students who complete BIOCHEM 2E03 in Level II may not take BIOCHEM 3G03 and 3GG3 in Level III.

5. Enrolment in Psychology laboratory courses is limited. PSYCH 3C06, 3E03, 3L03, 3Q03, 3S03, 3V03 are laboratory courses.

COURSE LIST 1
BIOCHEM 2EO3; BIOLOGY 2B03, 2C03, 2D03, 2E03, 2F03; PSYCH 2E03, 2H03, 2O3 (or 2F03), 2T03

COURSE LIST 2
CHEM 2D03 or 2O6; STATS 2MA3 or 2R06 or PSYCH 2G03 or PSYCH 2R03, 2RR3

COURSE LIST 3
BIOCHEM 3B03, 3BB3, 3C03, 3G03, 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
If not completed: SCIENCE 1A00

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, excluding Physical Geography and Psychology
3 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 three courses from COMP SCI 1MC3, COMP SCI 1MD3, MATH 1A03, 1AA3, 1B03, STATS 1CC3.

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 Statistics or Computer Science. Those who do not intend a particular emphasis should obtain counselling from the Department of Mathematics and Statistics.

COURSE LIST 1
COMP SCI 2MC3, 2MD3, 2ME3, 2MF3, 2MJ3, 2SB3; MATH 2A03, 2AA3, 2A06, 2B06, 2C03, 2D03, 2E03, 2G03, 2J06, 2K03, 2003, 2R03, 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

ADMISSION
Completion of the Natural Sciences I requirements, including:
- 6 units MATH 1A03, 1AA3
- 6 units from CHEM 1A06, PHYSICS 1A06, 1B06, 1C06
- 12 units from Level I Science Core courses
- 6 units from Level I Electives
1 course SCIENCE 1A00
CHEM 1A06, MATH 1B03, and PHYSICS 1A06 (or 1B06 or 1C06) must be taken by the end of Level II and are strongly recommended in Level I.

Minimum averages/grades:
A Cumulative Average of 3.5 and a weighted average of 4.0 in 12 units from CHEM 1A06, MATH 1A03, 1AA3, 1B03, PHYSICS 1A06 (or 1B06 or 1C06).

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 2003 (or 2G03) and MATH 2003 in Level II.

COURSE LIST 1
CHEM 2A03, 2B06, 2C03, 2D06, 2P06, 2R03; MATH 2A03, 2G03, 2N03, 2003; PHYSICS 2A03, 2B06, 2G03, 2H03

COURSE LIST 2
CHEM 3A03, 3B06, 3I03, 3Q03; all Level II Astronomy, 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: SCIENCE 1A00, CHEM 1A06, MATH 1B03, and one of PHYSICS 1A06, 1B06, 1C06

LEVEL III: 30 UNITS
- 12 units from Course List 2 (see above)
- 3 units HUMAN 2C03
- 6 units from Business, Humanities, Social Sciences, excluding Physical Geography and Psychology
- 6 units Electives, excluding Astronomy, Chemistry, and Physics
- 3 units Electives, excluding Biology
FACULTY OF SOCIAL SCIENCES

Dean of Social Sciences
J.A. Johnson/M.A., Ph.D.

Associate Dean (Studies)
W.K. Whillier/B.A., Ph.D.

Academic Assistant to the Dean
E. Frank/M.A.

Student Advisors
J. Crossley/B.A.;
M. Foster/M.A.

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. There is also growing interest among social scientists in 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 or schools 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 and Professional programmes.

PROGRAMMES AND DEGREES

A. Level I Programmes

SOCIAL SCIENCES I

PROGRAMME NOTES
1. Students registered in Honours B.A. or B.A. programmes in the Faculty of Social Sciences are required to complete six units of courses chosen from the Faculty of Humanities and/or the Department of Religious Studies. Students enrolled in Religious Studies programmes are required to complete six units from the Faculty of Humanities. It is recommended that this requirement be completed in Level I.
2. Normally, a student will take only six units of Level I work in any one discipline. In special circumstances a student may be permitted to take up to 12 Level I units in one discipline.
3. Many programmes in the Faculty of Social Sciences require Mathematics. The Centre for Continuing Education offers three levels of non-degree math skills courses designed to help students upgrade their competence in mathematics in preparation for university study (CCE 101, CCE 102 and CCE 105). For students in Social Sciences, completion of CCE 106 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, 1L03, 1Z03; ECON 1A06; GEOG 1B06 or 1C03 and 1G03; GERONTOL 1A06; LABR ST 1A03, 1AA3, 1Z03; POL SCI 1A06, 1B03, 1C03; PSYCH 1A06; RELIG ST 1B06, 1D06, 1E06, 1H03, 1I06; SOC WORK 1A06; SOCIOL 1A06
18 units Electives, which may include Social Sciences courses

KINESIOLOGY I

PROGRAMME NOTE:
Enrolment in this Programme is limited. Application is made to Kinesiology I.

REQUIREMENTS: 33 UNITS
21 units KINESIOL 1A06, 1B06, 1E06; CPR/First Aid (1CA1), Fitness (1F01) and Basic Aquatic Survival Skills (1S01).
12 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:
2. normally, not in the student's Honours subject(s), six units from the Faculty of Humanities and/or the Department of Religious Studies. (Students enrolled in Religious Studies programmes are required to complete six units from the Faculty of Humanities); six units of Research Methods, in the student's Honours subject(s) prescribed by the Department(s) and HUMAN 2C03. Honours programmes in the Faculty of Social Sciences consist of a total of 120 units of work, normally completed over four years, and include in the body of work prescribed by the Department(s) at least three units of the History of Thought of the candidate's Honours Social Sciences discipline(s) and six units of Inquiry and Honours seminar.

Honours (Specialist Option): In addition to Honours programmes, the departments of Economics, Geography, Labour Studies, Psychology and Sociology offer an Honours (Specialist Option) programme which has different requirements from the Honours degree. The requirements in Honours (Specialist Option) will prepare students for graduate study in the discipline. Students intending to complete a Minor would normally register in an Honours programme rather than an Honours (Specialist Option) programme. In departments which offer an Honours but not a Specialist programme, the Honours programme will fully qualify students for graduate study.

Combined Honours Programmes: Subject to possible timetable restrictions, and provided that the student meets the requirements for entry into each of the relevant Honours programmes, a student may combine work in any two departments and be graduated with a Combined Honours degree. These combinations are available within the Faculty, with 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 consists of at least 18 units of Level II, III, or IV courses beyond the designated Level I course(s) that meet the requirements set out in the programme description of that minor. Students are responsible for ensuring that the courses taken meet these requirements. Students who have the necessary requirements may apply for recognition of that minor when they graduate. If granted, this recognition will be recorded on the student's transcript.

COMBINED B.A./B.S.W.: The School of Social Work offers a Combined B.A./B.S.W. programme of studies leading to a B.A. and a B.S.W. degree. (See the programme description in this section.)

The B.S.W. degree may be attained separately only 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.

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.

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. Normally, students will arrange their programme of studies in consultation with a Student Advisor in the Office of the Associate Dean (Studies) and with the Undergraduate Advisor of the appropriate Department(s).

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 READMISSION

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

Students who do not meet these requirements must submit a Request for Special Consideration. Such requests for transfer will be considered at the same time as applications for re-admission (see below).

A student who may not continue at the University may apply for readmission. Application for readmission must be made in writing to the Dean of Studies or the Associate Dean (Studies). Guidelines for the letter of application may be obtained from the Office of the Associate Dean (Studies). Deadlines for readmission application are the same as application deadlines for admission to the University. See Sessional Dates section of this Calendar.

Readmission applications will be carefully reviewed and the evidence considered will include the student's academic performance before and after admission to McMaster, current Faculty admission requirements, the letter of application with any supporting documentation and the student's ability in English.

Readmission is not automatic or guaranteed.

Decisions on requests for transfer and requests for readmission will be made after July 15 for entry or re-entry in September.

HUMANITIES/RELIGIOUS STUDIES REQUIREMENT

Students registered in the Faculty of Social Sciences except for those in B.Kin. and B.P.E. and those combining 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.

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.

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. Considerable inconvenience can result for a student whose registration does not meet the requirements.

All registrations, programme changes and course changes must be approved by the Associate Dean (Studies) and are subject to the deadline dates established by the University as published in this Calendar under the Sessional Dates section.

Qualified students are permitted to transfer between B.A. and Honours programmes with the approval of the Associate Dean (Studies). Transfers are subject to the deadline dates established by the University.

WITHDRAWAL

Students who wish to withdraw from the University are required to advise the Dean of Studies Office in writing. Students must surrender their McMaster Identification Cards to the Dean of Studies to ensure the processing of any fee refunds. Students who fail to withdraw formally from any course(s) by the stated deadlines will remain registered whether or not they attend classes and will be assigned a grade.

COURSES IN KINESIOLOGY AND SOCIAL WORK AVAILABLE FOR UNDERGRADUATE CREDIT

Some Kinesiology and Social Work courses may be taken by students in other programmes as electives for undergraduate credit. Enrolment in these courses requires written permission of the department or instructor. These courses are:

KINESIOL 3P03, 3Q03, 4E03, 4L03, 4M03, 4Q03. KINESIOL 3SS3 and 4J03 may be taken as elective courses by undergraduates not in Kinesiology without permission of the instructor, but may be subject to enrolment restrictions.

SOC WORK 3C03, 3G03, 3H03, 4B03, 4C03, 4E03, 4J03, 4K03, 4M03, 4Z03

All other Social Work and Kinesiology courses are open only to students registered in those programmes.

LETTER OF PERMISSION

If you wish to attend another university to take courses which will carry credit toward your degree at McMaster University, you must obtain permission ahead of time. To do this you must seek a Letter of Permission from the Associate Dean (Studies) and pay the appropriate fee. You should take note of any conditions on the Letter of Permission that might apply, including the requirement of a grade of at least C- for transfer credit. Courses taken at another university cannot be used to satisfy the university's minimum residence requirements, will not be included in the calculation of the McMaster average, and therefore cannot be used to raise standing. The transcript designations will read "COM", indicating "complete", when a grade of C- or better is attained. You must be in good standing in the Faculty to be eligible to take work on a Letter of Permission.

STUDENT EXCHANGE PROGRAMMES

There are a number of official exchange programmes offered to undergraduate students registered in the Faculty of Social Sciences, including Province of Ontario Exchange Programmes in Germany and France, and McMaster University-wide Exchange Programmes in China, Denmark, El Salvador, Germany and the United Kingdom. Official exchange programmes offer students the most inexpensive means of studying abroad as students participating in these exchanges avoid the foreign student fees by paying fees to McMaster. You may, however, arrange to study elsewhere for a year independent of the official exchange programmes.

All students must have completed at least one year of continuous study and be in good standing to be eligible to participate in an exchange. In most cases, students who participate in exchange programmes go abroad for the third Level of an Honours programme.
DEPARTMENT OF ANTHROPOLOGY

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 although it is not necessary to do so. It should be noted, however, that each subfield has its own sequence of courses and prerequisites. (See the *Course Listings* section in this Calendar.)

**CULTURAL/SOCIAL ANTHROPOLOGY**

ANTHROP 2B03, 2F03, 2H03, 2I03, 2P03, 2Q03, 2R03, 2S03, 2X03, 2Z03, 3A03, 3B03, 3D03, 3F03, 3G03, 3P03, 3Q03, 3RR3, 3S03, 3T03, 3V03, 3Z03, 3Z23, 4A03, 4D03, 4EE3, 4I03, 4N03, 4P03, 4Q03, 4Y03

**PHYSICAL/BIOLOGICAL ANTHROPOLOGY**

ANTHROP 2DD3, 2E03, 2F03, 2J03, 2K03, 3C03, 3H03, 3N03, 3PP3, 3Z03, 3ZZ3, 4I03, 4J03, 4R03, 4S03 (Relevant courses are also offered by Biology and Kinesiology.)

**ARCHAEOLOGY**

ANTHROP 2C03, 2PA3, 2V03, 3AS3, 3CC6, 3E03, 3EE3, 3K03, 3NP3, 3U03, 4F03, 4H03, 4HF3, 4P13, 4U03 (Relevant courses are also offered by History and Classics.)

**LINGUISTICS**

ANTHROP 2A03, 2AL3, 2L03, 2LL3, 2M03, 2Q03, 3AL3, 3I03, 3I13, 3M03, 3PL3, 3X03, 3XX3, 4BL3, 4L03, 4T03

**OTHER COURSES**

Courses not distinguished by subfield include the reading courses ANTHROP 3W03, 3WW3, 4G03, 4GG3, as well as the seminar courses ANTHROP 4B03 and 4BB3.

In planning your programme, it is important 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 2010**

**ADMISSION**

Completion of any Level I programme with a Cumulative Average of at least 6.0 including an average of at least 7.0 in six units from ANTHROP 1A03, 1Z03 or 1L03.

**REQUIREMENTS**

120 units total (Levels I to IV), of which 48 units may be Level I courses

- 30 units from the Level I programme completed prior to admission to the programme. (See Admission above.)
- 12 units ANTHROP 2E03, 2F03, 2I03, 2PA3
- 3 units from ANTHROP 3A03, 3B03, 3D03, 3F03
- 3 units ANTHROP 4I03
- 9 units Level IV Anthropology
- 21 units Level II, III or IV Anthropology

- 6 units Research Methods from the following list:
  - STATS 1A03, ECON 2B03, GEOG 2LL3, POL SCI 2F06, 3N06, PSYCH 2G03, 2R03, SOCIOL 2Y03, 3H06, or STATS 1C03, 2R06

If only three units are taken from this list, an additional three units from ANTHROP 2D03, 2F03, 2Z03, 3K03, 3P03 and 4L03 must be completed.

- 3 units HUMAN 2C03
- 6 units from the Faculty of Humanities and/or the Department of Religious Studies. If requirement completed in Level I, these may be added to electives.

27 units Electives

**Combined Honours in Anthropology and Another Subject**

**ADMISSION**

Completion of any Level I programme with a Cumulative Average of at least 6.0 including an average of at least 7.0 in six units from ANTHROP 1A03, 1Z03 or 1L03. Satisfaction of admission requirements for the Honours programme in the other B.A. subject.

**REQUIREMENTS**

120 units total (Levels I to IV), of which 48 units may be Level I courses

- 30 units from the Level I programme completed prior to admission to the programme. (See Admission above.)
- 12 units ANTHROP 2E03, 2F03, 2I03, 2PA3
- 3 units from ANTHROP 3A03, 3B03, 3D03, 3F03
- 3 units ANTHROP 4I03
- 3 units Level IV Anthropology
- 15 units Level II, III or IV Anthropology
- 36 units courses specified for the other subject
- 6 units Research Methods from the following list:
  - STATS 1A03, ECON 2B03, GEOG 2LL3, POL SCI 2F06, 3N06, PSYCH 2G03, 2R03, SOCIOL 2Y03, 3H06, or STATS 1C03, 2R06. If only three units are taken from this list, an additional three units from ANTHROP 2D03, 2F03, 2Z03, 3K03, 3P03 and 4L03 must be completed.

In combined programmes within the Faculty of Social Sciences, the Research Methods specified for the other subject may be completed.

- 3 units HUMAN 2C03
- 6 units from the Faculty of Humanities and/or the Department of Religious Studies. Students combining Anthropology with Arts and Science are exempt from this requirement. If requirement completed in Level I, these units may be added to electives.

- 3 units Electives

**Honours in Anthropology**

(B.ARTS.SC.; See Arts & Science programme)

**ADMISSION**

Completion of any Level I programme with a Cumulative Average of at least 3.5 including an average of at least 4.0 in six units from ANTHROP 1A03, 1Z03 or 1L03.

**REQUIREMENTS**

90 units total (Levels I to III), of which 42 may be Level I courses

- 30 units from the Level I programme completed prior to admission to the programme. (See Admission above.)
- 6 units from ANTHROP 2E03, 2F03, 2PA3, 2Q03
- 18 units Level II, III or IV Anthropology
- 6 units from the Faculty of Humanities and/or the Department of Religious Studies. If requirement completed in Level I, these units may be added to electives.

- 30 units Electives

**Minor in Anthropology**

**REQUIREMENTS**

- 6 units from ANTHROP 1A03, 1Z03 or 1L03
- 3 units from ANTHROP 2E03, 2F03, 2PA3, 2Q03
- 15 units Level II, III or IV Anthropology
DEPARTMENT OF ECONOMICS

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

Honours Economics (Specialist Option) 2151

ADMISSION
Completion of any Level I programme with a Cumulative Average of at least 6.0 including a grade of B- in ECON 1A06. Credit in OAC Calculus or MATH 1K03 or equivalent.

REQUIREMENTS
120 units total (Levels I to IV), of which 48 may be Level I courses
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, 3AA3, 3F03, 3G03, 3LL3, 4A03
3 units from ECON 2K03, 3I03
18 units Level II, III or IV Economics, including up to six units from ECON 2A03, 2C03, 2D03, 2E03, 2F03, 2N03, 2To3.
3-6 units from MATH 1M03 (or 1A03, 1A06, 1AA6, 1C03, 1C06, 1N03, 1N06 or 1NN3). If requirement completed in Level I, these units may be added to electives.
3 units from MATH 1L03, STATS 1L03, 2D03 or OAC Finite Math. If requirement is completed in Level I or with OACs these units may be added to electives.
6 units Research Methods: ECON 2B03 and 3U03; or 3006
3 units HUMAN 2C03
6 units from the Faculty of Humanities and/or the Department of Religious Studies. If requirement completed in Level I, these may be added to electives.
15-18 units Electives (The maximum Economics courses to be taken is 60 units.)

Honours Economics 2150

ADMISSION
Completion of any Level I programme with a CumulativeAverage 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 may be Level I courses
30 units from the Level I programme completed prior to admission to the programme. (See Admission above.)
21 units ECON 2G03, 2GG3, 2H03, 2HH3, 3F03, 3LL3 and 4A03
3 units from ECON 2K03, 3I03
9 units Level II, III or IV Economics, including up to six units from ECON 2A03, 2C03, 2D03, 2E03, 2F03, 2N03, 2To3.
36 units Courses specified for the other subject
3-6 units from MATH 1M03 (or 1A03, 1A06, 1AA6, 1C03, 1C06, 1N03, 1N06 or 1NN3). If requirement completed in Level I, these units may be added to electives.
6 units Research Methods: ECON 2B03 and 3U03; or 3006 or, in combined programmes within the Faculty of Social Sciences, the Research Methods specified for the other subject. (See Note 1 above.)
3 units HUMAN 2C03. Students combining Honours Arts and Science with Economics are exempt from this requirement.
6 units from the Faculty of Humanities and/or the Department of Religious Studies. Students combining Economics with Arts & Science, or with a Humanities subject, are exempt from this requirement. If requirement completed in Level I, these units may be added to electives.
0-3 units Electives

Notes
1. One of OAC Finite Math, MATH 1L03, STATS 1L03, or STATS 2D03 is a prerequisite for research methods courses offered by the Department of Economics (ECON 2B03 and 3006).
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.

REQUIREMENTS
120 units total (Levels I to IV), of which 48 may be Level I courses
30 units from the Level I programme completed prior to admission to the programme. (See Admission above.)
21 units ECON 2G03, 2GG3, 2H03, 2HH3, 3F03, 3LL3 and 4A03 (See Note 2 above.)
3 units from ECON 2K03, 3I03
9 units Level II, III or IV Economics, including up to six units from ECON 2A03, 2C03, 2D03, 2E03, 2F03, 2N03, 2To3.
36 units Courses specified for the other subject
3-6 units from MATH 1M03 (or 1A03, 1A06, 1AA6, 1C03, 1C06, 1N03, 1N06 or 1NN3). If requirement completed in Level I, these units may be added to electives.
6 units Research Methods: ECON 2B03 and 3U03; or 3006 or, in combined programmes within the Faculty of Social Sciences, the Research Methods specified for the other subject. (See Note 1 above.)
3 units HUMAN 2C03. Students combining Honours Arts and Science with Economics are exempt from this requirement.
6 units from the Faculty of Humanities and/or the Department of Religious Studies. Students combining Economics with Arts & Science, or with a Humanities subject, are exempt from this requirement. If requirement completed in Level I, these units may be added to electives.
0-3 units Electives

Honours Economics and Computer Science 2150145

ADMISSION
Completion of any Level I programme with a Cumulative Average of at least 6.0 including COMP SCI 1MC3 and 1MD3 (or 1MA3 and 1MB3), and including a grade of at least B- in ECON 1A06, and a weighted average of at least 7.0 in ECON 1A06, COMP SCI 1MC3 and 1MD3 (or 1MB3), MATH 1A03 and 1AA3 (or 1A06) and 1B03. MATH 1B03 may be postponed until Level II.

REQUIREMENTS
120 units total (Levels I to IV), of which 48 may be Level I courses
30 units from the Level I programme completed prior to admission to the programme. (See Admission above.)
21 units ECON 2G03, 2GG3, 2H03, 2HH3, 3F03, 3LL3 and 4A03
3 units from ECON 2K03, 3I03
12 units Level II, III or IV Economics, including up to six units from ECON 2A03, 2C03, 2D03, 2E03, 2F03, 2N03, 2To3.
18 units COMP SCI 2MD3, 2MF3, 2SC3, 3MG3, 4MP6
6 units from COMP SCI 3CA3, 3EA3, 3MH3, 3MI3
6 units Level II, III or IV Computer Science. (COMP SCI 3EA3 is strongly recommended. COMP, SCI 2M3, 4EB3, 4EC3 are recommended as preparation for Business Data Processing.)
6-9 units Research Methods: STATS 2D03; one of STATS 2MB3 or 3D06 or ECON 3006
3 units HUMAN 2C03
6 units from the Faculty of Humanities and/or the Department of Religious Studies. If requirement completed in Level I, these units may be added to electives.
6-9 units Electives

Combined Honours in Economics and Another Subject

ADMISSION
Completion of any Level I programme with a Cumulative Average of at least 5.0 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.
**FACULTY OF SOCIAL SCIENCES**

### Honours Economics and Mathematics

**DEPARTMENT OF GEOGRAPHY**

#### Honours Geography (B.Sc.) and

Honours Geography and Environmental Science (B.Sc.) and

Honours Geography and Geology (B.Sc.)

(See B.Sc. programmes in Geography, Faculty of Science, Department of Geography.)

Honours Arts & Science and Geography

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

#### Honours Geography

(B.A., Specialist Option)

**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 Level I Geography. STATS 1CC3 and one of MATH 1A03, 1A06, 1C03, 1C06 or 1M03 must be completed by the end of Level II. Their inclusion in Level I is strongly recommended.

**REQUIREMENTS**

120 units total (Levels I to IV), of which 48 units may be Level I courses

- 30 units from the Level I programme completed prior to admission to the programme. (See Admission above.)
- 21 units ECON 2G03, 2G33, 2H03, 2H33, 3F03, 3LL3, 4A03
- 3 units from ECON 2K03, 3I03
- 12 units Level II, III or IV Economics, including up to six units from ECON 2A03, 2C03, 2D03, 2E03, 2F03, 2N03, 2T03.
- 18 units MATH 2A03, 2AA3, 2C03, 2R03, 3A03, 3AA3
- 3 units from MATH 2S03, 2T03
- 15 units from Level III, IV Mathematics, Statistics, and/or Economics.
- 6-9 units Research Methods: STATS 2D03; one of STATS 2M03, STATS 3D06, or ECON 3006
- 3 units HUMAN 2C03
- 6 units from the Faculty of Humanities and/or the Department of Religious Studies.

If requirement completed in Level I, these units may be added to electives.

- 0-3 units. Electives

#### B.A. in Economics

**1150**

**ADMISSION**

Completion of any Level I programme with a Cumulative Average of at least 3.5 and a grade of at least C- in ECON 1A06. Credit in OAC Calculus or MATH 1K03 or equivalent.

**REQUIREMENTS**

90 units total (Levels I to III), of which 42 units may be Level I courses

- 30 units from the Level I programme completed prior to admission to the programme. (See Admission above.)
- 9 units ECON 2G03, 2H03, 2B03
- 3 units from ECON 2K03, 3I03
- 12 units Level II, III or IV Economics, including up to six units from ECON 2A03, 2C03, 2D03, 2E03, 2F03, 2N03, 2T03.
- 6 units from the Faculty of Humanities and/or the Department of Religious Studies.

If requirement completed in Level I these units may be added to electives.

- 3-6 units from MATH 1M03 (or 1A03, 1A06, 1AA6, 1C03, 1C06, 1N03, 1N06 or 1NN3). If requirement completed in Level I, these units may be added to electives.
- 3 units from MATH 1L03, STATS 1L03, 2D03 or OAC Finite Math. If requirement completed in Level I or with OACs these units may be added to electives.
- 21-24 units Electives (The maximum Economics courses to be taken is 36 units.)

#### Minor in Economics

**REQUIREMENTS**

- 6 units ECON 1A06
- 6 units ECON 2G03, 2H03
- 12 units Level II, III or IV Economics, including up to six units from ECON 2A03, 2C03, 2D03, 2E03, 2F03, 2N03, 2T03.

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completed by the end of 60 units. If requirement completed in Level I, these units may be added to electives.

6 units Research Methods: one of STATS 1CC3 or GEOG 2LL3; and GEOG 2N03. If STATS 1CC3 was completed in Level I, these three units may be added to electives.

3 units HUMAN 2C03

6 units from the Faculty of Humanities and/or the Department of Religious Studies. If requirement completed in Level I, these units may be added to electives.

27-30 units Electives

Combined Honours B.A. in Geography 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 Level I Geography. Satisfaction of admission requirements for the Honours programme in the other B.A. subject, STATS 1CC3 and one of MATH 1A03, 1A06, 1C03, 1C06 or 1M03 must be completed by the end of Level II. Their inclusion in Level I is strongly recommended.

REQUIREMENTS

120 units total (Levels I to IV), of which 48 units may be Level I courses

30 units from the Level I programme completed prior to admission to the programme. (See Admission above.)
3 units GEOG 3C03
21 units Level II, III or IV Geography, excluding GEOG 2C03, 2E03, 3P03, 3J03, 3R03
12-15 units GEOG 4C03 and nine additional units Level IV Geography or GEOG 4C06 and six additional units Level IV Geography or nine units Level IV Geography and the Thesis or Honours Seminar specified by the other Department Courses specified for the other subject
36 units MATH 1A03, 1A06, 1C03, 1C06 or 1M03 which must be completed by the end of 60 units. If requirement completed in Level I, these units may be taken as electives.
6 units Research Methods: one of STATS 1CC3 or GEOG 2LL3; and GEOG 2N03 or in combined programmes within the Faculty of Social Sciences, the Research Methods specified for the other subject. If STATS 1CC3 was completed in Level I, these three units may be taken as electives.
3 units HUMAN 2C03. Students combining Honours Arts and Science with Geography are exempt from this requirement.
6 units from the Faculty of Humanities and/or the Department of Religious Studies. Students combining Geography with Arts and Science, or with a Humanities subject, are exempt from this requirement. If requirement completed in Level I, these units may be taken as electives.
0-15 units Electives

Honours Geography and Environmental Studies (B.A.)

ADMISSION
Completion of Social Sciences I with a Cumulative Average of at least 6.0 including an average of at least 7.0 in GEOG 1C03 and 1G03, and a grade of at least C+ in ENV SCI 1A06 and completion of ECON 1A06. STATS 1CC3 and one of MATH 1A03, 1A06, 1C03, 1C06, or 1M03 must be completed by the end of Level II. Their inclusion in Level I is strongly recommended.

COURSE LIST 1
GEOG 2F03, 2K03, 2LL3, 2N03, 2R03, 2R3, 2T03, 2W03, 3F03, 3G03, 3K03, 3L03, 3M03, 3N03, 3P03, 3W03, 4A03, 4D03, 4E03, 4K03, 4NN3, 4P03, 4Q03, 4R03, 4S03, 4T03, 4W03

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COURSE LIST 2
ANTHROP 2E03, 2F03, 2H03, 2PA3, 3C03, 3F03, 3V03, 3Z03, 4A03
BIOLOGY 2D03, 2E03, 3S03, 3TT3, 4Y03
ECON 2G03, 3B03, 3C03, 3J03, 3W03, 3Z03, 4E03
PHILOS 2G03
POL SCI 2E06, 2G06, 3S03, 3Z06, 4F06, 4G06, 4K06, 4O06
SOCIOLOG 3G03, 3HH3

REQUIREMENTS

120 units total (Levels I to IV), of which 48 units may be Level I courses
30 units from the Level I programme completed prior to admission to the programme. (See Admission above.)
3 units BIOLOGY 2F03
24 units GEOG 3C03, 3E03, 3J03, 3Q03, 3U03, 3UU3, 4V06
3 units from Course List 1
18 units from Course List 2
12 units from Level III or IV courses in Course List 1 or 2
3 units from Course List 1 or 2
3-6 units MATH 1A03, 1A06, 1C03, 1C06 or 1M03 which must be completed by the end of 60 units. If requirement completed in Level I, these units may be added to electives.
6 units Research Methods: one of STATS 1CC3 or GEOG 2LL3; and GEOG 2N03. If STATS 1CC3 was completed in Level I, these three units may be added to electives.
3 units HUMAN 2C03
6 units from the Faculty of Humanities and/or the Department of Religious Studies. If requirement completed in Level I, these units may be added to electives.
6-9 units Electives

GEOLOGY 1C03 is strongly recommended.

Honours Geography and Geology (B.A.)

ADMISSION
Completion of any Level I programme with a Cumulative Average of at least 6.0 and an average of at least 7.0 in GEOG 1C03 and 1G03 and a grade of at least B- in GEOLOGY 1C03. STATS 1CC3 and one of MATH 1A03, 1A06 1C03, 1C06 or 1M03 must be completed by the end of Level II. Their inclusion in Level I is strongly recommended. CHEM 1C03 must be completed by the end of Level II.

COURSE LIST 1
GEOG 4A03, 4C06, 4D03, 4E03, 4KK3, 4NN3, 4P03, 4Q03, 4R03, 4W03

REQUIREMENTS

120 units total (Levels I to IV), of which 48 units may be Level I courses
30 units from the Level I programme completed prior to admission to the programme. (See Admission above.)
3 units GEOG 2T03
6 units from GEOG 2F03, 2K03, 2W03
15 units GEOLOGY 2B06, 2C03, 2D03, 2E01, 2EE2
9 units from GEOG 3E03, 3M03, 3Q03
6 units from GEOG 3F03, 3K03, 3P03, 3W03
6 units GEOLOGY 3C03, 3S03
3 units from GEOLOGY 2103, 2J03, 3F03
6 units Level IV Geography from Course List 1
6 units Level IV Geography
3 units CHEM 1C03. If requirement completed in Level I, these units may be added to electives.
3-6 units from MATH 1A03, 1A06, 1C03, 1C06 or 1M03 which must be completed by the end of 60 units. If requirement completed in Level I, these units may be added to electives.
6 units Research Methods: one of STATS 1CC3 or GEOG 2LL3; and GEOG 2N03. If STATS 1CC3 was completed in Level I, these three units may be added to electives.
3 units HUMAN 2C03
6 units from the Faculty of Humanities and/or the Department of Religious Studies. If requirement completed in Level I, these units may be added to electives.
6-9 units Electives

2240250
## B.A. in Geography

**ADMISSION**

Completion of any Level I programme with a Cumulative Average of at least 3.5 including an average of at least 4.0 in six units of Level I Geography.

**REQUIREMENTS**

<table>
<thead>
<tr>
<th>Units</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>90</td>
<td>units total (Levels I to III), of which 42 may be Level I courses</td>
</tr>
<tr>
<td>30</td>
<td>units from the Level I programme completed prior to admission to the programme. (See Admission above.)</td>
</tr>
<tr>
<td>6</td>
<td>units from GEOG 2A03, 2B03, 2D03, 2F03, 2K03, 2LL3, 2N03, 2NN3, 2R03, 2RR3, 2T03, 2U03, 2W03, 2Y03</td>
</tr>
<tr>
<td>6</td>
<td>units Level II Geography</td>
</tr>
<tr>
<td>6</td>
<td>units from GEOG 3F03, 3G03, 3K03, 3M03, 3N03, 3NN3, 3P03, 3Q03, 3T03, 3W03, 3X03, 3Z03</td>
</tr>
<tr>
<td>6</td>
<td>units Level III Geography</td>
</tr>
<tr>
<td>6</td>
<td>units from the Faculty of Humanities and/or the Department of Religious Studies. If requirement completed in Level I, these units may be added to electives</td>
</tr>
<tr>
<td>30</td>
<td>units Electives. (The maximum Geography courses to be taken is 36 units, excluding Level I.)</td>
</tr>
</tbody>
</table>

### Minor in Geography

**REQUIREMENTS**

<table>
<thead>
<tr>
<th>Units</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>units Level I Geography</td>
</tr>
<tr>
<td>6</td>
<td>units Level III or IV Geography</td>
</tr>
<tr>
<td>12</td>
<td>units Level II, III or IV Geography with no more than six units from GEOG 2C03, 2E03, 2P03, 3JJ3 or 3R03</td>
</tr>
</tbody>
</table>

### GERONTOLOGICAL STUDIES

#### Combined Honours in Gerontology and Another Subject

**ADMISSION**

Enrolment in this programme is limited. Admission is by selection.

Completion of any Level I programme with a minimum Cumulative Average of 6.0 including a grade of at least B- in GERONTOL 1A06 (or its equivalent), and satisfaction of admission requirements for the Honours B.A. programme in the other subject.

**NOTES**

1. Application for admission, including a statement explaining the applicant's interest in the programme, should be made to the Chair of the Committee of Instruction, prior to April 1. The Admissions Committee may wish to interview the applicant.
2. Students who have not taken GERONTOL 1A06 (or its equivalent) in Level I may be considered for admission to the programme, and should consult the Chair of the Committee of Instruction.
3. Courses other than Gerontology courses or those listed in Course List 1 may be substituted at registration, with the permission of the Chair of the Committee of Instruction.
4. GERONTOL 2B03 and 3D03 may both be counted toward the required units in Gerontology.
5. GERONTOL 2C03 or 3C03 and 3G03 must be completed by the end of Level III.

#### COURSE LIST 1

- ANTHROP 3Z03
- ECON 3D03, 3Z03
- GEOG 4S03
- HTH SCI 3B03
- PHILS 3C03
- RELIG ST 2M03, 2N03, 2WW3
- SOC WORK 3C03, 4E03
- SOCIOL 3CC3, 3G03, 3HH3, 3X03, 4P03
- or other designated and approved courses. (See Note 3 above.)

### B.A. in Gerontology and Another Subject

**ADMISSION**

Enrolment in this programme is limited. Admission is by selection.

Completion of any Level I 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 B.A. in the other subject.

**NOTES**

1. Application for admission, including a statement explaining the applicant’s interest in the programme, should be made to the Chair of the Committee of Instruction, prior to April 1. The Admissions Committee may wish to interview the applicant.
2. Students who have not taken GERONTOL 1A06 (or its equivalent) may be considered for admission to the programme and should consult the Chair of the Committee of Instruction.
3. Courses other than those listed in Course List 1 may be substituted at registration, with the 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. GERONTOL 2B03 and 3D03 may both be counted toward the required units in Gerontology.
6. 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 GERONTO 3B03 (The Gerontology Field Observation requirement) and SOC WORK 4V03.

#### COURSE LIST 1

- ANTHROP 3Z03
- ECON 3D03, 3Z03
- GEOG 4S03
- HTH SCI 3B03
- PHILS 3C03
- RELIG ST 2M03, 2N03, 2WW3
- SOC WORK 3C03, 4E03
- SOCIOL 3CC3, 3G03, 3HH3, 3X03, 4P03
- or other designated and approved courses. (See Note 3 above.)
REQUIREMENTS
92 units total (Levels I to III), of which 42 units may be Level I courses
30 units from the Level I programme completed prior to admission to the programme (See Admission above.)
- 3 units from GERONTOL 2A03, 2AA3
- 6 units from GERONTOL 2C03, 3B03 or 3C03
- 3 units from GERONTOL 2B03, 3D03 (see Note 5 above.)
- 12 units Level II, III or IV Gerontology or courses from Course List 1
- 24 units Courses specified for the other subject (See Note 4 above.)
- 6 units from the Faculty of Humanities and/or the Department of Religious Studies. Students combining Gerontology with a Humanities subject, are exempt from this requirement. If requirement completed in Level I, these units may be added to electives.
- 6 units Electives

B.A. in Gerontology as a Second Degree
1265
ADMISSION
Enrolment in this programme is limited. Admission is by selection.
Completion of an undergraduate degree from a recognized university normally with a minimum average of 4.0 (or its equivalent), a grade of at least C- in GERONTOL 1A06 (or its equivalent), and evidence of a personal interest in Gerontological Studies, which may be evaluated by one, or a combination of a written statement and an interview.
An applicant is normally required to complete the prerequisite undergraduate degree work by April of the year in which application is made.
As Second Degree candidates, applicants must first apply for admission to the University, through the Office of the Registrar (Admissions) indicating they wish to apply for Gerontology as a Second Degree. This application step must be completed prior to April 1. A supplementary application for admission to the Gerontology programme will then be sent to the applicant from the Office of the Registrar (Admissions).
The supplementary application, including a statement explaining the applicant’s interest in the programme, should be addressed to the Chair of the Committee of Instruction and sent to the Office of the Registrar (Admissions). Students who have not included GERONTOL 1A06 (or its equivalent) in their first degree programme may be considered for admission to the programme and should consult the Chair of the Committee of Instruction.

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. This may include Research Methods courses, Advanced Seminar in Gerontology, a directed research course for second degree students and other courses at the fourth year level. Students should consult 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 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 at registration, with the permission of the Chair of the Committee of Instruction.
4. GERONTOL 2B03 and 3D03 may be counted toward the required units in Gerontology.

COURSE LIST 1
- ANTHROP 3203
- ECON 3D03, 3Z03
- GEOG 4S03
- HTH SCI 3B03
- PHILOS 3C03

REQUIREMENTS (MINIMUM)
30 units total
- 3 units from GERONTOL 2A03, 2AA3
- 3 units GERONTOL 3B03
- 3 units from GERONTOL 2B03, 3D03 (see Note 4 above.)
- 3 units from GERONTOL 2C03, 3C03 or 4E03
- 12 units Level II, III or IV Gerontology or courses from Course List 1
- 6 units Electives

Honours B.A. in Gerontology and Another Subject as a Second Degree

ADMISSION
Enrolment in this programme is limited. Admission is by selection.
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 CA of 6.0. The other subject must be the same as in the first degree and students must be accepted for Honours both by Gerontology and by the other department.
Applicants must first apply for admission to the University through the Office of the Registrar (Admissions) indicating they wish to apply for Honours Gerontology and Another Subject as a Second Degree. This application step must be completed prior to May 15. 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, should 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 Honours requirements for both subjects. All units for the second degree must be completed at McMaster.
2. Courses other than those listed below in Course List 1 may be substituted at registration with the permission of the Chair of the Committee of Instruction.
3. GERONTOL 2B03 and 3D03 may both be counted towards the required units in Gerontology.

COURSE LIST 1
- ANTHROP 3203
- ECON 3D03, 3Z03
- GEOG 4S03
- HTH SCI 3B03
- PHILOS 3C03
- RELIG ST 2M03, 2N03, 2WW3
- SOC WORK 3C03, 4E03
- SOCIOl 3CC3, 3G03, 3HH3, 3X03, 4P03 or other designated and approved courses. (See Note 2 above.)

REQUIREMENTS (MINIMUM)
30 units total
- 3 units from GERONTOL 2A03, 2AA3
- 3 units GERONTOL 3B03
- 3 units from GERONTOL 2B03, 3D03 (see Note 4 above.)
- 3 units from GERONTOL 2C03, 3C03 or 4E03
- 12 units Level II, III or IV Gerontology or courses from Course List 1
- 6 units Electives

DEPARTMENT OF KINESIOLOGY
Students entering the University starting in September 1994 will follow the requirements for the Bachelor of Kinesiology programme. Those students who entered the University prior to September 1994 will follow the requirements for the Bachelor of Physical Education Programme as outlined below. These students will be given a choice of whether they wish to graduate with the B.P.E. or B.Kin. degree.
Bachelor of Kinesiology (B. Kin.) 2308

Enrolment in this programme is limited.

The Department of Kinesiology offers a four-year programme leading to the degree of Bachelor of Kinesiology (B. Kin.). The programme differs somewhat from the majority of Kinesiology programmes in that the majority of the students' Level I course load is in Kinesiology. The programme is divided into two distinct parts.

During Levels I and II students take a core of 36 units of required theoretical courses in which they are introduced to the various subdisciplines of Kinesiology and a core of six units of required practicum courses.

During Levels III and IV students are free to select from a variety of Kinesiology electives in both theory and practicum areas. These courses, supplemented by the arts and science electives selected by the student, may be grouped in various ways with career and/or graduate study goals in mind.

NOTES
1. Since September 1995, practicum courses have been graded as Pass or Fail and are not included in the calculation of the Cumulative Average. (In 1994-95 practicum courses were graded as A, B, or F.)
2. Readmission
   A student who is ineligible to continue in the B. Kin. programme may apply for readmission after not less than one year. Application for readmission must be made in writing to the Undergraduate Coordinator by March 31 of the year in which readmission is desired. Students will not be considered for readmission unless they have achieved a minimum average of 7.0 (B-) in at least 24 units of university course work. Readmission is not guaranteed.
3. Work load
   In any Fall/Winter session, a student may not register for more than the required 33 units without the approval of the Undergraduate Coordinator.
4. Transferring into the B. Kin. Programme
   Enrolment of transfer students from another university or another McMaster programme is limited and applicants must normally have at least a B- average in their previous university work to be considered. Students transferring from another university should see the Admission Requirements and Application Procedures of this Calendar. McMaster students interested in transferring should contact the Undergraduate Administrative Assistant for a transfer form by March 31 of the year in which the transfer is desired.

REQUIREMENTS
132 units total (Levels I to IV), of which 51 units including 3 practicum units may be Level I.

LEVEL I: 33 UNITS
18 units KINESIOL 1A06, 1B06, 1E06
3 units CPR/First Aid (1CA1), Fitness (1F01) and Basic Aquatic Survival Skills (1S01)
12 units Electives

LEVEL II: 32 UNITS
18 units KINESIOL 2A06, 2B06, 2C06
3 units Dance (2D01), Body Awareness (2E01) and Play (2P01)
12 units Electives

LEVELS III AND IV: 66 UNITS
30 units Level III or IV Kinesiology (maximum allowed)
6 units Practicum
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 at least 7.0 (B-).

NOTES
1. Applications must be received at the Ontario Universities' Application Centre by May 15 of each year.
2. The degree must be completed on a full-time basis.

Bachelor of Physical Education (B. P.E.) 2430

NOTES
1. From September 1992 until August 1995, practicum courses were graded as A, B, or F and were not included in the calculation of the Cumulative Average. Since September 1995, practicum courses have been graded as Pass or Fail.
2. Advanced credit and credit earned during the Spring/Summer sessions may be used to reduce the time required to complete the degree. In any Fall/Winter session, a student may not register for more than the required number of units without the approval of the Undergraduate Coordinator.

REQUIREMENTS
For students who entered September 1992 or September 1993
131 units total (Levels I to IV), of which 49 units may be Level I courses including Practicum

LEVELS III AND IV: 66 UNITS
(Last offered in 1996-97)
30 units Levels III or IV Physical Education or Kinesiology (maximum allowed)
6 units Practicum
30 units Electives

LABOUR STUDIES

Honours Labour Studies 2641
(Specialist Option)

ADMISSION

Enrolment in this programme is limited. Selection is based on academic achievement and a supplementary letter but requires, as a minimum, completion of any Level I programme with a Cumulative Average of at least 6.0 including an average of at least 7.0 in LABR ST 1A03 and 1Z03 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 1B03 and 1C03, PSYCH 1A06, SOCIO 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 15. The Admissions Committee may wish to interview each applicant.
2. Students are encouraged to consult the Labour Studies programme handbook which is available from the Labour Studies Office.
3. Students may not transfer from Labour Studies to a Minor in Labour Studies except by the normal application process.
4. Students must successfully complete ECON 1A06 and SOCIO 1A06 by the end of 60 units.
5. LABR ST 2A06 and COMMERCE 2BA3 should be taken in Level II; COMMERCE 4BC3 and 4BD3 should be taken in Level III.
6. Students should take note of all required prerequisites for upper level courses. Students who wish to enter courses but who lack the necessary prerequisites must obtain the permission of the instructor.
**FACULTY OF SOCIAL SCIENCES**

**REQUIREMENTS**

120 units total (Levels I to IV), of which 48 units may be Level I courses

- 30 units from the Level I programme completed prior to admission to the programme. (See Admission above.)
- 15 units LABR ST 2A06, 2B03, 2C03; COMMERCE 2BA3 (See Note 5 above.)
- 9 units LABR ST 3C03; COMMERCE 4BC3, 4BD3 (See Note 5 above.)
- 12 units from LABR ST 3A03, 3AA3, 3B03, 3D03, 3E03, 3F03, 3I03
- 18 units LABR ST 4A09, 4B03, 4C03, 4D03
- 12 units SOCIOL 1A06 and ECON 1A06 which must be completed by the end of 60 units. If requirement completed in Level I, these units may be added to electives.
- 3-6 units Research Methods: from ECON 2B03, 3006, SOCIOI 2Y03, 3H06, POL SCI 2F06, 3N06, STATS 1A03, 1CC3, 2R06
- 3 units HUMAN 2C03
- 6 units from the Faculty of Humanities and/or the Department of Religious Studies. If requirement completed in Level I, these units may be added to electives.
- 9-12 units Electives, which may include COMMERCE 3BB3

**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 1B03 and 1C03, PSYCH 1A06, 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 15. The Admissions Committee may wish to interview each applicant.
2. Students are encouraged to consult the Labour Studies Programme Handbook which is available from the Labour Studies Office.
3. Students may not transfer from Labour Studies to a Minor in Labour Studies except by the normal application process.
4. Students must successfully complete ECON 1A06 and SOCIOL 1A06 by the end of 60 units.
5. LABR ST 2A06 should be taken in Level II. COMMERCE 4BC3 should be taken in Level III if needed as a prerequisite for Level IV courses.
6. Students should take note of all required prerequisites for upper level courses. Students who wish to enter courses but who lack the necessary prerequisites must obtain the permission of the instructor.

**REQUIREMENTS**

120 units total (Levels I to IV), of which 48 units may be Level I courses

- 30 units from the Level I programme completed prior to admission to the programme. (See Admission above.)
- 9 units LABR ST 2A06, 2C03
- 21 units from LABR ST 3A03, 3AA3, 3B03, 3C03, 3D03, 3E03, 3F03, 3I03; COMMERCE 4BC3 and 4BD3
- 12 units LABR ST 4A09, 4B03
- 3 units from LABR ST 4C03, 4D03
- 12 units SOCIOL 1A06 and ECON 1A06 which must be completed by the end of 60 units. If requirement completed in Level I, these units may be added to electives.
- 3-6 units Research Methods: from ECON 2B03, 3006, SOCIOI 2Y03, 3H06, POL SCI 2F06, 3N06, STATS 1A03, 1CC3, 2R06
- 3 units HUMAN 2C03
- 6 units from the Faculty of Humanities and/or the Department of Religious Studies. If requirement completed in Level I, these units may be added to 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 1A06 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 1B03 and 1C03, PSYCH 1A06, SOCIOL 1A06. Satisfaction of admission requirements for the Honours B.A. programme in the other subject.

**NOTES**

1. Application for admission (forms available in the 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 15. The Admissions Committee may wish to interview each applicant.
2. 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.
3. Students may choose to satisfy the requirements for Research Methods, Inquiry and Honours Seminar either as specified by the Labour Studies programme or as specified by the other department or programme.
4. Students combining Labour Studies with a Humanities subject or with Religious Studies must complete the Research Methods, Inquiry and Honours Seminar requirements as specified by the Labour Studies programme. (LABR ST 4A09 and 4B03, and three to six units from the Labour Studies Research Methods Menu).
5. Combined Honours students who wish to satisfy the Research Methods, Inquiry and Honours Seminar requirements as specified by the other department may replace LABR ST 4A09 and 4B03 with three units Level III or IV and three units Level IV Labour Studies courses.
6. Students must successfully complete ECON 1A06 and SOCIOL 1A06 by the end of 60 units.
7. Students may not transfer from Honours Labour Studies to a Minor in Labour Studies except by the normal application process.
8. Students combining Labour Studies with a Humanities subject or with Religious Studies must complete the Research Methods, Inquiry and Honours Seminar requirements as specified by the Labour Studies programme. (LABR ST 4A09 and 4B03, and three to six units from the Labour Studies Research Methods Menu).
9. Combined Honours students who wish to satisfy the Research Methods, Inquiry and Honours Seminar requirements as specified by the other department may replace LABR ST 4A09 and 4B03 with three units Level III or IV and three units Level IV Labour Studies courses.
10. Students who wish to enter courses but who lack the necessary prerequisites must obtain the permission of the instructor.

**REQUIREMENTS**

120 - 123 units total (Levels I to IV), of which 48 units may be Level I courses

- 30 units from the Level I programme completed prior to admission to the programme. (See Admission above.)
- 9 units LABR ST 2A06, 2C03
- 15 units from LABR ST 3A03, 3AA3, 3B03, 3C03, 3D03, 3E03, 3F03, 3I03; COMMERCE 4BC3 and 4BD3
- 12 units LABR ST 4A09, 4B03
- 3 units from LABR ST 4C03, 4D03
- 36 units Courses specified for the other subject
- 12 units SOCIOL 1A06 and ECON 1A06 which must be completed by the end of 60 units. If requirement completed in Level I, these units may be taken as electives.
3-6 units Research Methods: from ECON 2B03, 3O6; SOCIOL 2Y03, 3H06, POL SCI 2F06, 3N06, STATS 1A03, 1CC3, 2R06 or in combined programmes within the Faculty of Social Sciences, the Research Methods specified for the other subject (See Note 3 above.)

3 units HUMAN 2C03. Students combining Honours Arts and Science with Labour Studies are exempt from this requirement.

6 units 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 may be taken as electives.

0-18 units Electives, which may include COMMERCE 3BB3.

B.A. in Labour Studies 1640

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 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 1B03 and 1C03, PSYCH 1A06, 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 15. The Admissions Committee may wish to interview each applicant. Students applying for the Honours programme will automatically be considered for the B.A. programme. Part-time students continuing under the regulations of the previous B.A. programme (i.e., who entered the programme prior to 1987/88) should consult the office of the Associate Dean (Studies) of the Faculty of Social Sciences or the Director of Labour Studies.

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 the Minor in Labour Studies programme except by the normal application process. Students who wish to enter courses but who lack the necessary prerequisites must obtain the permission of the instructor.

REQUIREMENTS

90 units total (Levels I to III), of which 42 units may be Level I courses

30 units from the Level I programme completed prior to admission to the programme. (See Admission above.)

12 units LABR ST 2A06, 2B03, 2C03

9 units COMMERCE 2B3A, 4Bc3, 4BD3

12 units from LABR ST 3A03, 3AA3, 3B03, 3C03, 3D03, 3E03, 3F03, 3H03

12 units SOCIOL 1A06 and ECON 1A06 which must be completed by the end of 60 units. If requirement completed in Level I, these units may be added to electives.

6 units from the Faculty of Humanities and/or the Department of Religious Studies. If requirement completed in Level I, these units may be added to electives.

9 units Electives, which may include COMMERCE 3BB3.

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 15. The Admissions Committee may wish to interview each applicant.

2. Students may not transfer to the Minor in Labour Studies programme except by the normal application process.

3. Students should take note of all required prerequisites for upper level courses. Students who wish to enter courses but who lack the necessary prerequisites must obtain the permission of the instructor.

REQUIREMENTS

6 units LABR ST 1A03 and 1Z03 or 1AA3

9 units LABR ST 2A06, 2C03

9 units Level II, III or IV Labour Studies

12 units ECON 1A06 and SOCIOL 1A06

PHYSICAL EDUCATION (B.P.E.)

(See Department of Kinesiology)

DEPARTMENT OF POLITICAL SCIENCE

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 an average of at least 7.0 in six units from POL SCI 1A06 or 1B03 and 1C03.

NOTES

1. Students should be alerted to those Level II courses that are required to qualify for a number of Level III and IV courses. Students who wish to enter courses but who lack the necessary prerequisites must obtain the permission of the instructor.

2. POL SCI 2F06 or 3N06 and 2006 are required for students enrolled in Honours Political Science programmes, and recommended for students in B.A. programmes.

REQUIREMENTS

120 units total (Levels I to IV), of which 48 units may be Level I courses

30 units from the Level I programme completed prior to admission to the programme. (See Admission above.)

6 units POL SCI 2006

30 units Level II, III or IV Political Science of which a maximum of 12 units may be Level II

6 units POL SCI 4Z06

6 units Level IV Political Science

6 units Research Methods: POL SCI 2F06 or 3N06

3 units HUMAN 2C03

6 units from the Faculty of Humanities and/or the Department of Religious Studies. If requirement completed in Level I, these units may be added to electives.

27 units Electives (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 3.5 including an average of at least 4.0 in six units from POL SCI 1A06 or 1B03 and 1C03. Satisfaction of the admission requirements for the Honours programme in the other subject.

NOTES
1. Students should be alerted to those Level II courses that are required to qualify for a number of Level III and IV courses. Students who wish to enter courses but who lack the necessary prerequisites must obtain the permission of the instructor.
2. POL SCI 2F06 or 3N06 and 2006 are required for students enrolled in Honours Political Science programmes, and recommended for students in B.A. programmes.

REQUIREMENTS

120 units total (Levels I to IV), of which 48 units may be Level I courses.
30 units from the Level I programme completed prior to admission to the programme (See Admission above.)
6 units POL SCI 2006
12 units Level III Political Science
12 units Level II, III or IV Political Science
6 units Level IV Political Science
36 units Courses specified for the other subject
6 units Research Methods: POL SCI 2F06 or 3N06 or in combined programmes within the Faculty of Social Sciences, the Research Methods specified for the other subject.
3 units HUMAN 2C03.
6 units 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. If requirement completed in Level I, these units may be added to electives.
3 units Electives (the maximum Political Science courses to be taken is 48 units).

B.A. in Political Science 1450

ADMISSION

Completion of any Level I programme, with a Cumulative Average of at least 3.5 including an average of at least 4.0 in six units from POL SCI 1A06 or 1B03 and 1C03.

NOTES
1. Students should be alerted to those Level II courses that are required to qualify for a number of Level III and IV courses. Students who wish to enter courses but who lack the necessary prerequisites must obtain the permission of the instructor.
2. POL SCI 2F06 or 3N06 and 2006 are required for students enrolled in Honours Political Science programmes, and recommended for students in B.A. programmes.

REQUIREMENTS

90 units total (Levels I to III), of which 42 units may be Level I courses.
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
6 units from the Faculty of Humanities and/or the Department of Religious Studies. If requirement completed in Level I these units may be added to electives.
30 units Electives (The maximum Political Science courses to be taken is 36 units.)

Minor in Political Science

NOTES
1. All students should note those Level II Political Science courses that are required in order to register in a number of Level III courses.
2. 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 Political Science of which up to 12 units may be Level II courses

DEPARTMENT OF PSYCHOLOGY

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 Computer Science and Psychology (B.Sc.)

(See B.Sc. programmes in Computer Science, Faculty of Science, Department of Computer Science and Systems)

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

Honours Psychology 2459

(B.A., Specialist Option)

ADMISSION

Enrolment in this programme is limited. (See Note 1 below.) 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, a grade of at least B- in Psychology 1A06 and credit in one of MATH 1A03, 1A06, 1AA6, 1C03, 1C06 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, 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 one of MATH 1A03, 1A06, 1AA6, 1C03, 1C06, or MATH 1M03 with a grade of at least C- must be completed before entrance into Level II of the programme.
3. PSYCH 2R03, 2RR3 and MATH 1B03 must be completed before entrance into Level III of the programme.
4. At some time during the programme, the student:
   a. must meet a laboratory requirement by completing one of PSYCH 3C06, 3E03, 3L03, 3LL3, 3QQ3, 3S03, 3V03, 4G03, or 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 1A06 is a prerequisite for PSYCH 2F03.
6. Students who entered Level II Honours B.A. Psychology before September 1994, may, in Level IV, register for Psychology 4D06 (Psychology Thesis) with permission of the course coordinator. These students will be transferred to Honours Psychology (Specialist Option).

COURSE LIST 1

PSYCH 3C06, 3E03, 3L03, 3LL3, 3QQ3, 3S03, 3V03, 4G03, 4QQ3
LEVEL II: 30 UNITS
6 units PSYCH 2R03, 2RR3
9 units from PSYCH 2E03, 2F03, 2H03, 2T03, 2V03
3 units MATH 1B03
3 units from the Faculty of Science, excluding Psychology and the Mathematics courses taken to satisfy the admission or programme requirements. BIOLOGY 1A06 is highly recommended.
6 units Electives, excluding Psychology. (See Note 4 (b), and (c) above.)
3 units Electives
LEVEL III: 30 UNITS
18 units Level III Psychology; or three units from PSYCH 2E03, 2F03, 2H03, 2T03 (if not taken in Level II) and 15 units of Level III Psychology. (See Note 4 (a) above.)
6 units Electives, excluding Psychology. (See Note 4 (b) and (c) above.)
6 units Electives
LEVEL IV: 30 UNITS
6 units PSYCH 4D06 (See Note 6 above.)
12 units Level III or 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
Enrolment in this programme is limited. (See Note 1 below.) 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, a grade of at least B in Psychology 1A06 and credit in one of MATH 1A03, 1A06, 1AA6, 1C03, 1C06 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, 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 one of MATH 1A03, 1A06, 1AA6, 1C03, 1C06 or MATH 1M03 with a grade of at least C must be completed before entrance into Level II of the programme.
3. PSYCH 2H03, 2RR3 and MATH 1B03 must be completed before entrance into Level III of the programme.
4. At some time during the programme, the student:
a. must meet a laboratory requirement by completing one of PSYCH 3C06, 3E03, 3L03, 3L3, 3QQ3, 3S03, 3V03, 4G03, or 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 1A06 is a prerequisite for PSYCH 2F03.
6. This programme requires nine units of Level III or IV courses outside of Psychology. The prerequisites for these courses should be considered in Levels II and III.
7. Students who entered Level II Honours B.A. Psychology before September 1994, may, in Level IV, register for Psychology 4D06 (Psychology Thesis) with permission of the course coordinator. These students will be transferred to Honours Psychology (Specialist Option).

COURSE LIST 1
PSYCH 3C06, 3E03, 3L03, 3L3, 3QQ3, 3S03, 3V03, 4G03, 4QQ3

REQUIREMENTS
120 units total (Levels I to IV), of which 48 units may be Level I courses.

LEVEL II: 30 UNITS
6 units PSYCH 2R03, 2RR3
9 units from PSYCH 2E03, 2F03, 2H03, 2T03, 2V03
3 units MATH 1B03
3 units from the Faculty of Science, excluding the Psychology and the Mathematics courses taken to satisfy the admission or programme requirements. BIOLOGY 1A06 is recommended.
9 units Electives, excluding Psychology. (See Notes 4 (b), (c) and 6 above.)

LEVEL III: 30 UNITS
15 units Level III Psychology; or three units from PSYCH 2E03, 2F03, 2H03, 2T03 (if not taken in Level II) and 12 units of Level III Psychology. (See Note 4 (a) above.)
12 units Electives, excluding Psychology (See Notes 4 (b), (c) and 6 above)
3 units Electives

LEVEL IV: 30 UNITS
15 units Level III or IV Psychology including one course from Course List I, if not already completed. (See Notes 4 (a) and 7 above.)
9 units Electives chosen from Levels III and IV courses excluding Psychology. (See Notes 4 (b), (c) and 6 above.)
6 units Electives

Combined Honours in Psychology and Another Subject (B.A.)

ADMISSION
Enrolment in this programme is limited. (See Note 1 below.) 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, a grade of at least B in Psychology 1A06 and credit in one of MATH 1A03, 1A06, 1AA6, 1C03, 1C06 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. Applications for all Levels may be picked up at the Office of the Associate Dean, 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 one of MATH 1A03, 1A06, 1AA6, 1C03, 1C06 or MATH 1M03 with a grade of at least C must be completed before entrance into Level II of the programme.
3. PSYCH 2H03, 2RR3 and MATH 1B03 must be completed before entrance into Level III of the programme.
4. At some time during the programme, the student:
a. must meet a laboratory requirement by completing one of PSYCH 3C06, 3E03, 3L03, 3L3, 3QQ3, 3S03, 3V03, 4G03, or 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 1A06 is a prerequisite for PSYCH 2F03.
6. This programme requires nine units of Level III or IV courses outside of Psychology. The prerequisites for these courses should be considered in Levels II and III.
7. Students who entered Level II Honours B.A. Psychology before September 1994, may, in Level IV, register for Psychology 4D06 (Psychology Thesis) with permission of the course coordinator. These students will be transferred to Honours Psychology (Specialist Option).

COURSE LIST 1
PSYCH 3C06, 3E03, 3L03, 3L3, 3QQ3, 3S03, 3V03, 4G03, 4QQ3

REQUIREMENTS
120 units total (Levels I to IV), of which 48 units may be Level I courses.
LEVEL II: 30 UNITS
6 units PSYCH 2R03, 2RR3
6 units from PSYCH 2E03, 2F03, 2H03, 2T03, 2V03
3 units MATH 1B03
3 units from the Faculty of Science, excluding the Psychology and the Mathematics courses taken to satisfy the admission or programme requirements.
12 units Courses as specified for the other subject.

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 4 (a) above.)
12 units Courses as specified for the other subject.
6 units Electives (See Note 4 (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 4 (a) above.)
12 units Courses as specified for the other subject.
6 units Electives (See Note 4 (b) and (c) above.)

Psychology Major (B.A.) 3460

NOTES
1. The Psychology Major programme is being phased out. Level III will be last offered in September 1996.
2. Completion of one of MATH 1A03, 1A06, 1AA6, 1B03, 1C03, 1C06, or 1M03 is required for entrance into Level II. Completion in Level I is highly recommended.
3. The statistics requirement (PSYCH 2G03 or 2R03) must be completed before entrance into Level III.
4. This programme requires 12 units of Level III or IV Elective courses, three of which may be Psychology. The prerequisites for these courses should be considered in Levels II and III.

REQUIREMENTS
120 units total (Levels I to IV), of which 48 units may be Level I courses.

LEVEL III: 30 UNITS
(Last offered in 1996-97)
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
6 units from Business, Humanities or Science, excluding Psychology
9 units Electives, excluding Psychology. (See Note 4 above.)
3 units Electives

LEVEL IV: 30 UNITS
12 units Level III or IV Psychology
6 units from Business, Humanities or Science, excluding Psychology
12 units Electives from Level III or IV, no more than three of which may be Psychology courses

B.A. in Psychology 1460

ADMISSION
Completion of any Level I programme with a Cumulative Average of at least 3.5 and a grade of at least C in PSYCH 1A06.

NOTES
1. Completion of one of MATH 1A03, 1A06, 1AA6, 1B03, 1C03, 1C06, 1K03, or 1M03 is required in Level II. (Completion in Level I is highly recommended.)
2. The statistics requirement (PSYCH 2G03 or 2R03) must be completed before entrance into Level III.

REQUIREMENTS
90 units total (Levels I to III), of which 42 units may be Level I courses.

LEVEL II: 30 UNITS
3 units from PSYCH 2G03, 2R03 (See Note 2 above.)
6 units from PSYCH 2E03, 2F03, 2H03, 2T03
3 units Level II Psychology

LEVEL III: 30 UNITS
3-6 units from MATH 1A03, 1A06, 1AA6, 1B03, 1C03, 1C06, 1K03 or 1M03 (See Note 1 above.)
6 units from Business, Humanities or Science, excluding Psychology
3-6 units Electives, excluding Psychology
3 units Electives

LEVEL IV: 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 1A06
12 units Level II or III Psychology
6 units Level III Psychology

DEPARTMENT OF RELIGIOUS STUDIES

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 2A03, 2J06, 2L03, 2P06, 2PP3, 2RR3, 2T03, 2T23, 3AA3, 3E03, 3H03, 3I03, 3L03, 3P03, 3S03, 3U03, 3UU3, 4F03, 4G03
SANSKRIT 3A03, 4B06

II. BIBLICAL STUDIES
RELIG ST 2B03, 2D06, 2DD3, 2EE3, 2F03, 2GG3, 2HH3, 2NN3, 2Q03, 2V03, 2YY3, 2Z03, 2K03, 2M03, 2N03, 2Q03, 2T03, 2B03, 2C03
HEBREW 2A03, 2A06, 2B03, 3A03, 3A06, 3B03

III. WESTERN RELIGIOUS THOUGHT
RELIG ST 2C03, 2CC3, 2GG6, 2H03, 2I03, 2I13, 2JJ3, 2KK3, 2R06, 2S06, 2U03, 2U13, 2XX3, 2XX3, 2YY3, 2ZZ3, 3I13, 3KK3, 3LL3, 3MM3, 3NN3, 3YY3, 3Z03, 3ZZ3, 4B03, 4E03

IV. CONTEMPORARY AND COMPARATIVE RELIGIONS
RELIG ST 2AA3, 2BB3, 2K03, 2M03, 2N03, 2Q06, 2Q03, 2QQ3, 2SS3, 2V03, 2W03, 2WW3, 3A03, 3B03, 3BB3, 3J06, 3JJ6, 3SS3

NOTE
Students wishing to specialize in Asian Religions should consider beginning language training in Sanskrit and/or Japanese early in their programme (see the calendar offerings listed under these headings). 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) and/or Hebrew.

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 required to consult a Departmental Undergraduate advisor or a member of the Undergraduate Affairs Committee in the selection of their third and fourth year courses.
2. Full-time students should be aware that required courses in Levels II, III and IV are regularly offered in the evenings and/or in the summer. Students who anticipate difficulty in fulfilling departmental requirements should consult the Departmental Undergraduate Advisor as early as possible in their programmes.
3. With the written approval of the Departmental 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 courses

30 units from the Level I programme completed prior to admission to the programme. (See Admission above.)
6 units from Asian Religions
3 units from Biblical Studies
3 units from Western Religious Thought
3 units from Contemporary and Comparative Religions
3 units RELIG ST 3F03
9 units Level III Religious Studies
12 units RELIG ST 4A06, 4J06
9 units Level III or IV Religious Studies or approved substitutions
6 units Research Methods: six units of Linguistics or Statistics; or six units of a language other than English
3 units HUMAN 2C03
6 units from the Faculty of Humanities. If requirement completed in Level I, these units may be added to electives.
27 units 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 of a member of the Undergraduate Affairs Committee in the selection of their third and fourth year courses.
2. Part-time students should be aware that required courses in Levels II, III and IV are regularly offered in the evenings and/or in the summer. Students who anticipate difficulty in fulfilling departmental requirements should consult the Departmental Undergraduate Advisor as early as possible in their programmes.
3. With the written approval of the Departmental Advisor, courses from other departments may be substituted for Religious Studies.
4. Students must consult with both departments to determine the manner in which the Research Methods requirement is to be satisfied. Options include six units of Language other than English or Linguistics or six units of Statistics.
5. Students who wish to write a thesis in a subject other than Religious Studies must consult with the Departmental Undergraduate Advisor. For example, a student in Combined Honours Religious Studies and Gerontology may, with the approval of the advisor from Religious Studies, arrange to complete Gerontology 4A06 rather than Religious Studies 4J06.

REQUIREMENTS
120 units total (Levels I to IV), of which 48 units may be Level I courses

30 units from the Level I programme completed prior to admission to the programme. (See Admission above.)
6 units from Asian Religions
3 units from Biblical Studies
3 units from Western Religious Thought
3 units from Contemporary and Comparative Religions
3 units RELIG ST 3F03
9 units Level III Religious Studies or approved substitutions
12 units RELIG ST 4A06, 4J06 (See Note 5 above.)
3 units Level II, III or IV Religious Studies
6 units Courses specified for the other subject
6 units Research Methods: six units of Linguistics or Statistics; or six units of a language other than English. (See Note 4 above.) If requirement completed in Level I, these units may be added to electives.
3 units HUMAN 2C03. Students combining Honours Arts and Science with Religious Studies are exempt from this requirement.
6 units from the Faculty of Humanities. Students combining Religious Studies with Arts and Science, or with a Humanities subject, are exempt from this requirement. If requirement completed in Level I, these units may be added to electives.
3 units Electives

B.A. in Religious Studies

1475

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. All are strongly urged to consult the Departmental Advisor at least once each year.
2. Part-time students should be aware that required courses in Levels II, III and IV are regularly offered in the evenings and/or in the summer. Students who anticipate difficulty in fulfilling departmental requirements should consult the Departmental Undergraduate Advisor as early as possible in their programmes.
3. With the written approval of the Departmental 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 courses

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
9 units Level III Religious Studies or approved substitutions (including Level IV courses)
9 units Level II, III or IV Religious Studies
6 units from the Faculty of Humanities. If requirement completed in Level I, these units may be added to electives.
24 units Electives (The maximum Religious Studies courses to be taken is 48 units.)

Minor in Religious Studies

NOTES
1. All students should consult the Departmental Handbook. All students are strongly urged to consult the Departmental Advisor at least once a year. Part-time students should be aware that required courses in Levels II, III and IV are regularly offered in the evenings and/or in the summer.

REQUIREMENTS
24 units Religious Studies courses with no more than six units from Level I

SCHOOL OF SOCIAL WORK

Combined B.A./B.S.W.

ADMISSION
Completion of any Level I programme, including PSYCH 1A06 and SOCIOL 1A06, normally with a CA 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 well before March 1 for the Fall/Winter term. First Nations students may select an alternate application process. Those who wish to do so should consult the School of Social Work for details.

Applicants transferring from other universities (see Two-Tier Applications below) must also apply through the Ontario Universities’ Application Centre (OUAC) and 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 105 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 OUAC, with the appropriate fee.

If you wish to study part-time, fill out 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. Complete and 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 admissions process. Therefore, it is impossible to consider applicants whose Supplementary Application arrives after the March 1 deadline.

NOTES

1. Course Groupings: There are three groups of courses in the Social Work programme:

   Group I includes core courses which are required.
   Group II includes courses which are primarily practice oriented.
   Group III includes courses which are primarily policy oriented. Only Group III courses may be taken for elective credit by undergraduates not in Social Work, with the exception of SOC WORK 4A03 which is open only to Social Work students. Social Work students must take 12 units from Group III courses for elective credit. Permission of the School for Group III courses is required for all students.

   GROUP I
   SOC WORK 2B06, 2C03, 2D03, 3D06, 3D6, 4D06, 4D6
   GROUP II
   SOC WORK 3N03, 3O03, 3P03, 3R03, 4G03, 4O03, 4P03, 4T03, 4V03, 4W03, 4X03, 4Y03
   GROUP III
   SOC WORK 3C03, 3G03, 3H03, 4A03, 4B03, 4C03, 4E03, 4J03, 4K03, 4M03, 4L03

2. Progression Within Programme: Students must achieve a minimum grade of C+ in each of SOC WORK 2B06, 2C03, 2D03, 3D06 and 4D06, and a Pass in SOC WORK 3D6D and 4DD6, and a CA of at least 6.0.

3. Students must complete three units of Social Sciences Research Methods, (eg. SOCIOl 2Z03, 3H06, GERONTOL 2C03, 3C03, POL SCI 2F06 or 3N06) as a Social Work requirement or as required for the B.A. 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 48 units of Social Work for credit towards the B.S.W. degree and a total of 50 units of credit towards the B.A. degree which includes 12 units Group III Social Work courses.

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, 2C03, 2D03, 3D06, and 4D06, and a Pass in SOC WORK 3D6D and 4DD6, and a CA of 6.0.

5. Students are expected to assume the cost of travelling to and from field practice agencies.

REQUIREMENTS

136 units total (Levels I to IV), of which 48 units may be Level I courses:

30 units from the Level I programme completed prior to admission to the programme. (See Admission above.)
12 units SOC WORK 2B06, 2C03, 2D03 (which must be completed prior to enrolling in SOC WORK 3D06 and 3D6)
12 units SOC WORK 3D06, 3D6 (which must be completed prior to enrolling in SOC WORK 4D06 and 4DD6)
3 units from SOC WORK 3N03, 3R03
12 units SOC WORK 4D06, 4DD6
3 units from SOC WORK 4O03, 4X03, 4Y03
6 units Group II Social Work courses
12 units Group III Social Work courses
3 units PSYCH 3A03 (which must be completed prior to enrolling in SOC WORK 3D06 and 3D6)
3 units Social Sciences Research Methods. (If completed as part of the B.A., these units may be added to electives. See Note 3 above.)
24 units Courses specified for the B.A. (This may vary according to the B.A. programme.)
18 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 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. First Nations students may select an alternate application process. Those who wish to do so should consult the School of Social Work for details.

An applicant is required to complete the prerequisite undergraduate degree work by April of the year in which application is made.

Enrolment in the B.S.W. programme is limited. Students who intend to apply to the B.S.W. programme must consult the School of Social Work prior to application.

All applications for admission to the School of Social Work are considered annually and must be made directly to the School well before March 1 for the Fall/Winter term. Applicants must also apply to the University through the Ontario Universities’ Application Centre (OUAC). See Two-Tier Applications below.

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, obtain a 105 application form from the Admissions Office of any Ontario university. The completed form should be returned to the Ontario Universities’ Application Centre (OUAC) with the appropriate fee.
If you wish to study part-time, obtain a McMaster University Part-time Application form which can be obtained from OUAC or directly from McMaster, at the Office of the Registrar, Glismour Hall, Room 106. The completed form should be submitted to the Ontario Universities’ Application Centre with the appropriate fee.

In order to allow adequate time for the processing of the General Application, applicants are advised to submit their applications by December 1.

2. Supplementary Application (March 1)

After the General Application has been received at McMaster, the School of Social Work will mail you a Supplementary Application form, which must be completed and returned directly to the School of Social Work by March 1. To avoid delay, you are advised to request this form personally through direct contact with the School of Social Work. This form is used to decide when applicants are able to write an admissions test, which is scheduled for two dates in March of each year, both on site and at alternative testing centres outside Hamilton.

Adequate time is needed to make these arrangements and to complete the admissions process. Therefore, it is impossible to consider applicants whose Supplementary Application arrives after the March 1 deadline.

NOTES

1. Course Groupings: There are three groups of courses in the Social Work programme:
   - Group I includes core courses which are required;
   - Group II includes courses which are primarily practice oriented;
   - Group III includes courses which are primarily policy oriented. Only Group III courses may be taken for elective credit by undergraduates not in Social Work, with the exception of SOC WORK 4A03 which is open only to Social Work students. Social Work students must take 12 units from Group III courses. Permission of the School for Group III courses is required for all students.

GROUP I
SOC WORK 2B06, 2C03, 2D03, 3D06, 4D06, 4DD6

GROUP II
SOC WORK 3N03, 3Q03, 3Q03, 4G03, 4Q03, 4P03, 4T03, 4W03, 4W03, 4Y03

GROUP III
SOC WORK 3C03, 3G03, 3H03, 4A03, 4B03, 4C03, 4E03, 4J03, 4K03, 4M03, 4Z03

2. Progression Within Programme: Students must achieve a minimum grade of C+ in each of SOC WORK 2B06, 2C03, 2D03, 3D06, and 4DD6, and a Pass in SOC WORK 3D06 and 4DD6, and a CA of at least 6.0.

3. Three units of Group II must be taken if PSYCH 2A03 was completed prior to admission to the B.S.W. programme.

4. Three units of Group III must be taken if three units of Social Sciences Research Methods were completed prior to admission to the B.S.W. programme (eg. SOCIOl 2Z03, 3H06, GERONTOL 2C03, 3C03, POL SCI 2F06 or 3N06). A statistics course may not substitute for a research methods course.

5. Graduation: To qualify for the B.S.W. students must complete a total of 60 units of credit at McMaster. 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, 2C03, 2D03, 3D06, and 4DD6, and a Pass in SOC WORK 3D06 and 4DD6, and a CA of at least 6.0.

6. Students are expected to assume the cost of travelling to and from field practice agencies.

REQUIREMENTS

60 units total
12 units SOC WORK 2B06, 2C03, 2D03 (which must be completed prior to enrolling in SOC WORK 3D06 and 3D06)
3 units PSYCH 2A03. If requirement was completed prior to admission, these units must be chosen from Group II Social Work courses. (See Note 3 above.)
12 units SOC WORK 3D06, 3D06 (which must be completed prior to enrolling in SOC WORK 4D06 and 4DD6)
3 units from SOC WORK 3N03, 3P03

12 units SOC WORK 4D06, 4D06
3 units from SOC WORK 4D03, 4X03, 4Y03
9 units Group III Social Work courses
3 units Social Sciences Research Methods. If requirement was completed prior to admission, these units must be chosen from Group III Social Work courses. (See Note 4 above.)
3 units additional Group II Social Work courses. (See Note 3 above.)

DEPARTMENT OF SOCIOLOGY

PROGRAMMES FOR STUDENTS ENTERING IN SEPTEMBER 1996.

Honours Sociology (Specialist Option) 2522

In 1997-98, 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, 4M06 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 courses
30 units from the Level I programme completed prior to admission to the programme. (See Admission above.)
6 units SOCIOl 2S06
3 units from SOCIOl 3A03, 3P03, 3PP3
3 units from SOCIOl 3Q03, 3Q03, 3W03
12 units Level IV Sociology
24 units Level II, III or IV Sociology
9 units Research Methods: SOCIOl 2Z03 which must be completed by the end of 60 units, and SOCIOl 3H06
3 units HUMAN 2C03
6 units from the Faculty of Humanities and/or the Department of Religious Studies. If requirement completed in Level I, these units may be added to electives.
24 units Electives

Honours Sociology 2520

In 1997-98, 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, 4M06 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 courses
30 units from the Level I programme completed prior to admission to the programme. (See Admission above.)
6 units SOCIOl 2S06
3 units from SOCIOl 3A03, 3P03, 3PP3
3 units from SOCIOl 3Q03, 3Q03, 3W03
12 units Level IV Sociology
18 units Level II, III or IV Sociology
9 units Research Methods: SOCIOl 2Z03 which must be completed by the end of 60 units, and SOCIOl 3H06
3 units HUMAN 2C03
6 units from the Faculty of Humanities and/or the Department of Religious Studies. If requirement completed in Level I, these units may be added to electives.
30 units Electives
Combined Honours in Sociology and Another Subject

In 1997-98, enrollment 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 courses

30 units from the Level I programme completed prior to admission to the programme. (See Admission above.)
6 units SOCIOL 2S06
3 units from SOCIOL 3A03, 3P03, 3PP3
3 units from SOCIOL 3I03, 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 Research Methods: SOCIOL 2Z03 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 specified for the other subject.
3 units HUMAN 2C03. Students combining Honours Arts and Science with Sociology are exempt from this requirement.
6 units 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. If requirement completed in Level I, these units may be taken as electives.
0-3 units Electives

B.A. in Sociology

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 will complete GERONTOL 2C03 or 3C03 to satisfy the Research Methods requirement and will replace SOCIOL 2Z03 with three units of Level II or III Sociology.
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 courses

30 units from the Level I programme completed prior to admission to the programme. (See Admission above.)
6 units SOCIOL 2S06
3 units SOCIOL 2Z03 (Research Methods--see Note 1 above.)
15 units Level II or III Sociology
6 units from the Faculty of Humanities and/or the Department of Religious Studies. If requirement completed in Level I, these units may be added to electives.
30 units Electives

Minor in Sociology

NOTE

Students should check both this Calendar and the Departmental Handbook for prerequisites and course descriptions.

REQUIREMENTS

6 units SOCIOL 1A06
6 units from SOCIOL 2D06, 2006, 2S06, 2V06
12 units Level II or III Sociology

PROGRAMMES FOR STUDENTS WHO ENTERED PRIOR TO SEPTEMBER 1996.

Honours Sociology (Specialist Option) 2522

(Available only to students who entered this programme before September 1996.)

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 courses

30 units from the Level I programme completed prior to admission to the programme. (See Admission above.)
6 units SOCIOL 2S06
3 units from SOCIOL 3A03, 3P03, 3PP3
3 units from SOCIOL 3I03, 3003, 3W03
12 units Level IV Sociology
24 units Level II, III or IV Sociology
6 units Research Methods: SOCIOL 3H06
3 units HUMAN 2C03
6 units from the Faculty of Humanities and/or the Department of Religious Studies. If requirement completed in Level I, these units may be added to electives.
27 units Electives

Honours Sociology 2520

(Available only to students who entered this programme before September 1996.)

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 courses

30 units from the Level I programme completed prior to admission to the programme. (See Admission above.)
6 units SOCIOL 2S06
3 units from SOCIOL 3A03, 3P03, 3PP3
3 units from SOCIOL 3I03, 3003, 3W03
12 units Level IV Sociology
18 units Level II, III or IV Sociology
6 units Research Methods: SOCIOL 3H06
6 units HUMAN 2C03
6 units from the Faculty of Humanities and/or the Department of Religious Studies. If requirement completed in Level I, these units may be added to electives.
33 units Electives

Combined Honours in Sociology and Another Subject

(Available only to students who entered this programme before September 1996.)

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 courses

30 units from the Level I programme completed prior to admission to the programme. (See Admission above.)
6 units SOCIOL 2S06
3 units from SOCIOL 3A03, 3P03, 3PP3
3 units from SOCIOL 3I03, 3003, 3W03
12 units Level IV Sociology
12 units Level II, III or IV Sociology
36 units Courses specified for the other subject
6 units Research Methods: SOCIOL 3H06 or in combined
programmes within the Faculty of Social Sciences, the
Research Methods specified for the other subject.
3 units HUMAN 2C03. Students combining Honours Arts
and Science with Sociology are exempt from this
requirement.
6 units 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. If requirement completed in Level
I, these units may be added to electives.

3 units Electives

B.A. in Sociology 1520
(Available only to students who entered this programme
before September 1996).

NOTE
1. Students enrolled in the B.A. Gerontology and Sociology
programme will complete GERONTOL 2C03 or 3C03 to satisfy
the Research Methods requirement.
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 courses
30 units from the Level I programme completed prior to admission
to the programme. (See Admission above.)
6 units SOCIOL 2S06
18 units Level II or III Sociology including one of SOCIOL
2Y03, 2Z03 or 3H06 (See Note 1 above.)
6 units from the Faculty of Humanities and/or the Department
of Religious Studies. If requirement completed in
Level I, these units may be added to electives.
30 units Electives
WOMEN'S STUDIES PROGRAMME

E-MAIL ADDRESS: daenzer@mcmaster.ca

The programme emphasizes the integration of theory and practice.

**Honours B.A. degree with another'subject of the student's own choice.**

**ACADEMIC REGULATIONS**

The Women's Studies programme is governed by the general Academic Regulations of the University and the regulations described below.

**Honours Arts & Science and Women's Studies**

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

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**Combined Honours B.A. in Women's Studies and Another Subject**

**ADMISSION**

Completion of any Level I programme with a weighted average of at least 7.0 in 12 units of Level I work, including a grade of at least B in WOMEN ST 1A06 and satisfaction of admission requirements for the Honours B.A. programme in the other subject.

**NOTES**

1. **Enrolment in the programme is limited.** Application for admission (forms available in the Women's Studies office), including a letter explaining the applicant's interest in the programme, should be made to the Director of Women's Studies prior to April 15.

2. Students who have not taken WOMEN ST 1A06 because they have transferred from another university may be considered for admission to the programme if they are deemed by the Admission Committee to have fulfilled requirements equivalent to WOMEN ST 1A06.

3. Registration in each level of the programme requires written approval of the Director of the Women's Studies programme and the appropriate Other Subject Counsellor.

4. In Levels II, III and IV, students must take the six-unit Women's Studies course appropriate to their level and six additional units of approved discipline-related courses at each level. Students should plan their programmes in consultation with the Director of Women's Studies, the Departmental Counsellor for their Other Subject, and the Associate Dean of the Faculty in which the student is registered.

**REQUIREMENTS**

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<thead>
<tr>
<th>Units</th>
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<th>Courses</th>
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<td>Level I</td>
<td>Completed prior to admission to the programme. (See Admission above.)</td>
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<tr>
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<td>6</td>
<td>WOMEN ST 4B06, 4C06, HISTORY 4H06, KINESIOl 4T03, SOCIOl 4U03</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>Elective course work beyond Level I</td>
<td></td>
</tr>
</tbody>
</table>

Some courses not listed above may be substituted, at the appropriate level, from: Anthropology, Classics, Comparative Literature, English, French, Geography, History, Labour Studies, Philosophy, Physical Education, Religious Studies and Sociology. Students must select their courses in consultation with the Director of Women's Studies.

**Minor In Women's Studies**

**REQUIREMENTS**

<table>
<thead>
<tr>
<th>Units</th>
<th>Level</th>
<th>Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>WOMEN ST 1A06</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>Level II, III Women's Studies courses as listed under Women's Studies in the Course Listings section of this Calendar.</td>
<td></td>
</tr>
</tbody>
</table>
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 (page 16) of this Calendar.)

It is anticipated that Theme Schools’ life cycles will normally be five years. They will accept approximately 60 students a year for three years with the objective of graduating about 180 students by the end of the cycle.

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, two schools are in operation. The Theme School in International Justice and Human Rights will be admitting new students in September 1996; the last intake to the Theme School on New Materials and Their Impact on Society was in September 1995.

Because Theme Schools are under review, the University cannot guarantee that students will be able to enter a Theme School in September 1997 or later.

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 in their Honours programmes 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 below.

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., F.R.S.C.
(on leave 1996-97)

Acting Director
Stefania S. Miller/B.A., M.A., Ph.D.
Kenneth Taylor Hall, Room 202, ext. 24164

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.

ADMISSION

Enrolment in the Theme School Minor is limited. The Theme School on International Justice and Human Rights will admit a maximum of 75 students to the minor in 1996-97. Admission will be by selection and on condition that a student is accepted into any four- or five-level programme.

Applications for admission in 1996-97 should be made to the Director by April 1, 1996. Application forms may be obtained from the Theme School on International Justice and Human Rights office, KTH 201. Application forms will be reviewed in mid-May and students will be notified by mail of the decision. After June 1, students may continue to apply to the Theme School; applications will be accepted until the enrolment limit is reached.

Although enrolment in the Theme School on International Justice and Human Rights is limited to Level II students registered in four- or five-level programmes, places in TSIJHR 2A06 may be available to other interested students in Level II or above starting in September 1996, and places in Level III and IV International Justice and Human Rights courses may be available to students in Level II or above starting in September 1997.

REQUIREMENTS

Students are required to complete 24 units in order to obtain the Theme School minor. Six units must consist of Level I work acceptable to the Director. In Level II all students must take TSIJHR 2A06, the Introductory Seminar. In Levels III and IV students may complete their minor by taking an additional 12 units of Theme School courses.

THEME SCHOOL ON NEW MATERIALS AND THEIR IMPACT ON SOCIETY

WEB ADDRESS:
http://www.science.mcmaster.ca/themeschool/homepage.html

The Theme School on New Materials and Their Impact on Society is being phased out. The last intake was September 1995.

Director
A. John Berlinsky/B.Sc., M.Sc., Ph.D.
(on leave 1996-97)

Acting Director
A.N. Bourns Building, Room 451, ext. 27294

Throughout history, the discovery and development of new materials have had a profound impact on the evolution of human civilization. Our ability to produce such materials as bronze, iron, paper and silicon created new directions in science, industry, health care and the arts and have affected all aspects of human endeavour, from war and peace to space exploration to daily living.

This Theme School explores the discovery of new materials and investigates the impact of materials-driven technology on business, health, recreation, technology, the arts and the environment.

REQUIREMENTS

The last intake for this Theme School was September 1995. This programme has three main components comprising 24 units as follows:

a. Courses (TSNM 2B03*, 3B03, 4B03, 4C03);

b. The Theme School Seminar (TSNM 2A02, 3A02, 4A02); and

c. Research Internship (TSNM 2R06*, 3R06).

The Seminar is required of all students for a total of six units. A minimum of 18 units must be taken from among the Theme School courses and research internships. Normally, one or two courses are taken in the Fall and Winter terms.

* Last offered in 1995-96.

See specific courses and their descriptions listed under Theme Schools in the Course Listings section in this Calendar.
MINORS AND THEMATIC AREAS

MINORS

The following two listings constitute University-sanctioned Minors in Indigenous Studies and Peace Studies. No degree is granted for either programme of study, but Honours students 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 University's General Academic Regulations section (page 16) for further information.

Indigenous Studies

For more information, please contact the Indigenous Studies office, Chester New Hall, Room 226, ext. 27426.

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, 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. Students in Honours programmes will qualify at graduation for a Minor in Indigenous Studies if they complete these requirements:

INDIG ST 1A06 - Introduction to Indigenous Studies

and 18 units from:

INDIG ST 2A06 - Introduction to Indigenous People's Spirituality

INDIG ST 2B03 - Introduction to Indigenous People's History

INDIG ST 2C03 - Introduction to Contemporary Indigenous Societies

INDIG ST 3A03 - The Spiritual Teachings of Elders

INDIG ST 3B03 - History of the Eastern Woodland People

INDIG ST 3B33 - History of Contemporary Indigenous Peoples: Selected Topics

INDIG ST 3C03 - Study of Iroquois First Nations in Contemporary Times

INDIG ST 3C33 - Contemporary Indigenous Societies: Selected Topics

INDIG ST 3D03 - Contemporary Native Literature in Canada

INDIG ST 3E03 - Contemporary Native Literature in the United States

OJIBWA 1Z06 - Beginner's Intensive Ojibwa

OJIBWA 2Z06 - Intermediate Ojibwa

OJIBWA 3Z06 - Advanced Ojibwa

MOHAWK 1Z06 - Beginner's Intensive Mohawk

MOHAWK 2Z06 - Intermediate Mohawk

MOHAWK 3Z06 - Advanced Mohawk

CAYUGA 1Z06 - Beginner's Intensive Cayuga

CAYUGA 2Z06 - Intermediate Cayuga

CAYUGA 3Z06 - Advanced Cayuga

Advanced Cayuga

Anthropological and Religious Perspectives on War and Peace

CUGようでB03 - North American Prehistory

Anthropologically Mind-Body-Environment Perspectives on Peace and Conflict

ANTHROP 3A03 - Cultures in Contact: The Canadian North

ANTHROP 3003 - Contemporary Problems in the Study of Peace

ANTHROP 3F03 - Contemporary Northern Peoples

ANTHROP 3U03 - Canadian Archaeology

ANTHROP 4P13 - From Foraging to Farming in the Lower Great Lakes

POL SCI 3C03 - Government and Politics of Indigenous Peoples

ANTHROP 2B03 - North American Prehistory

No more than six of these 18 units may be Level I courses. 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's 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.

Students wishing to pursue a Minor in Peace Studies can obtain further information from Dr. Graeme MacQueen or Kim McNicol at the Centre for Peace Studies, University Hall, Room B104, ext. 24729.

ANTHROP 2X03 - Warfare and Aggression

ANTHROP 3T03 - Domination and Resistance

HISTORY 3I03 - The International Relations of the European Powers, 1914-1945

HISTORY 3I6 - The History of Warfare, 1865-1945

HISTORY 3R3 - War and Society in 20th Century Britain

PHILOS 1B06 - Philosophy and Society

PHILOS 2G03 - Social and Political Issues

PHILOS 3P03 - Philosophies of War and Peace

POL SCI 2E06 - International Politics

POL SCI 3A03 - International Politics in the Post-War Period

POL SCI 4F06 - Human Rights: International and National

POL SCI 4M06 - Issues in International Politics

RELIG ST 2H03 - Religious Non-Violence

RELIG ST 2L03 - Life, Work and Teachings of Mahatma Gandhi

SOC SCI 2B06 - Introduction to the Study of Peace

SOC SCI 2C03 - Genocide and Ethnic Conflict

SOC SCI 2D03 - Peace and Development

SOCSC 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. 23393.

COURSES DEALING STRICTLY WITH ASIAN MATERIAL

ART HIST 3J03 - Japanese Art

ART HIST 3K03 - Arts of China

GEOG 2C03 - China: People and Land in Transition

GEOG 3J3 - Geography of Japan

HISTORY 2B06 - China: From Late Imperial Times to the Present
MINORS AND THEMATIC AREAS

COURSES WITH SIGNIFICANT ASIAN CONTENT

ECON 2C03  Asin-Pacific Economies
POL SCI 4MM6  International Relations of the Pacific Rim
RELIG ST 1B06  World Religions
RELIG ST 2BB3  Images of the Divine Feminine
RELIG ST 2H03  Religious Non-Violence
RELIG ST 2QQ3  Cults in North America
RELIG ST 2SS3  Women and Religion
RELIG ST 2WW3  Health and Religion

LANGUAGE COURSES

JAPANESE 1Z03  Beginner's Intensive Japanese
JAPANESE 2Z06  Intermediate Intensive Japanese
JAPANESE 3B03  Business Japanese
JAPANESE 3Z26  Advanced Intensive Japanese
JAPANESE 4L03  Japanese Literature
JAPANESE 4Z03  Advanced Practice in Japanese
JAPANESE ST 4A06  Guided Reading in Japanese Studies
JAPANESE ST 4B03  Guided Reading in Japanese Studies
SANSKRIT 3A06  Introduction to Sanskrit Grammar
SANSKRIT 4B06  Readings in Sanskrit Texts

Canadian Studies

There is no B.A. in Canadian Studies, but students interested in this area may choose from among the following courses, subject to meeting the prerequisites.

HUMANITIES

ART HIST 3B03  Aspects of Canadian Art
ENGLISH 2C03  Contemporary Canadian Fiction
ENGLISH 3Z03  Contemporary Canadian Poetry
FRENCH 2D03  Introduction to the Civilization of French Canada
FRENCH 2E03  Literature of Quebec
FRENCH 3A03  The Modern French-Canadian Novel
FRENCH 3BB3  Contemporary Quebec Theatre
FRENCH 4U03  Topics in French-Canadian Literature

SOCIAL SCIENCES

ANTHROP 3A03  Cultures in Contact: The Canadian North
ANTHROP 3F03  Contemporary Northern Peoples
ECON 2K03  Economic History of Canada
GEOG 2E03  Canada
GEOG 3T03  Geography of Planning
GEOG 4U03  Selected Problems in Urban Planning
GEOG 4Z03  The Landscape of Urban Housing
POL SCI 2G06  Politics in Canada
POL SCI 3D06  Political Participation and Elitist Politics in Canada
POL SCI 3F03  Canadian Foreign Policy
POL SCI 3G03  Politics of Federalism
POL SCI 3I03  Elections and Electoral Behaviour in Canada
POL SCI 3J03  Provincial Politics in Canada
POL SCI 4006  Canadian Public Policy
POL SCI 4S06  Canadian Political Theory

Health and Society

While there is no B.A. programme in Health and Society, students wishing to concentrate in this area should be aware of the following courses offered by Departments and Schools in the Faculties of Social Sciences and Humanities.

For more information on specific courses, please consult the Course Listings in the Calendar. Students should note that not all listed courses may be available and should check carefully for prerequisites.

Students wishing to pursue courses in Health and Society may obtain more information from Dr. Vivienne Walters, Kenneth Taylor Hall, Room 716, ext. 24692.

COURSES DEALING WITH HEALTH AND SOCIETY ISSUES

ANTHROP 2U03  Plagues and People
ANTHROP 3Z03  Medical Anthropology: The Biomedical Approach
ANTHROP 3ZZ3  Medical Anthropology: Symbolic Healing
ECON 3Z03  Health Economics
GEOG 4S03  Geography of Health Care
KINESIOL 3S3  Body, Mind, and Spirit
LABR ST 3D03  Occupational Health and Safety
PHILOS 2D03  Moral issues
PHILOS 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 2W03  Death and Dying: The Western Experience
SOC WORK 3C03  Social Aspects of Health and Disease
SOCIO 3Q03  Sociology of Health Care
SOCIO 3H03  Sociology of Health
SOCIO 4G03  The Social Production of Illness

Students will also find courses relevant to this theme in the listings of other Faculties.
PART-TIME DEGREE STUDIES

The University offers a broad range of educational opportunities if you wish to take degree studies on a part-time basis. In addition to the daytime offerings in the Fall/Winter there is a wide selection of evening classes available in the Fall/Winter and Spring/Summer sessions. There is a limited number of daytime classes scheduled for the Spring/Summer session.

If you take degree courses, you will associate with one of the undergraduate Faculties (Business, Health Sciences, Humanities, Science or Social Sciences). By so doing, you will have the opportunity to consult with the academic counsellors of your Faculty, and with the departments whose courses are of interest to you. If your interests change, it is often possible to transfer to another department or Faculty.

The courses which you take in the early stages of your education will form the basis for choosing your programme of study. The Level I courses will give you the information you need for this purpose, as well as provide the prerequisites for more advanced courses and 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 admissible as a Mature Student and given the opportunity to show that you can deal successfully with university work. New regulations are now in effect for continuation as a Mature Student. 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.

COORDINATOR OF
PART-TIME DEGREE STUDIES

The Coordinator of Part-time Degree Studies, Gordon Raymond, or the Assistant Coordinator, Tina Horton, may be telephoned at 525-9140, ext. 24324 or 24325, for counselling and to discuss preparation and plans for degree study.

Mr. Raymond's office, Gilmour Hall, Room 103, 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

McMaster University supports the Mohawk/McMaster Education Information Centre in downtown Hamilton. This centre 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) 525-9140, ext. 22020.

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. 22021, and publishes a newsletter, Link, which is sent to all part-time students. The coffee lounge is 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 in the evening.
COURSE LISTINGS

ANTHROPOLOGY

Faculty as of January 15, 1996

Chairs
D. Ann Herring

Professors Emeriti
David J. Damas/A.B. (Toledo), A.M., Ph.D. (Chicago)
Richard Slobodian/B.A., M.S. (City College of New York), Ph.D. (Columbia)

Professors
Matthew Cooper/B.A. (Brooklyn College), M.Phil., Ph.D. (Yale)
David R. Counts/B.A. (Texas), Ph.D. (Southern Illinois)
Harvey Feit/B.A. (Queens), M.A., Ph.D. (McGill)
Edward V. Glanville/B.A., Ph.D. (Toronto)
Richard Slobodin/B.A., M.S.

Trudy Nicks
William L. Rodman/B;A.

Associate Professors
D. Ann Herring/B.A., M.A., Ph.D.

Christopher Halpke/B. Litt., M.A., Ph.D. Lit. (Oxford)
Wiliarn G. Noble/B.A. (Toronto), Ph.D. (Calgary)
Richard J. Preston/M.A., Ph.D. (North Carolina)
William L. Rodman/B.A. (Sydney), M.A., Ph.D. (Chicago)
Shelley Saunders/B.A., M.A., Ph.D. (Toronto)
Emoke Szathmary/B.A., Ph.D. (Toronto)

Associate Members
Ellen Badone/B.A., M.A. (Toronto), Ph.D. (California, Berkeley)
Aubrey Cannon/B.A. (Simon Fraser), Ph.D. (Cambridge)
Laura Finstein/B.A. (Western), M.A., 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 Warr/B.A., M.A. (McMaster), Ph.D. (AnU)
Dennis Wills (Clinical Epidemiology and Biostatistics)/B.A. (Waterloo), M.A. (McMaster), Ph.D. (British Columbia)

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, ANTHROP 1A03 and 1Z03, taken together, are designed to provide an introduction to the study of Anthropology.
3. Registration in all courses marked ** 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

ANTHROP 1A03 INTRODUCTION TO ANTHROPOLOGY: CULTURE AND SOCIETY
A general introduction to the study of human culture and society in all of its aspects. Examples and illustrations will be drawn largely from non-Western societies.
Three hours (lectures and discussion); one term

ANTHROP 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

ANTHROP 2A03 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, French, Russian, Italian, Spanish and other Indo-European-based languages of Europe.
Three lectures; one term
Prerequisite: LINGUIST 1A03 or ANTHROP 2A03/LINGUIST 2A03
Cross-list: LINGUIST 2A03

ANTHROP 2AL3 THE MAKING OF THE EUROPEAN LINGUISTIC LANDSCAPE
This history of language use in Europe from the fall of the Roman Empire to the flowering of linguistic nationalism.
Three lectures; one term
Prerequisite: Registration in Level II and above
Cross-list: LINGUIST 2A03

ANTHROP 2B03 INDIGENOUS PEOPLES OF NORTH AMERICA
A comparative study of selected cultures of this continent, dealing with traditional and modern situations.
Three hours (lectures and discussion); one term

ANTHROP 2BD3 PRIMATE BEHAVIOUR
A survey of current issues in primate behaviour, including taxonomy, demography, social structure, reproduction, play cognition and sociobiology. Students will conduct a zoo observation study.
Three hours (lecture and discussion); one term
Prerequisite: Six units of Level I Anthropology

ANTHROP 2E03 HUMAN VARIATION AND EVOLUTIONARY CHANGE
An introduction to the study of human evolution, evolutionary mechanisms, and variability in living species of human and non-human primates.
Three hours (lectures and discussion); one term
Prerequisite: Six units of Level I Anthropology
This course is required of all students registered in an Honours Programme in Anthropology, and is a prerequisite for advanced courses in Physical Anthropology.

ANTHROP 2F03 SOCIAL ANTHROPOLOGY
An introduction to the concepts and theory underlying the comparative study of social institutions with particular emphasis on preliterate societies. This course is designed to equip students with a repertoire of concepts necessary for more advanced courses in anthropology.
Three hours (lectures and discussion); one term
Prerequisite: Six units of Level I Anthropology
This course is required of all students registered in an Honours programme in Anthropology.

ANTHROP 2FF3 HUMAN OSTEOLOGY AND FORENSIC ANTHROPOLOGY
A study of human bones and teeth with a consideration of how to determine sex, age, stature and other individual characteristics from these remains alone.
Three hours (lectures and discussion); one term
Prerequisite: Registration in an Anthropology programme
Enrollment is limited.

ANTHROP 2H03 ENVIRONMENT AND CULTURE
The interdependence of human societies and their physical and biological environments is examined. Human attitudes toward space, place, and environment in Western and non-Western societies are emphasized. The convergence of Western environmental movements and aboriginal philosophy is explored.
Three hours (lectures and discussion); one term
ANTHROP 2U03 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 in an Honours Programme in Anthropology.

ANTHROP 2JJ3 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
Prerequisite: ANTHROP 2J03

ANTHROP 2L03 PHONETICS
A study of the sounds of language and human articulatory capabilities. Three hours (lectures); one term
Prerequisite: Registration in Level II and above
Cross-list: LINGUIST 2L03

ANTHROP 2LL3 LANGUAGES OF THE WORLD
The course is an introduction to population linguistics; the study of the languages of the world in their relations to geography, history, culture and migrations of peoples. The course considers three major classifications of languages-typological, genetic and areal—and the problems related to them. Three hours (lectures and discussion); one term
Prerequisite: Registration in Level II and above
Cross-list: LINGUIST 2LL3

ANTHROP 2N03 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: ANTHROP 1203 or 2P03

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 in an Honours programme in Anthropology.

ANTHROP 2Q03 LINGUISTICS AND THE STUDY OF CULTURE
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
Cross-list: LINGUIST 2Q03

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 AN ETHNIC HISTORY OF THE LANDS IN AND AROUND THE FORMER SOVIET UNION
This survey course will examine the ethology, 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. Three hours (lectures and discussion); one term
Prerequisite: ANTHROP 2U03

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 2P03; and registration in an Anthropology programme
Cross-list: SOCIOL 2Z03

ANTHROP 3A03 CULTURES IN CONTACT: THE CANADIAN NORTH
A comparative ethnographic analysis of traditional and contemporary hunting and gathering cultures in the Canadian Arctic and Subarctic. The course examines socio-political change, environmental relations, and the impact of the fur-trade on aboriginal communities. Three hours (lectures and discussion); one term
Prerequisite: ANTHROP 1A03 or 2P03; or registration in a Health Sciences Programme

ANTHROP 3A13 READING ETHNOGRAPHIES
Learning to evaluate ethnographic text is a fundamental skill in anthropological training and research. This course examines selected texts, some of which have become classic in the history of the discipline, to distinguish the reliable from unreliable. Through detailed study, students will gain critical resources for future studies. Three hours (lectures and discussion); one term
Prerequisite: ANTHROP 2F03

ANTHROP 3A23 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 3C06 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 3D03 ETHNOLOGY: PACIFIC ISLANDS
Analysis of selected issues in Pacific anthropology. 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). In 1996-97, the topic will be New World Arctic and Subarctic Archaeology. Three hours (lectures and discussion); one term
Prerequisite: ANTHROP 2PA3

ANTHROP 3E13 SPECIAL TOPICS IN ARCHAEOLOGY II
As per ANTHROP 3E03. In 1996-97, the topic will be Aztec Archaeology and Ethnohistory. Three hours (lectures and discussion); one term
Prerequisite: ANTHROP 2PA3
ANTHROP 3F03 CONTEMPORARY NORTHERN PEOPLES
An examination of native-white interaction in northern Canada with an emphasis on present day events.
Three hours (lectures and discussion); one term
Prerequisite: ANTHROP 1A03 or 2F03, 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 3I03 SYNTAX
A study of the human capacity to form words into sentences. Emphasis will be on generative transformational grammar.
Three hours (lectures); one term
Prerequisite: Registration in Level II and above
Cross-list: LINGUIST 3I03

ANTHROP 3J03 SEMANTICS
A study of patterns of meaning in language: a critical survey of current theories and issues.
Three lectures; one term
Prerequisite: ANTHROP 3I03/LINGUIST 3I03
Cross-list: LINGUIST 3J03

ANTHROP 3K03/ARCHAEOLOGICAL INTERPRETATION
Technique and methodology in the investigation of archaeological material. Three hours (lectures and discussion); one term
Prerequisite: Three units of Level II Archaeology
Enrolment is limited.

ANTHROP 3M03 MORPHOLOGY
The study of word formation in languages of the world: a critical survey of current theories and issues.
Three hours (lectures); one term
Prerequisite: ANTHROP 3I03/LINGUIST 3I03
Cross-list: LINGUIST 3M03

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/NEOLITHIC PREHISTORY
A survey of the development of settled, food-producing human cultures from earliest villages to urban life.
Three hours (lectures and discussion); one term
Prerequisite: ANTHROP 1203 or 2P3A

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 Level II or III of any Anthropology programme

ANTHROP 3P3L 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: FRENCH 2H03 or LINGUIST 1A06
Cross-list: LINGUIST 3P03

ANTHROP 3P3P 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 2F03

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
This course involves a consideration of the anthropology of gender. Cross-cultural material from small-scale and large-scale societies is used to discuss gender in relation to work activities, socialization, and the construction of images and identities.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level III or IV of an Anthropology programme.

ANTHROP 3S03 HISTORY OF THOUGHT IN SOCIAL ANTHROPOLOGY
The development of anthropology as a discipline, with emphasis on the emergence and refinement of concepts concerning culture, social structure, and sociocultural change.
Three hours (lectures and discussion); one term
Prerequisite: Six units of Social/Cultural Anthropology

ANTHROP 3T03 CANADIAN ARCHAEOLOGY
A study of the development of native Canadian cultures prior to the arrival of Europeans.
Three hours (lectures and discussion); one term
Prerequisite: Three units of Level II Archaeology

ANTHROP 3V03 COMPARATIVE ECONOMIC ORGANIZATION
An examination of contrasting types of economic organization, with particular reference to societies with a non-industrial base.
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 Level II, III or IV Anthropology

ANTHROP 3W03 SPECIAL TOPICS IN ANTHROPOLOGY II
As per ANTHROP 3W03, but on a different topic.
One term
Prerequisite: Registration in Level II, III or IV Anthropology

ANTHROP 3X03 SOCIOLINGUISTICS I
An introduction to sociolinguisitics 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: Registration in Level II and above
Antirequisite: ANTHROP 3A6L6
Cross-list: LINGUIST 3X03

ANTHROP 3X03 SOCIOLINGUISTICS II
An introduction to the sociology of language with particular emphasis on the social situation of the major European languages. Topics covered include diversity of languages/typology, language contacts (pidgin, creoles and lingua francas), language planning (bilingualism and multilingualism) and language and culture.
Three lectures; one term
Prerequisite:ANTHROP 3X03
Antirequisite: ANTHROP 3A6L6
Cross-list: LINGUIST 3X03

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 or 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 humeral medicine, Chinese, Shamanic, etc. Emphasis will be on cultural and psychological parameters of healing. Three hours (lectures and discussion); one term
Prerequisite: Registration in Level III or IV of any programme. ANTHROP 2E03 or 2F03 is highly recommended.

ANTHROP 4A03  THEORIES OF SOCIAL EVOLUTION
The various theories of social evolution from classical to modern times, but with special attention to Spencer, Marx, sociobiology, and modern anthropological works. Three hours (lectures and discussion); one term
Prerequisite: Registration in Level II or III Anthropology

ANTHROP 4B03  CURRENT PROBLEMS IN ANTHROPOLOGY I
The topic varies with each instructor (e.g. one class may examine Urban Anthropology and another focus on Recent Advances in Genetics). In 1996-97 the topic will be Male Cooperation in Primates. Three hours (seminar); one term
Prerequisite: Registration in Level IV Honours Anthropology or permission of the instructor. ANTHROP 2E03 is strongly recommended.

ANTHROP 4B83  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 4BL3  APPLIED LINGUISTICS
The course is designed to acquaint the student with the contributions that the linguist, 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 an Anthropology or Linguistics programme, or permission of the Programme Coordinator
Cross-list: LINGUIST 4B03

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 Anthropology

ANTHROP 4EE3  COMPARATIVE SYSTEMS OF THOUGHT
Selected studies in religion, magic, and systems of knowledge in the cultures of non-literate peoples, and their expression in myth and ritual. Three hours (lectures and discussion); one term
Prerequisite: Registration in Level IV Anthropology

ANTHROP 4F03  ARCHAEOLOGICAL THEORY
A seminar in current topics and issues in archaeological theory. Three hours (lectures and discussion); one term
Prerequisite: Registration in Level III Archaeology courses

ANTHROP 4G03**  INDEPENDENT RESEARCH I
Independent study of a research problem through published materials and/or fieldwork. 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 Level II, III or IV Anthropology

ANTHROP 4G03**  INDEPENDENT RESEARCH II
As per ANTHROP 4G03, but on a different topic. One term
Prerequisite: Registration in Level IV Anthropology

ANTHROP 4HF3  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 2P3 and three units of Level III Archaeology

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  FIELD LINGUISTICS
An advanced course in techniques of linguistic field research. The field situation is simulated by using an actual target language. Three hours (seminar); one term
Prerequisite: 12 units of Anthropology or Linguistics above Level I
Cross-list: LINGUIST 4L03

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 Science

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 Level IV Honours Anthropology or permission of the instructor.

ANTHROP 4P13  FROM FORAGING TO FARMING IN THE LOWER GREAT LAKES
The course examines the development of the Woodland horticultural village societies in the lower Great Lakes, from about A.D. 900 until shortly after European contact, taking as the prime example the historically well-known Iroquoian groups of Ontario, Quebec and New York. Three hours (seminar); one term
Prerequisite: ANTHROP 2P3 and three units of Level III Archaeology

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 systematic; 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 paleoanthropology, paleodemography, paleonutrition and biological distance analyses. Three hours (lectures and discussion); one term
Prerequisite: ANTHROP 2E03
Antirequisite: ANTHROP 2F03

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 Anthropology
Not open to students with credit in ANTHROP 4J03 if the topic was Infectious Disease and Human Evolution.

ANTHROP 4T03  GENERATIVE GRAMMAR: MIND AND CULTURE
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/LINGUIST 2Q03, 2L03 or 3I03
Antirequisite: ANTHROP/LINGUIST 2T03
Cross-list: LINGUIST 4T03

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: Three units of Level III Archaeology

ANTHROP 4V03  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.
SCHOOL OF ART, DRAMA AND MUSIC

Faculty as of January 15, 1996

Director
Antony Hammond

Professors Emeriti
Marta Hidy/Dip. Perf. (Budapest), F.R.H.C.M. (Hon.) (Music)
George B. Wallace/M.A. (Trinity College, Dublin) (Art)
William Wallace/B.Mus., Ph.D. (Utah) (Music)

Professors
Antony Hammond/B.A. (New Zealand), M.A., Ph.D., (Auckland) (Drama)
Hayden B.J. Maginnis/B.A. (Western), M.F.A., Ph.D., (Princeton) (Art History)
Graham Petrie/M.A. (St. Andrews), B. Litt. (Oxford) (Drama)
Ronald W. Vince/B.A. (McMaster), M.A. (Rice), Ph. D., (Northwestern) (Drama)
David William/Honourary, part-time (Drama)

Associate Professors
Donald F. Carri/B.A. (Guelph), M.F.A. (Chicago) (Art)
Hugh G. Galloway/Dip. Art (Edinburgh) (Art)
Frederick A. Hall/Asso. Dip., B.Mus. (McGill), M.A., Ph.D., (Toronto) (Music)
Richard Monette/Honourary, part-time (Drama)
Brian S. Pocknell/M.A. (Manchester), D. de l’U. (Paris-Sorbonne) (Drama)
Graham Todd/L.D.D.A. Dip. (Chelsea School of Art) M.F.A. (Guanajuato) (Art)
Valerie Tryon/L.R.A.M., F.R.A.M., A.R.C.M., Artist In Residence/part-time (Music)

Assistant Professors
Susan Fastl/B.M. (Western Washington), M.A., Ph.D. (Iowa) (Music)
Stephen B. Johnson/B.A., B.Guelph, M.A. (Toronto), Ph.D. (New York) (Drama)
Keith W. Kinder/Dip. F.A. (Calgary), B.Mus. (Western), M.Mus. (Northwestern), Ph.D. (Colorado) (Music)
Niamh O’Langhaidh/B.A., M.A., Ph.D. (Toronto)
William Renwick/B.Mus. (British Columbia), Ph.D. (CUNY), A.A.G.O., F.R.C.C.O. (Music)

Lecturers
Elizabeth Horton Sharf/B.A. (Wellesley College), M.A. (Michigan) (Art History)
Elizabeth M. Inman/B.A. (London) (Drama)

Instructors
Taras Cymbalisty/B.A. (McMaster)/part-time (Drama)
Doreen DelVecchio/B.A., M.A., Ph.D. (McMaster)/part-time (Drama)
Jean Maddison/M.F.A. (Royal College of Art, London)/part-time (Art)
Barbara Michel/B.A., M.A., Ph.D. (Toronto)/part-time (Drama)
Viv Moore/B.F.A. (York)/part-time (Drama)
Kim Nessa/B.A. (McMaster), M. Litt. (Edinburgh), M.M.S. (Toronto)/part-time
\Art Gallery Director and Curator
Jean Rosenfield/B.A. (McMaster), B.A. (Carleton), M.A. (York)/part-time (Art)
Gord Smith/R.C.A. (Sir George Williams)/part-time (Art)

Part-time Faculty (Music)
Norma Ashcroft
Terry Basom/B.Mus.Ed. (Kansas), M.Mus. Ed. (North Texas)
Angela Elster/B.Mus. Ed. (Toronto)
Roger Flock
Paul Grimmow/B.Mus. (Western)
Sharyn Hall/A.Mus., B.A., M.A., Ph.D. (Toronto)
John Packer/B.A. (McMaster)

Instructors (Music)
Elise Bédard/B.Mus., L.Mus., M.Mus. (McGill)/voice
Cécile Bédard-Dunn/B.Mus. (Collège de Marie de l’Incarnation), M.M. (Montreal)/piano
Greg Bush/jazz band
Lita Classen/B.Mus. (Ottawa), M.Mus. (Vincent d’Indy Montreal)/Dipl. Per. (Vienna)/voice
Marc Donatelle/B.M. (Northwestern), M.M. (Southern California)/trombone
Paul Elliott/B.Mus. (Oberlin), M.M. (New England Conservatory)/flute
Don Englert/jazz saxophone
Robert Eriensdon/jazz piano
Roger Flock/percussion
David Gerry/A.R.C.T., B.Mus. (Toronto), Dipl. Ped. (Japan)/flute
Tanya Gernburs/B.A., M.A. (Tashkent)/musicianship
Paul Grimmow/B.Mus. (Western)/harpsichord & organ
Marta Hidy/Dip. Perf. (Budapest), F.R.H.C.M. (Hon.)/violin
Willy Jarvis/electric bass
Zdenek Konick/Dipl. Music, M.A. (Prague)/cello
Jeffrey McFadden/B.Mus. (Western), Mus. M. (Toronto)/guitar
William Moolenaar/A.R.C.T., B.Sc., M.Sc. (Guelph)/saxophone
Paul Novotny/electric bass
Marie Peebles/viola
Jon Peterson/Art. Dipl. (Curits)/oboe
Stephen Pierre/Mus. Bacc. (Toronto)/clarinet
Jeff Reynolds/B. Phil. (York), B.Mus. (Calgary), M.Mus. (Victoria), M.A. Ed. (Toronto)/trumpet
Phillip Sarabara/A.R.C.T., B.Mus. (Western)/choir
Suzanne Shulman/flute
Cynthia Szabo/Assoc. Dipl., B.Mus. (Michigan), M.Mus., D.M.A. (Indiana)/piano
Geoff Young/jazz guitar
Alia Zacarelli/piano

Associate Members
Katherine M. D. Dunbabin (Classics) B.A., D. Phil. (Oxford)
Laurie A. Means (English) B.A., M.A. (Arkansas), M.A. Ph.D. (Toronto)
Florigio Minelli (Modern Languages) B.A., M.A. (Western), M.A. (Brown) (Hispanic Studies)
Richard E. Morton (English) B.A. (Wales), B.Litt. (Oxford)
W. Graham Roebeck (English) B.A. (Durham), B.A. (Toronto)/part-time (Drama)
George Thomas (Modern Languages) B.A., B. Phil. (London) Russian
David C. Wilson (Kinesiology) B.Ed. (Bristol), M.A. (York)

ART...

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 Honoura 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 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 allocations have been confirmed in June. Applicants for this course should use the MHA OUAC code.

ART 2A06  PAINTING 1
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 II
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 etched plates 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 2A04 or ART 2A06

ART 3A03  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); onemterm
Prerequisite: ART 2A04 or 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); onemterm
Prerequisite: ART 2A04 or 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); onemterm
Prerequisite: ART 2B04 or 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); onemterm
Prerequisite: ART 2B04 or ART 2B06

ART 3C03  DRAWING III
An exploration of drawing with an emphasis on refining skills and developing personal direction.
One studio practice (three hours); two terms
Prerequisite: ART 2C03

ART 3G06  CURRENT PRACTICES IN THE VISUAL ARTS
An independent study course in conjunction with a series of lectures and critiques by contemporary visual artists and individuals involved in the business of art. The development and realization of a body of self-directed work and a written thesis are requirements of this course. Work will be supervised and critiqued by a committee of studio faculty on an ongoing basis.
Three hours; two terms
Prerequisite: Registration in Level III of any Honours programme in Art

ART 3P03  ADVANCED PRINTMAKING I
Continuation of Art 2F06 with a more in-depth investigation of lithographic print techniques and emphasis on self-directed work.
Two hours demonstration and one hour independent study (twice weekly); onemterm
Prerequisite: ART 2F04 or ART 2F06

ART 3P03  ADVANCED PRINTMAKING II
Continuation of Art 3P03 with a more in-depth investigation of intaglio and relief print techniques and greater emphasis on self-directed work.
Two hours demonstration and one hour independent study (twice weekly); onemterm
Prerequisite: ART 3P03

ART 4B12  MAJOR STUDIO PROJECT
A summation of independent investigations in the visual arts resulting in a significant body of work, an exhibition, and a written thesis. Work will be supervised and critiqued by a committee of studio faculty on an ongoing basis.
Prerequisite: ART 3G06 and registration in Level IV Honours Art with a grade of at least B- in six units of Level III work in the chosen field
- Antirequisite: ART 4C06

Students wishing to integrate ART 4B12 with ART 4D03 must have a grade of at least A- in a previous course in the chosen field or fields.

ART 4C06  MINOR STUDIO PROJECT
An independent investigation into painting, sculpture, printmaking, drawing or mixed media to be conducted under the supervision of a committee of studio faculty.
Prerequisite: ART 3G06 and registration in Level IV of Combined Honours in Art and Another Subject with a grade of at least B- in six units of Level III work in the chosen field
- Antirequisite: ART 3F06 or 4B12 or registration in 4B12

Students wishing to integrate ART 4C06 with ART 4D03 must have a grade of at least A- in a previous course in the chosen field or fields.

ART 4D03  MEDIA RESEARCH
An independent investigation of studio techniques relevant to the student's individual interest. Work will be supervised and critiqued by a committee of studio faculty.
Prerequisite: Registration in Level IV of any Honours programme in Art with a grade of at least B- in three units of Level III work in the chosen field

Students wishing to integrate ART 4B12 or 4C06 with ART 4D03 must have a grade of at least A- in a previous course in the chosen field or fields.

ART HISTORY ...
Courses and programmes in Art History are administered within the School of Art, Drama and Music of the Faculty of Humanities.

Courses

ART HIST 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

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: ART HST 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

ART HIST 2H03  AESTHETICS
An introduction to some of the main theories of aesthetics, criticism, and the place of art in life and society.
Three lectures; one term
Prerequisite: Registration in Level II and above
Cross-list: PHILOS 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 1580-1790.
Three lectures; one term
Prerequisite: Registration in Level II and above
ART HIST 2X06 THE ART OF THE FILM
An introduction to film style and technique through a detailed critical analysis of major works from the silent period to the present day.
Two lectures, plus one weekly film screening; two terms
Prerequisite: Six units from the Faculty of Humanities, and registration in Level II and above
Cross-list: DRAMA 2X06

ART HIST 3A03 CONTEMPORARY ART
An examination of major developments in painting, sculpture, and other media from World War II to the present together with a review of related critical theory:
Three lectures; one term
Prerequisite: ART HIST 2D03 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 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, Literature or Art History. ART HIST 2K06 is recommended.
Cross-list: COMP LIT 3K03, 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 2K06
Cross-list: DRAMA 3R03

ART HIST 3F03 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 ARCHAIC GREEK ART
The formative period of Greek Art from its rebirth after the Dark Ages to the Persian Wars (ca. 1000-480 B.C.) and its relationship to the art of the Near East.
Three lectures; one term
Prerequisite: ART HIST 2B03
Cross-list: CLASSICS 3H03
Alternates with ART HIST 3G03

ART HIST 3J03 JAPANESE ART
An introduction and discussion of major aspects of the visual arts of Japan.
Three lectures; one term
Prerequisite: Registration in Level II and above
Cross-list: JAPAN ST 3J03
Available only as an elective for students registered in an Art History programme.

ART HIST 3K03 ARTS OF CHINA
An introduction to the arts of China from the Neolithic period to the twentieth century, covering Bronze Age arts, recent archaeological discoveries, Buddhist sculpture, figure and landscape painting, and Chinese calligraphy.
Seminar (two hours); one term
Prerequisite: Registration in Level II and above
Available as an elective only for students registered in an Art History programme.

ART HIST 3L03 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 3S03 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 MODERN 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
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
Cross-list: ART 4A03

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 Department 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 théâtre 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 History 2E03 is recommended.
Alternates with ART HIST 4V03
Enrolment 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 3B33
Offered in alternate years.
Enrolment is limited.

ART HIST 4F03 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.

ART HIST 4F03 ARTS AND SCIENCE
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.

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 course which presently deals with Third World Development includes lectures and exercises on advanced methods of library research and an introduction to computers.
ARTS & SCI 1D06 CALCULUS
This course aims to provide a thorough understanding of the principles and major applications of differential and integral calculus of functions of one variable, as well as an introduction to multivariate calculus and differential equations.

ARTS & SCI 1D06 serves as a prerequisite for all upper level Mathematics, Statistics, Computer Science and Physics courses, for which MATH 1A06 or MATH 1A03 is a prerequisite.

ARTS & SCI 2A06 MODERN WESTERN CIVILIZATION
Development of political, economic, sociological and psychological thought in the writings of such major figures as Hobbes, Rousseau, Adam Smith, Marx, Weber, Keynes, Freud and Skinner. Attention will be given to their treatment of such topics as the nature of man, the concept of human rights, the role of government in the economy, the motivation of human action, and the applicability of scientific method to political, economic and psychological problems.

ARTS & SCI 2D06 PHYSICS
Classical mechanics and special relativity are treated, highlighting the discoveries leading to the quantum theory are surveyed. Laboratory projects will be undertaken.

ARTS & SCI 2R06 STATISTICS: MATHEMATICAL MODELS FOR CHANGE, CHANCE AND ERROR
Probability, distributions, measures of association, tests of significance, mathematical models and other quantitative methods useful in the analysis of variable phenomena, are considered.

ARTS & SCI 3A06 LITERATURE
Literary works drawn from a variety of genres and periods will be examined. The course will focus on the ways in which great writers have treated 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 3B03 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 cultures 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 3C06 INQUIRY TOPIC: CURING SOCIETY
Examination of such issues of health and sickness as the functions of hospitals, attitudes toward illness, and the funding of medical research.

ARTS & SCI 3C06 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 3D03 CREATIVE ARTS I
The nature of a selected art form and its relation to culture and ideas is examined. Close attention is paid to the creative process as a way of understanding the nature of the artistic product.

Not offered in 1996-97.

ARTS & SCI 3D03 CREATIVE ARTS II
Further examination of the creative process by examination of another art form is undertaken.

Prerequisite: ARTS & SCI 3D03

Not offered in 1996-97.

ARTS & SCI 3L03 ISSUES IN ASIAN RELIGIOUS THOUGHT: INDIA
Readings in 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 3S03

ARTS & SCI 3S03 ISSUES IN ASIAN RELIGIOUS THOUGHT: EAST INDIA
Readings in 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

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.

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.

ARTS & SCI 4C12 THESIS
ARTS & SCI 4C06 based on more extensive research.

ASIAN STUDIES

(SEE MINORS AND THEMATIC AREAS OF STUDY)

ASTRONOMY

(SEE PHYSICS AND ASTRONOMY)

BIOCHEMISTRY

Faculty as of January 15, 1996

Chair
G.E. Gerber

Professors Emeriti
Ross H. Hall/B.A. (British Columbia), M.A. (Toronto), Ph.D. (Cambridge)  
Dennis R. McCaffa/B.Sc. (Alberta), M.Sc. (Saskatchewan), Ph.D. (California Inst. of Technology), F.C.I.C.

Professors
Vettel S. Anantharayanan/M.Sc., Ph.D. (Madras)  
Russell A. Bell/M.Sc. (Wellington), M.S. (Wisconsin), Ph.D. (Stanford), F.C.I.C., Professor of Chemistry  
Luis A. Brandas/B.Sc., D.Sc. (Uruguay)  
John P. Capone/B.Sc. (Western), Ph.D. (McMaster)  
William W. Chan/A.M., Ph.D. (Cambridge)  
Richard M. Epand/AB.  
John A. Hassell/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)  
Calvin B. Harley/B.Sc. (Waterloo), Ph.D. (McMaster)/part-time  
Daniel S. Yang/B.Sc. (Alberta), Ph.D. (Pittsburgh)  

Assistant Professors
Albert M. Berghuis/M.Sc. (Groningen, The Netherlands), Ph.D. (British Columbia)  
Douglas W. Bryant/B.Sc. (McGill), M.Sc., Ph.D. (York)/part-time  
Corinne G. Lobe/B.Sc., Ph.D. (Alberta)  
Gerald D. Wright/B.Sc., Ph.D. (Waterloo)  

Cross-list: RELIG ST 3S03

BIOCHEMISTRY 139
Courses

If no prerequisite is listed, the course is open.

**BIOCHEM 2A06 PRINCIPLES OF BIOCHEMISTRY**
An overview of biochemical processes emphasizing the importance of structure, function, reactivity and energetics of molecules in biological systems. Designed for students intending to proceed to Level III Biochemistry courses.

Three lectures or tutorial; two terms
Prerequisite: Credit or registration in one of CHEM 2B06, 2B06, 206, and registration in an Honours Biochemistry programme or Honours Molecular Biology and Biotechnology.
Antirequisite: BIOCHEM 2E03, 3G03, 3G03

**BIOCHEM 2E03 ELEMENTARY BIOCHEMISTRY**
A treatment of the basic areas of biochemistry, including physiological biochemistry. Designed for students who do not intend to pursue biochemistry.

Three lectures; second term
Prerequisite: Credit or registration in one of CHEM 2D03, 2B06, 206
Antirequisite: BIOCHEM 2A06, 3A03, 3A03, 3G03, 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: BIOCHEM 2A06, or BIOCHEM 3G03 and 3G03
Antirequisite: BIOCHEM 3A03, BIOLOGY 3403

**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: BIOCHEM 2A06, or BIOCHEM 3G03 and credit or registration in BIOCHEM 3G03.
Antirequisite: BIOCHEM 3A03 (except for students in Honours Biochemistry Co-op programme in 1996-97)

**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; one term
Prerequisite: BIOCHEM 2A06, or BIOCHEM 3G03 and 3G03

**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: Enrolment in Level III of Honours Science (Environmental Science Option)
Antirequisite: BIOCHEM 3L03
First offered in 1997-98.

**BIOCHEM 3G03 BIOCHEMISTRY OF MACROMOLECULES**
Chemical and conformational properties of proteins and relationships to their function including regulation of enzyme activity. Chemical and physical structure of DNA and RNA relevant to biological function.

Three lectures; first term
Prerequisite: CHEM 2B06 or 206
Antirequisite: BIOCHEM 2A06, 2E03, 3A03, 3A03
Students who receive special permission to register in this course after completing BIOCHEM 2E03 will not retain credit for BIOCHEM 2E03 on completion of this course.

**BIOCHEM 3G03 METABOLISM AND HUMAN PHYSIOLOGICAL BIOCHEMISTRY**
Production of energy by cells and its utilization to maintain their structure and function. The integration and control of biochemical processes in healthy cells, tissues, organs and the whole body.

Three lectures; second term
Prerequisite: BIOCHEM 3G03 and BIOLOGY 1A06; or either CHEM 2B06 or 206 with a grade of at least B and permission of the instructor
Antirequisite: BIOCHEM 2A06, 3E03, 3A03, 3A03

**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 3G03

**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 and Biotechnology programme.
Antirequisite: BIOCHEM 3G03, 3G03 and registration in Honours Biological Chemistry.
Antirequisite: BIOCHEM 3E03

**BIOCHEM 3N03 NUTRITION AND METABOLISM**
Study of nutritional biochemistry and the regulation of metabolism; the role of specific nutrients in functional processes of the body in health and disease.

Three lectures; one term
Prerequisite: BIOCHEM 2A06, or BIOCHEM 3G03 and 3G03

**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: BIOCHEM 4L03; BIOLOGY 3V03
Enrolment 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
Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

**BIOCHEM 4B06 SENIOR THESIS**
A thesis based on a project directly supervised by a member or associate member of the Department of Biochemistry.

Three labs (three hours); two terms
Prerequisite: BIOCHEM 3P03, or BIOLOGY 3V03 and registration in an Honours Biochemistry or Molecular Biology and Biotechnology program.
Students must have a CA of at least 9.5. Permission of the Department is required by March 31.
Antirequisite: BIOCHEM 4L03, 4P03
Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

**BIOCHEM 4C03 BIOCHEMISTRY INQUIRY**
Broader aspects of biochemistry such as those relating to food, drugs, health and environment discussed in small groups. Group and individual projects, seminars and lectures as appropriate to the subject matter.

Three hours; one term
Prerequisite: Registration in Level IV of Honours Biochemistry (Complementary Studies Option); or one of BIOCHEM 2A06, 2E03 or 3G03 and registration in the Complementary Studies programme and permission of the instructor.
Antirequisite: BIOCHEM 4A03
Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

**BIOCHEM 4D03 BIOCHEMISTRY AND GENETIC ENGINEERING**
Theory, methods and applications in genetic engineering and biotechnology with emphasis on recombinant DNA, hybridomas, engineered organisms, and fermentation processes.

Three lectures; first term
BIOLOGY 141

BIOLOGY 4E03 GENE EXPRESSION
Advanced course covering current concepts and strategies of molecular mechanisms of eukaryotic gene expression and regulation at the transcriptional, post-transcriptional, translational and post-translational levels. Three lectures; second term
Prerequisite: BIOCHEM 3A03, 3G03 and 3GG3
Prerequisite: (Beginning in 1997-98) One of BIOCHEM 3B03, 3G03 and 3GG3

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); one term
Prerequisite: Registration in an Honours Biochemistry or Molecular Biology and Biotechnology programme and one of BIOCHEM 3P03, BIOLOGY 3H03 and one of BIOCHEM 3A06, 3G03

BIOCHEM 4H03 ASPECTS OF MACROMOLECULES
The molecules of the immune system will be examined in detail. Topics will include the regulation, biosynthesis and structure of immunoglobulins. Major histocompatibility complex, loci products and T cell receptors. One tutorial (three hours); one term
Prerequisite: One of BIOCHEM 3A03, 3G03 and one of CHEM 3D03, 3F03 or registration in Honours Biochemistry Co-op program
Prerequisite: (Beginning in 1997-98) BIOCHEM 3B03, 3B33 and one of CHEM 3D03, 3F03

BIOCHEM 4J03 BIOCHEMICAL IMMUNOLOGY
The 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 programme or Year 4 of Honours Biochemistry Co-op programme or BIOCHEM 3G03 and 3GG3

BIOCHEM 4K03 STRUCTURAL AND MECHANISTIC ASPECTS OF MACROMOLECULES
Prerequisite: One of BIOCHEM 3A03, 3G03 and one of CHEM 3D03, 3F03 or registration in Honours Biochemistry Co-op program
Prerequisite: (Beginning in 1997-98) BIOCHEM 3B03, 3B33 and one of CHEM 3D03, 3F03

BIOCHEM 4L03 ADVANCED BIOCHEMISTRY LABORATORY
Fundamental principles of experimental biochemistry with emphasis on modern methods in enzymology and molecular biology. Two labs (four hours); one term
Prerequisite: BIOCHEM 3L03 and either BIOCHEM 3A03 or both BIOCHEM 3B03 and 3B33
Antirequisite: BIOCHEM 3P03, 4B06, 4G03

BIOCHEM 4M03 MEMBRANE STRUCTURE AND FUNCTION
Chemical structure and molecular organization of membrane constituents. Three lectures; first term
Prerequisite: Registration in Level IV of an Honours Biochemistry programme or Year 4 of Honours Biochemistry Co-op programme or BIOCHEM 3G03 and 3GG3

BIOCHEM 4P03 RESEARCH PROJECT
A research project will be supervised by a member or associate member of the Department of Biochemistry. Three labs (three hours); one term
Prerequisite: One of BIOCHEM 3A03 or 3G03 and 3GG3, and one of BIOCHEM 3P03, BIOLOGY 3V03, and registration in an Honours Biochemistry or Molecular Biology and Biotechnology programme. Permission of the Department is required by March 31
Antirequisite: BIOCHEM 4B06
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 programme or Year 4 of Honours Biochemistry Co-op programme; or BIOCHEM 3G03 and 3GG3
Antirequisite: BIOLOGY 9AA3

BIOLOGY
Faculty as of January 15, 1996
Chair
B.N. White

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. Kershawi/B.Sc. (Manchester), Ph.D. (N. Wales), D.Sc. (Wales), F.R.S.C.
Stanley Mak/M.Sc., (Saskatchewan), Ph.D. (Toronto)
B. Ann Oakes/B.A. (Toronto), M.A., Ph.D., (Saskatchewan), F.R.S.C.
Iwao Takahashi/B.A. (Hakodate), M.S.A. (Kyushu). Ph.D. (Montreal)

Dr. John F. Treasure/M.Sc., Ph.D. (Cambridge)
James E.M. Westemann/B.Sc. (Western), M.A. (Mount Holyoke), Ph.D. (Toronto)

Professors
Turlough Finan/B.Sc., M.Sc. (Galway, Ireland), Ph.D. (Guelph)
Frank L. Graham (Pathology), M.A., Ph.D. (Toronto)
John A. Hassell/B.Sc. (Brooklyn College), Ph.D. (Connecticut)

John N.A. Lotti/B.Sc. (British Columbia), M.S., Ph.D. (California, Davis)
D. Gordon McDonald/B.Sc. (Western), M.Sc., Ph.D. (Calgary)
Richard A. Morton/M.S., Ph.D. (Chicago)

Colin A. Nurse/B.E.Sc. (Western), Ph.D. (Harvard)
Michael J. O'Donnell/B.Sc., Ph.D. (Toronto)

Andrew J. Rainbow/Radiology B.Sc. (Manchester), M.Sc., Ph.D. (London), (McMaster)

Rama S. Singh/B.Sc., M.Sc. (Kanpur), Ph.D. (California, Davis)

George J. Sager/B.Sc. (McGill), M.S., Ph.D. (Yale)

Emöke J.E. Szathmary/B.A., B.Sc. (Toronto)

Bradley N. White/B.Sc. (Nottingham), Ph.D. (McMaster)

Christopher M. Wood/B.Sc., M.Sc. (British Columbia), Ph.D. (East Anglia)

Associate Professors
Patricia Chow-Fraser/B.Sc., M.Sc. (Waterloo), Ph.D. (Toronto)

Allan D. Dingile/B.Sc., M.Sc. (McMaster), M.Sc. (Illinois), Ph.D. (Brandeis)

G. Brian Golding/B.Sc. (Dalhousie), Ph.D. (Alberta)

Deeworth G. Hamish/B.Sc., M.Sc. (Queen's), Ph.D. (McMaster)

J. Roger Jacobs/B.Sc. (Calgary), M.Sc., Ph.D. (Toronto)

Jurek Kolasa/M.Sc., Ph.D. (Poznan)

James S. Pringle/Royal Botanical Gardens, A.B. (Dartmouth), M.S. (New Hampshire), Ph.D. (Tennessee), part-time

C. David Rolla/B.Sc., M.Sc. (Guelph), Ph.D. (British Columbia)

Herbert E. Schellhorn/B.Sc., M.Sc. (Guelph), Ph.D. (North Carolina)

Elizabeth A. Weeratilky/B.Sc., Ph.D. (Alberta)

Assistant Professors
Ana Campos/B.A., M.A. (Rio de Janeiro), Ph.D. (Brandeis)

Susan A. Dudley/B.Sc., M.Sc. (McGill), Ph.D. (Chicago)

H. Lisle Gibbs/B.Sc. (Queen's), M.Sc., Ph.D. (Michigan)

James S. Quinn/B.Sc. (Queen's), M.Sc. (Brock), Ph.D. (Oklahoma)

Instructional Assistants
Marvin Gunderman/B.Sc., M.Sc. (McMaster)

Thelma Leech/B.Sc., M.Sc. (Guelph)

Beryl Piccinin/B.Sc. (Mount Allison), M.Sc. (McMaster)

Raymond Procwat/B.Sc. (McMaster), B.Ed. (Toronto)

Courses
If no prerequisite is listed, the course is open.

BIOLOGY 1A06 ADAPTATION IN THE BIOLOGICAL WORLD
A course in introductory Biology which stresses the adaptation of form and function at the levels of molecules, cells, organisms and populations. Three lectures, one lab (three hours); two terms
Prerequisite: Registration in one of Natural Sciences 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 1A05 strongly recommended. CHEM 1A06 is a prerequisite for many Biology courses in Level II, III, and IV. OAC Biology is strongly recommended.
Corequisite: SCIENCE 1A00

BIOLOGY 1J03 HUMAN PHYSIOLOGY
Physiology of respiration, circulation, energy and muscle metabolism and reproduction. Three lectures; one term
Antirequisite: Registration in Natural Science I or in any Biology, Biochemistry or Molecular Biology and Biotechnology 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 1A06, CHEM 1A06

BIOLOGY 2C03 GENETICS
Structure, function and transmission of genes; chromosomal basis of inheritance; mono- and dihybrid crosses; sequential steps in gene function; linkage maps; sex chromosome inheritance. Three lectures, or two lectures and one tutorial (three hours); one term
Prerequisite: BIOLOGY 1A06, CHEM 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 1A06 or ENVIR SC 1A06

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 1A06 or ENVIR SC 1A06

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 1A06 or ENVIR SC 1A06

BIOLOGY 3A03 FUNDAMENTAL CONCEPTS OF PHARMACOLOGY
Drug interaction with living organisms; receptor theory of drug action; drug absorption, elimination, toxicity, design; individual variations in drug action; drug-drug interactions; society and drugs. Three lectures, or two lectures, one tutorial; one term
Prerequisite: CHEM 2B06 or 2B07, and credit or registration in one of BIOLOGY 3P03, 3U03, 3U04, and credit in one of BIOCHEM 2A06, 3A06 or 3G06. Registration in one of BIOCHEM 3A03 or 3G03 is recommended.

BIOLOGY 3B03 PLANT PHYSIOLOGY
Principles of physiology and plant cell metabolism. Topics include: photosynthesis, photorespiration, mineral nutrition, water relations and transpiration. Two lectures, one lab (three hours); one term
Prerequisite: BIOLOGY 2B03 and 2D03

BIOLOGY 3B03 STRUCTURE AND DEVELOPMENT OF PLANT CELLS
Ultrastructure, development and function of plant cells, and tissues. Two lectures, one lab (three hours); one term
Prerequisite: BIOLOGY 2B03 and 2D03

BIOLOGY 3C03 MICROBIAL PHYSIOLOGY AND REGULATION
Study of prokaryotic cellular functions including regulation of metabolism, basic energy-yielding pathways, morphology and reproduction. Three lectures, or two lectures, one tutorial; one term
Prerequisite: BIOLOGY 3B03

BIOLOGY 3D03 VERTEBRATE ANATOMY
An introduction to the development of structure and function in vertebrates. Two lectures, one lab (three hours); one term
Prerequisite: BIOLOGY 2E03

BIOLOGY 3E03 EVOLUTION
An introduction to macroevolution, with emphasis on speciation, biological diversity, rates of evolution and comparative methods (molecules vs. morphology). Three lectures, or two lectures, one tutorial; one term
Prerequisite: BIOLOGY 2C03. BIOLOGY 3U03 is highly recommended.

BIOLOGY 3F03 MOLECULAR BIOLOGY OF THE NUCLEUS
Structure of the nucleus and of chromatin; organization of DNA sequences; DNA replication, transcription, gene expression; some relevant techniques. Three lectures, or two lectures and one lab (three hours); one term
Prerequisite: BIOLOGY 2B03

BIOLOGY 3H03 ORGANIZATION OF THE CYTOPLASM
A detailed examination of the molecular organization and function of cytoplasmic structures in metazoa, with particular focus on the differentiation and specialization of the cell surface and the cytoskeleton. Three lectures, or two lectures, one tutorial; one term
Prerequisite: BIOLOGY 2B03

BIOLOGY 3I03 EUKARYOTIC GENETICS
The genetics of eukaryotic organisms. Experimental problems in gene transmission, interaction and polymorphism. Linkage, recombination, and chromosome structure; sex determination. Two lectures, one tutorial; one term
Prerequisite: BIOLOGY 2B03 and 2C03

BIOLOGY 3J03 POPULATION GENETICS
Conceptual foundations of evolutionary theory and principles of population genetics. Three lectures or two lectures, one tutorial; one term
Prerequisite: BIOLOGY 2C03

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. Two lectures, or two lectures and one tutorial; one term
Prerequisite: One of PHYSICS 1A06, 1B06, 1C06 or permission of the instructor

BIOLOGY 3M03 EMBRYOLOGY
Descriptive and experimental studies of animal development, including: gametogenesis; fertilization; cell proliferation, migration, and selective cell associations; inductive interactions; organogenesis; regeneration. Two lectures, one lab (three hours); one term
Prerequisite: BIOLOGY 2E03

BIOLOGY 3N03 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 3P03 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 is strongly recommended.

BIOLOGY 3Q03 CELLS PHYSIOLOGY
Analysis of cell function with an emphasis on electrical properties, ion transport proteins, signalling via second messengers, mechanisms of cell homeostasis, and epithelial transport. Two lectures, one tutorial; one term
Prerequisite: BIOLOGY 2B03; credit or registration in one of BIOCHEM 3A03 or 3G03

BIOLOGY 3R03 FIELD BIOLOGY
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 1A06 or ENVIR SC 1A06 and acceptance into a specific module

BIOLOGY 3S03 POPULATION ECOLOGY
Population structure and dynamics. Natural selection and regulation of organisms by environmental and biological factors. An evolutionary view of population, competition, life-history schedules. Two lectures, one tutorial; one term
Prerequisite: BIOLOGY 2F03; or permission of the instructor. One of COMP SCI 1MA3, 1MC3, 1SA3, 1ZA3 and one of STATS 2MA3 or 2R06 are highly recommended.
BIOLOGY 3TT3 COMMUNITY ECOLOGY
Community structure, succession; patterns of diversity and their relevance to conservation; elements of biological control; energy flow; nutrient cycling and climate influences.
Two lectures, one lab (three hours); one term.
Prerequisite: BIOLOGY 2F03. One of BIOLOGY 2D03 or 2E03 and one of COMP SCI 1MA3, 1MC3, 1SA3, 1ZA3 and one of STATS 2MA3 or 2R06 is 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 3G03 and 3G33 are recommended.
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 gastrointestinal physiology.
Two lectures, one lab/tutorial (three hours); one term.
Prerequisite: BIOLOGY 2B03 and permission of the instructor. BIOCHEM 3G03 and 3G33 are recommended.
Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar

BIOLOGY 3V03 TECHNIQUES IN MOLECULAR GENETICS
A laboratory course involving basic experiments in Molecular Genetics.
One lecture, two labs (three hours each); one term.
Prerequisite: Credit or registration in BIOLOGY 3003
Antirequisite: BIOCHEM 3P03

BIOLOGY 3X03 INTRODUCTORY IMMUNOLOGY
An introduction to humoral and cellular immunity. The molecular and cellular basis of immunity, and an introduction to immunological techniques.
Two lectures, one tutorial (two hours); one term.
Prerequisite: Biology 2B03 and 2C03
Antirequisite: Biology 4103

BIOLOGY 3Y03 PLANT DEVELOPMENT
An analysis of development in plants: cytological, genetical and biochemical studies.
Three lectures; one term.
Prerequisite: BIOLOGY 2B03, 2C03 and 2D03. BIOLOGY 3BB3 is recommended.
Antirequisite: BIOLOGY 4H03

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 3TT3, 3SS3 or 3J03

BIOLOGY 4AA3 CONSERVATION BIOLOGY
Examination of how biological principles, mainly from population biology and genetics can be applied to conserving diversity in the natural world.
Two lectures, one tutorial (three hours); one term.
Prerequisite: BIOLOGY 2C03 and one of BIOLOGY 3J03, 3SS3 or 3TT3. Students with credit in BIOLOGY 4A03 must obtain permission of the instructor.

BIOLOGY 4B03 PLANT METABOLISM AND MOLECULAR BIOLOGY
Analysis of plant cell metabolism and the regulation of metabolism at the biochemical and molecular genetic level.
Three lectures; one term.
Prerequisite: Credit in BIOCHEM 2A06 or 3G03. BIOLOGY 3H03 and 3B03 are recommended.
Offered in alternate years.
Offered in 1996-97.

BIOLOGY 4C09 SENIOR THESIS
A thesis based upon a research project 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
Antirequisite: BIOLOGY 4F06, PSYCH 4D06, or PHARMAC 4F09
See the heading Courses Requiring Permission in the Faculty of Science section of the Calendar

BIOLOGY 4D03 MOLECULAR EVOLUTION
The study of how molecules change over time within and between species. The experimental data, techniques and theories will be examined.
Three lectures, or two lectures, one tutorial; one term.
Prerequisite: BIOLOGY 3J03
Offered in alternate years.
Offered in 1996-97.

BIOLOGY 4EE3 THE SCIENCE AND POLITICAL OF HUMAN NATURE
The nature of genetic diversity in humans; the nature versus nurture debate in relation to genetic determinism and biological basis of behaviour.
Lectures and seminars (three hours); one term.
Prerequisite: BIOLOGY 2C03 and one of BIOLOGY 3J03, 3FF3, ANTHROP 2E03

BIOLOGY 4FF6 SENIOR PROJECT
Students may enlarge their background in a field of specialization through an experimental library project under the direction of a member of the Faculty.
Prerequisite: Registration in a Level IV Biology Programme and permission of the Chair
Antirequisite: BIOLOGY 4C09 or PSYCH 4D06
See the heading Courses Requiring Permission in the Faculty of Science section of the Calendar

BIOLOGY 4F03 BIOLOGY INQUIRY
This course will provide students with an opportunity to develop skills required to launch broadly-based investigations of selected biological themes.
Small groups will meet to define areas of interest, to discuss component problems, and give seminars on the chosen topics.
Seminar and discussions (three hours); two terms.
Prerequisite: Registration in Honours Biology (Complementary Studies Option), Honours Biochemistry (Complementary Studies Option), or Honours Science (Complementary Studies Option) and permission of the instructor
Antirequisite: BIOLOGY 4C09, 4F06
See the heading Courses Requiring Permission 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 2F03 or 3K03, or at least B+ in BIOLOGY 3E03 and co-registration in BIOLOGY 3F03 and 3K03. These are minimum requirements; 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
Offered in alternate years.
Offered in 1996-97.

BIOLOGY 4H03 GENETIC ANALYSIS OF BEHAVIOUR
Selected topics in behaviour will be examined at the genetic and molecular level. Topics will include circadian rhythms, courtship behaviour, twin studies, learning and memory.
Two lectures, one tutorial; one term.
Prerequisite: BIOLOGY 3I03, PSYCH 2F03, 3R03, and BIOLOGY 3H03 are recommended.

BIOLOGY 4I03 ADVANCED TOPICS IN IMMUNOLOGY
This course allows students to build on and put into practice their previous knowledge of the immune system by solving typical immunological problems.
Two lectures, one tutorial; one term.
Prerequisite: BIOLOGY 4103 or 3X03

BIOLOGY 4J03 FIELD BIOLOGY II
A second field module chosen from those offered by faculty from McMaster and other Ontario Universities' Biology Departments. This module must differ from any completed for credit in Biology 3R03. Available modules are posted in January of each year. Content and schedules vary annually. Students enrolling in this course must pay both the incidental fees, as prescribed by the Department, and the regular tuition fees.
Prerequisite: BIOLOGY 1A06 or ENVIR SCI 1A06 and acceptance into a specific module

BIOLOGY 4L09 SENIOR THESIS FOR CO-OP STUDENTS
A thesis based upon a research project carried out under the direction of a member of the Biology Department.
Prerequisite: Registration in the Honours Biology and Pharmacology Co-op programme. Approval of the project must be obtained from the Programme Director and the Chair of the Department by the end of preregistration.
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 3003 and either BIOCHEM 2A06 or both BIOCHEM 3G03 and 3GG3

BIOLOGY 4P03  MEDICAL MICROBIOLOGY
Bacterial diseases: identification, epidemiology and treatment.
Three lectures, or two lectures, one tutorial; one term
Prerequisite: BIOLOGY 3E03
Offered in alternate years.
Not offered in 1996-97.

BIOLOGY 4PP3  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
A comprehensive study of the human genome from the basic science of genetics to the practice of genetic medicine. Topics include the human chromosomes, their normal and pathological constitutions; the human genome project; gene mapping and linkage analysis; and gene therapy.
Two lectures, one tutorial (two hours); one term
Prerequisite: Credit or registration in Biology 3/03
Offered in 1996-97.

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. BIOLOGY 3HH3 and one of BIOLOGY 3UU3, PSYCH 2F03, 3F03, 3FF3, 3FA3, 3FB3 are strongly recommended.
Offered in alternate years.
Offered in 1996-97.

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 3A03 or 3G03

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.
Not offered in 1996-97.

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 2D03, one of BIOLOGY 2D03 or 2E03, and one of BIOLOGY 3S03 or 3TT3

PHARMAC 4B03  DRUGS AND BEHAVIOUR
Behavioural measures to study drug action and the use of drugs to study the organization and physicochemical mechanisms in normal and abnormal behaviour.
One tutorial (three hours); one term
Prerequisite: PHARMAC 3A06 or BIOLOGY 3A03

BUSINESS
(SEE COMMERCE)

CANADIAN STUDIES
(SEE MINORS AND THEMATIC AREAS OF STUDY)

CAYUGA
(SEE INDIGENOUS STUDIES)

CHEMICAL ENGINEERING
Faculty as of January 15, 1996

Chair
P.E. Wood

Professors Emeriti
Alvin E. Hamielec/B.A.Sc., M.A.Sc., Ph.D. (Toronto), F.R.S.C., F.C.I.C., P.Eng./NSERC Industrial Research Chair in Polymer Production Technology

Professors
John L. Brash/B.Sc., Ph.D. (Glasgow), D.Hon.C. (Paris Nord)
James M. Dickson/B.A.Sc., M.A.Sc. (Waterloo), Ph.D. (Virginia Tech.)
Irwin A. Feuerstein/B.Chem. Eng. (City College of New York), M.S. (Newark College of Engineering), Ph.D. (Massachusetts)
Andrew N. Hrymak/B.Eng. (McMaster), Ph.D. (Carneige Mellon)
Thomas E. Martin/B.S. (State University of New York), M.S. (Dayton), Ph.D. (Massachusetts)/NSERC Industrial Research Chair in Process Control

Robert H. Pelton/B.Sc., M.Sc. (Guelph), Ph.D. (Bristol)
Paul A. Taylor/B.Sc., Ph.D. (Univ. of Wales), P.Eng.
Joseph D. Wright/B.Sc. (Alberta), Ph.D. (Cambridge), P.Eng./part-time

Assistant Professors
Elizabeth A. Edwards/B.Eng., M.Eng. (McGill), Ph.D. (Stanford)
Shiping (Stephen) Zhu/B.Eng. (Zhejiang), Ph.D. (McMaster)

Department Note:
All Chemical Engineering courses are open to students registered in a Chemical Engineering programme, subject to prerequisite requirements.
Prior permission of the Department is necessary for students from other Engineering departments and other faculties.

Courses
CHEM ENG 2A04  HEAT TRANSFER
Heat transfer in chemical engineering systems. Steady and unsteady state conduction, natural and forced convection, radiant heat transfer, condensation of vapour and boiling.
Three lectures, one tutorial (two hours); second term
Corequisite: CHEM ENG 2F04
CHEM ENG 2C02 TECHNICAL COMMUNICATIONS AND MEASUREMENTS
How to obtain, interpret, store, retrieve, manipulate and communicate information. T.V. tapping to improve verbal communication, searching the literature, organization, laboratory measurements and treatment of data. One lecture, first term; one lab (three hours), both terms, alternate weeks
Prerequisite: Registration in Level II Chemical Engineering or Chemical Engineering and Management or Chemical Engineering and Society

CHEM ENG 2D04 CHEMICAL ENGINEERING PRINCIPLES I
Steady-state mass balances in chemical processes and the first law of thermodynamics. The behaviour of gases and liquids, and their physical equilibria. Recycle in steady state operation.
Three lectures, one tutorial (three hours); first term
Prerequisite: Registration in Level II Chemical Engineering or Chemical Engineering and Management or Chemical Engineering and Society or Honours Applied Chemistry

CHEM ENG 2F04 CHEMICAL ENGINEERING PRINCIPLES II
Combined mass and energy balances in the steady and unsteady state.
The second law of thermodynamics and physical chemical equilibria.
Introduction of process simulation packages.
Three lectures, one tutorial (two hours); first term
Corequisite: CHEM ENG 2C02, 2D04

CHEM ENG 2G02 PROBLEM SOLVING
Developing awareness, strategies, creativity, analysis and interpersonal skills in the context of solving homework problems and projects.
Two tutorials (two hours); first term
Prerequisite: CHEM ENG 2G02

CHEM ENG 3D03 CHEMICAL ENGINEERING THERMODYNAMICS
Review of the total energy balance, mechanical energy balance and thermodynamics of one component system. Chemical reaction and phase equilibria of multicomponent systems, with emphasis on non-ideality.
Two lectures, one tutorial (two hours); first term
Prerequisite: CHEM ENG 2F04

CHEM ENG 3E04 PROCESS MODEL FORMULATION AND SOLUTION
Formulation of models for various chemical processing units in the steady and unsteady states. Techniques for numerical solution of model equations, including algebraic and ordinary differential equations, both linear and non-linear.
Three lectures, one tutorial (one hour), every week; first term
Prerequisite: CHEM ENG 2F04

CHEM ENG 3G03 SIMULATION, MODELLING AND PROBLEM SOLVING
Executive programs modelling heat exchangers, separators and reactors. Creativity, analysis, heuristics and defining open-ended problems.
One lecture, two tutorials (two hours); second term
Prerequisite: CHEM ENG 2G02 and registration or credit in CHEM ENG 2A04, 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 or registration or credit in CHEM ENG 3D03, 3M04, 3P03

CHEM ENG 3M04 MASS TRANSFER AND STAGewise OPERATIONS
Stagewise operations, diffusion, mass transfer coefficients, distillation, differential contacting and absorption.
Three lectures, one tutorial (two hours); first term
Prerequisite: CHEM ENG 2F04

CHEM ENG 3Q04 FLUID MECHANICS
The laws of statics and dynamics in both compressible and incompressible fluids. Equations of conservation and modern turbulence and boundary layer theory applied to submerged and conduit flow. Similitude, unsteady flow, measuring devices and fluid machinery.
Three lectures, one tutorial (three hours); first term
Prerequisite: MATH 2M06, or MATH 2P04 and 2Q04, any of which may be taken concurrently

CHEM ENG 3P03 PROCESS CONTROL
Transient behaviour of chemical processes. Theory and practice of automatic control. Introduction to computer process control.
Two lectures, one tutorial (two hours); second term
Prerequisite: MATH 2M06, and registration or credit in CHEM ENG 2A04, 3E04, 3K04, 3M04

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: CHEM ENG 2C06 or 2B06 or 2D03

CHEM ENG 4B03 POLYMER REACTION ENGINEERING
Three lectures; first term
Prerequisite: CHEM ENG 3K04 and 3Q03

CHEM ENG 4C03 STATISTICS FOR ENGINEERS
Linear regression analysis in matrix form, non-linear regression, multi-response estimation, design of experiments including factorial and optimal designs. Special emphasis on methods appropriate to engineering problems.
Three lectures; second term
Prerequisite: One of STATS 3M03, 3N03, 3Y03

CHEM ENG 4E03 MODELLING AND CONTROL OF CHEMICAL PROCESSES
Modelling, simulation and control of complex process structures (series, parallel, recycle, staged and multivariable) with consideration to applying control, including model-based algorithms, via digital computation.
Three lectures; first term
Prerequisite: CHEM ENG 3E04, 3G03, 3K04, 3M04, 3P03

CHEM ENG 4K03 REACTOR DESIGN FOR HETEROGENEOUS SYSTEMS
Catalytic kinetics, mass transfer limitations, packed and fluidized bed reactors, two phase reactors.
Three lectures; second term
Prerequisite: CHEM ENG 3K04

CHEM ENG 4L02 ADVANCED LABORATORY SKILLS
Experiments and projects in transport phenomena, reaction kinetics, reactor design and process control with appropriate data analysis and report writing.
One lab (three hours), one lecture; first term
Prerequisite: CHEM ENG 3L02, and registration in Level IV Chemical Engineering or Chemical Engineering and Management or Chemical Engineering and Society

CHEM ENG 4M03 SEPARATIONS
Distillation column design; transport phenomena, laminar, turbulent and unsteady state mass transfer; analogies; absorption, extraction, adsorption, ion exchange, drying, humidification, crystallization.
Three lectures; first term
Prerequisite: CHEM ENG 2A04, 3D04, 3M04

CHEM ENG 4N04 ENGINEERING ECONOMICS AND PROBLEM SOLVING
Three lectures, one tutorial (two hours); first term
Prerequisite: CHEM ENG 3G03, 3K04, 3P03
Antirequisite: ENG/ENR 4803

CHEM ENG 4T03 APPLICATIONS OF CHEMICAL ENGINEERING IN MEDICINE
Applications of chemical engineering principles to biological systems and medical problems including examples from hemodynamics, blood oxygenation, artificial kidney systems, controlled drug release, biosensors and biomaterials.
Three lectures; second term
Prerequisite: CHEM ENG 3D04, or MECH ENG 3D04, or ENG PHYS 3003

CHEM ENG 4V04 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 and simulation models developed.
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 4X03 POLYMER PROCESSING
An introduction to the basic principles of polymer processing, stressing the development of models. Rheology of polymers, extrusion, molding, films, fibers, and mixing. Reactive processing.
Three lectures; first term
Prerequisite: One of CHEM ENG 2A04 or MECH ENG 3R03 or MATLS 3E06, and one of CHEM ENG 3004 or MECH ENG 3004

CHEM 4Y04 UNDERGRADUATE RESEARCH PROJECT
Research projects with students working on their own under the direction of a Faculty member.
Two labs (three hours); both terms.
The hours assigned can be freely scheduled to suit those involved in a particular project and may include computation classes, laboratory work, discussions, or individual study.
Prerequisite: Level IV Chemical Engineering or Level V Chemical Engineering and Management or Level V Chemical Engineering and Society, and a CA of at least 9.5

CHEM 4Z03 COLLOIDS, SURFACE PHENOMENA
AND UNIT OPERATIONS
The properties of colloids and surfaces and their use in the design of reactors and separators. Includes stability of colloids, double layer phenomena, wetting, flocculation coagulation, surface equations of change, particle size measurements.
Three lectures; second term
Prerequisite: Registration in final level of an Engineering programme

CHEMISTRY
Faculty as of January 15, 1996
Chair
B.E. McCarry

Professors Emeriti
Altof Corini/B.Sc., Ph.D. (McMaster), F.C.I.C.
Donald R. Eaton/M.A., D.Phil. (Oxford)
David A. Humphrey/B.Sc., M.Sc. (London), Ph.D. (McMaster), F.C.I.C.
David B. MacLean/B.Sc. (Acadia), Ph.D. (McGill), F.C.I.C.
Ian D. Spenser/B.Sc. (Brock), Ph.D. (London), F.R.C.S., F.C.I.C.
Richard H. Tomlinson/B.Sc. (Bishops), Ph.D. (McGill), F.C.I.C.

Professors
Alexander D. Bain/B.Sc. (Toronto), M.Sc. (British Columbia), Ph.D. (Cambridge)
Russell A. Bell/B.Sc. (Wellington), M.S. (Wisconsin), Ph.D. (Stanford), F.C.I.C.
Ronald F. Childs/B.Sc. (Bath University of Technology), Ph.D., D.Sc. (Nottingham)
Peter T. Dawson/B.Sc. (Birmingham), Ph.D. (Cambridge)
John E. Greedan/B.A. (Bucknell), Ph.D. (Tufts), F.C.I.C.
Orville E. Hiseman, Jr./B.S.Ed. (Bowing Green State), Ph.D. (Case Institute of Technology), F.C.I.C.
Adam P. Hitchcock/B.Sc. (McMaster), Ph.D. (British Columbia), F.C.I.C.
Joseph D. Laposa/B.Sc. (St. Louis), M.S. (Chicago), Ph.D. (Loyola)
William J. Leigh/B.Sc., M.Sc., Ph.D. (Western), F.C.I.C.
Brian E. McCary/B.Sc. (British Columbia), Ph.D. (Stanford), F.C.I.C.
Michael J. McGlinchey/B.Sc., Ph.D. (Manchester), F.C.I.C.
David P. Santry/B.Sc., Ph.D. (London)
Gary J. Schroben/B.Sc. (Loras College, Iowa), M.Sc. (Brook), Ph.D. (McMaster)
Johan K. Terpou/B.Sc., M.Sc., Ph.D. (Utrecht)
John Warkentin/B.Sc., M.Sc. (Manitoba), Ph.D. (Iowa State), F.C.I.C.
Nick H. Westruik/B.Sc. (Alberta), M.A., Ph.D. (Johns Hopkins), F.C.I.C.

Associate Professors
Jacques Barbiere/M.Sc. (Toronto), Ph.D. (ANU)
Michael A. Brock/B.Sc. (Toronto), Ph.D. (McGill)
Randall S. Dumont/B.Sc. (Western), Ph.D. (Toronto)
Harald D.H. Stover/B.Sc. (Darmstadt), Ph.D. (Ottawa)
Francoise M. Wimmik/Dipl. d'ing. Chimie (Mulhouse), M.Sc., Ph.D. (Toronto)
A. John Yanwoot/B.Sc., Ph.D. (Birmingham)

Assistant Professors
Pierre Brassard/B.Sc., M.Sc. (Concordia), Ph.D. (INRS)
Paul H.M. Harrison/B.A. (Oxford), Ph.D. (Alberta)
Lijuan Li/B.Sc., M.Sc. (Jilin), Ph.D. (McMaster)

Assistant Professors
Richard M. Enpari/ (Biochemistry) AB (Johns Hopkins), Ph.D. (Columbia)
Walter F. Keen/ (Medicine) M.B., Ch.B. (Glascow) F.R.C.P (C), F.A.C.P.
Robert H. Pelton/ (Chemical Engineering)/M.Sc. (Guelph), Ph.D. (Bristol)
Daniel S.C. Yang/ (Biochemistry)/B.Sc., M.Sc. (Alberta), Ph.D. (Pittsburgh)

Department Notes
1. *indicates this course is not necessarily offered every session.
2. Students not in a Science programme should know that CHEM 1A06 is a prerequisite for CHEM 2D03 and CHEM 2D03 is a prerequisite for BIOCHEM 2E03.

Courses If no prerequisite is listed, the course is open.

CHEM 1A06 INTRODUCTORY CHEMISTRY
First Term: An introduction to inorganic chemistry; molecular structure and equilibrium. Second Term: An introduction to organic chemistry and kinetics. The laboratory is designed to illustrate the lectures. The lab is required for all courses.
Three lectures; two terms
Prerequisite: A minimum of one high school Chemistry course
Not open to students with credit or registration in CHEM 1A06, 1E03, 1F03. Not open to students registered in Science or Engineering programmes.

CHEM 1E03 GENERAL CHEMISTRY FOR ENGINEERING I
An introductory course for Engineering students, emphasizing molecular structure and equilibria. A laboratory provides experience in experimental techniques and accurate measurement.
Three lectures, one tutorial (one hour), one lab (three hours) every other week; first term
Prerequisite: OAC Chemistry; registration in an Engineering programme

CHEM 1F03 GENERAL CHEMISTRY II
An introduction to organic chemistry and kinetics. The second half of CHEM 1A06.
Three lectures, one tutorial, one lab (three hours) every other week; second term
Prerequisite: CHEM 1E03

CHEM 2A03 ANALYTICAL CHEMISTRY I
An introduction to the basic principles of analytical chemistry, with particular emphasis on solution equilibria and classical methods of analysis.
Two lectures, two labs (three hours); one term
Prerequisite: Credit or co-registration in CHEM 2P06 or 2R03
Antirequisite: CHEM 2M05, 2N03

CHEM 2B06 ORGANIC CHEMISTRY
A systematic treatment of mono- and di-functional organic compounds and an introduction to spectroscopic techniques for structure determination.
Two lectures, one lab (three hours); two terms
Prerequisite: Registration in an Honours Chemistry programme, B.Sc.

CHEM 2M05, 2N03

CHEM 2P06, 2R03

Antirequisite: CHEM 2D03, 2E03
CHEM 2C03
STRUCTURE AND REACTIONS OF THE MAIN GROUP ELEMENTS
Comparative chemistry of the non-transition elements; introduction to symmetry.
Three lectures, one lab (three hours); one term.
Prerequisite: Registration in a Chemistry, Biochemistry, or B.Sc. Physical Science program; or permission of the instructor.
Antirequisite: CHEM 2F03 or 2W03 or 2WW4

CHEM 2D03
INTRODUCTORY ORGANIC CHEMISTRY
An introduction to the chemistry of monofunctional aliphatic and aromatic compounds.
Three lectures, one lab (three hours) every other week; one tutorial every other week; one term.
Prerequisite: CHEM 1A06 or registration in a Chemical Engineering program.
Antirequisite: CHEM 2B06
CHEM 2D03 is not a prerequisite for further courses in Organic Chemistry.

CHEM 2M05
ANALYTICAL CHEMISTRY
An introduction to classical and modern analytical techniques with an emphasis on applications in Engineering.
One lecture, one lab (three hours), first term; two lectures, one lab (three hours); second term.
Prerequisite: Registration in a Chemical Engineering program.
Antirequisite: CHEM 2A03, 2N03

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); one term.
Prerequisite: One of CHEM 2P06, 2Q06, 2R03 or 2T06, any of which may be taken concurrently; registration in an Honours Biochemistry programme or permission of the instructor.
Antirequisite: CHEM 2A03, 2M05

CHEM 2006
ORGANIC CHEMISTRY
An introduction to organic chemistry with emphasis on the reactions of functional groups and an introduction to spectroscopic techniques for structure determination.
Three lectures, one lab (three hours) every other week; one tutorial (two hours) every other week; two terms.
Prerequisite: CHEM 1A06 with a grade of at least C+; or registration in a programme in which CHEM 2006 is required.
Antirequisite: CHEM 2B06
Students who receive special permission to register in this course after completing CHEM 2D03 will not retain credit for CHEM 2D03 on completion of this course.

CHEM 2P05
PHYSICAL CHEMISTRY I
An introduction to macroscopic and microscopic aspects of thermodynamics and kinetics and their application to chemical and physical transformations.
Three lectures, one lab (three hours) or tutorial; two terms.
Prerequisite: CHEM 1A06 and one of MATH 1A06, 1C06, 1AA3
Antirequisite: CHEM 2Q06, 2R03, PHYSICS 2H03

CHEM 2R03
GENERAL PHYSICAL CHEMISTRY
A survey of thermodynamic and kinetic principles and their application to biological systems.
Three lectures; one term.
Prerequisite: CHEM 1A06 and one of MATH 1A03, 1A06, 1C03, 1C06, ARTS & SCI 1D06
Antirequisite: CHEM 2P06, 2Q06, 2T06 or PHYSICS 2H03

CHEM 2W24
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 1A06 or registration in a Ceramic, Chemical, Materials or Metallurgical Engineering programme.
Antirequisite: CHEM 2B06, 2C03, 2D03, 2Q06, 2W03, 3E06, 3Q03

CHEM 3A03
ANALYTICAL CHEMISTRY II
An introduction to modern instrumental methods of analysis.
Three lectures; one lab (three hours); one term.
Prerequisite: CHEM 2A03, or both CHEM 2N03 and CHEM 2P06 or 2R03

CHEM 3B06
PHYSICAL CHEMISTRY II
An introduction to quantum chemistry, group theory and spectroscopy. Theoretical and experimental aspects of the electronic structure of atoms and molecules. The role of spectroscopy in molecular structure determination.
Three lectures, one lab (three hours) or tutorial; two terms.
Prerequisite: CHEM 2P06 (or 2R03 with a grade of at least B) and one of MATH 2A03, 2G03, 2N03 or 2P04
Antirequisite: CHEM 3B03, 3L03, 3S03, 3U03, 4L03

CHEM 3D03
ORGANIC CHEMISTRY
A mechanistically oriented discussion of monofunctional aliphatic and aromatic compounds with emphasis on applications to synthesis.
Three lectures, one lab (three hours); one term.
Prerequisite: CHEM 2B06 or 2Q06
Antirequisite: CHEM 3F03

CHEM 3E06
TRANSITION METAL INORGANIC CHEMISTRY
The properties, structures, and reactions of inorganic compounds, with emphasis on transition metal chemistry; introduction to organometallic chemistry.
Equivalent to CHEM 3Q03 plus 3P03.
Two lectures, one lab (three hours); two terms.
Prerequisite: CHEM 2C03; or one of CHEM 2W03, 2WW4 with a grade of at least B.
Antirequisite: CHEM 3Q03 or 3P03

CHEM 3F03
BIO-ORGANIC CHEMISTRY
Topics in bio-organic chemistry; a sequel to Chemistry 2006.
Two lectures, one lab (three hours); one term.
Prerequisite: CHEM 2B06 or CHEM 2006; registration in an Honours Biochemistry programme, Honours Molecular Biology and Biotechnology programme, or Honours Arts & Science and Biochemistry, or permission of the instructor.
Antirequisite: CHEM 3D03

CHEM 3G03
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, 2D03, 2006 and one of CHEM 2C03, 2W03, 2WW4, or registration in Level IV of a Chemical Engineering programme.

CHEM 3P03
TRANSITION METAL METAL CHEMISTRY
The chemistry of the heavier transition elements. An introduction to organometallic chemistry.
The second half of CHEM 3E06.
Two lectures, one lab (three hours); second term.
Prerequisite: CHEM 3Q03
Antirequisite: CHEM 3E06

CHEM 3Q03
INORGANIC CHEMISTRY
The properties, structures and reactions of inorganic compounds with emphasis on transition metal chemistry. The first half of CHEM 3E06.
Two lectures, one lab (three hours); first term.
Prerequisite: CHEM 2C03; or one of CHEM 2W03, 2WW4 with a grade of at least B.
Antirequisite: CHEM 3E06

CHEM 3Z03
PHYSICAL CHEMISTRY III
The linkage of microscopic and macroscopic descriptions of physical and chemical phenomena. Applications to molecules, macromolecules and solids.
Three lectures; second term.
Prerequisite: completion of CHEM 2P06 and completion of or concurrent registration in CHEM 3B06.
Antirequisite: CHEM 3KK6

CHEM 4A03*
ADVANCED ORGANIC CHEMISTRY
A discussion of criteria of mechanism of stepwise organic reactions and of the courses of 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; second term.
Prerequisite: CHEM 3B06; or CHEM 3B03 and either CHEM 3S03 or 4L03

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 acids, nucleic acid, enzyme and coenzyme chemistry with emphasis on molecular reaction mechanisms.
Two lectures; one term
Prerequisite: CHEM 3D03 or 3F03

CHEM 4F03  SURFACE CHEMISTRY
Current topics in surface science; surface characterization, adsorption and heterogeneous catalysis.
Two lectures; one term
Prerequisite: CHEM 2P06

CHEM 4G06  SENIOR THESIS
A thesis based on a project under the direction of a Chemistry Department faculty member.
Prerequisite: Students registered in Level IV of any Honours Chemistry programme (with the exception of Honours Chemistry (Complementary Studies Option) with a CA of at least 6.0) do not need to apply for permission. Students who are registered in Level IV of Honours programmes in the Faculty of Science 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 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 2R03

CHEM 4Q03*  ADVANCED QUANTUM MECHANICS
Applications of quantum mechanics to problems of chemical interest.
Two lectures; first term
Prerequisite: CHEM 3B03 or 3B06 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, Mössbauer spectroscopy, theory and application of nuclear and radiation chemistry.
Two lectures; one term
Prerequisite: CHEM 3E06 or 3Q03

CHEM 4T3  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 4T3  ADVANCED INSTRUMENTAL ANALYSIS
Advanced instrumental methods of analysis, with emphasis on general principles and applications of computers to chemical analysis. The second half of CHEM 4T06.
Two lectures, one lab (four hours); second term
Prerequisite: CHEM 3A03 or registration in Level IV of Honours Applied Chemistry

CHEM 4T06  INSTRUMENTAL ANALYSIS
Instrumentation, interfacing and measurement system theory. Advanced instrumental methods of analysis including radiochemistry, with emphasis on general principles of instrumentation and applications of computers to chemical analysis.
Two lectures, one lab (four hours); two terms
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, first term
Prerequisite: One of CHEM 3B06, 3C03, 3K6, 3S03
Antirequisite: PHYSICS 3K04

CIVIL ENGINEERING
Faculty as of January 15, 1996

Chair
B. Baetz

Professor Emeritus

Professors
Peter L. Dold/B.Sc. (Chemical), Ph.D. (Cape Town), WTC Chair, Environmental Systems Engineering
Robert G. Drysdale/B.Sc. (C.E.) (Manitoba), M.A.Sc., Ph. D. (Toronto), F.C.S.C.E., P.Eng
Ahmed Elshokhorah/B.Sc. (Cairo), M.Eng., Ph.D. (McMaster), P. Eng.
Frederick L. Hall/B.A. (Amherst), M. Sc. (M.I.T.), Ph.D. (Chicago)

Associate Professors
Stan Pietruszczak/B.Sc., M. Sc. (Warsaw), Ph.D. (Polish Acad. Sci.)
Wai K. Tso/B.Sc. (London), M. S., Ph.D. (Caltech), P. Eng.

Assistant Professor
Syed Moin/B. S. (Osmania), M. S. (Nevada), Ph.D. (McMaster)/part-time

Associate Members
William P. Anderson/ (Geography) M.A., Ph.D. (Boston)
Kathleen A. Edwards/ (Chemical Engineering) B. Eng., M. Eng. (McGill), Ph.D. (Stanford)

Department Note:
All civil engineering courses are open to students registered in a civil engineering programme, subject to prerequisite requirements. Prior permission of the Department is necessary for students from other engineering departments and other faculties.

Courses
CIV ENG 2A02  SURVEYING AND MEASUREMENT
Introduction to measurement and computational techniques of surveying, the theory of measurement and errors, adjustment of observations.
One lecture, one lab (three hours) or one tutorial (two hours); first term

CIV ENG 2C04  STRUCTURAL MECHANICS
Mechanics of materials; plastic 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  GEOLOGY 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 CIVIL ENGINEERING
Computers in analysis and design; computer languages, numerical techniques including error analysis, root finding and interpolation; matrix manipulation, eigenvalues and differential equations. Two lectures, one tutorial (two hours); first term
Prerequisite: ENGINEER 1D04, and PHYSICS 1D03, and credit or registration in ENGINEER 2P04
CIV ENG 203 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
Natural systems, processes; mass balance. Global interactions of biosphere, element cycles, energy balances, climate, Ecological systems; community structure. Modelling of natural systems. Man's perturbations. Two lectures, one tutorial (two hours); second term

Enrolment is limited.

CIV ENG 203 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 203

Antirequisite: CIV ENG 2P03

CIV ENG 3B03 GEOTECHNICAL ENGINEERING II
Shear strength characteristics and failure criteria for soils; direct shear, triaxial, plane strain and field tests; earth pressure theory; bearing capacity 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 or CIV ENG 2P03

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: CIV ENG 3J04

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

CIV ENG 3M04 MUNICIPAL HYDRANLCS
Analysis/design of water distribution networks. Analysis and design of wastewater collection systems. Open channel flow; hydraulic cross-sections. Three lectures, one lab (three hours); second term

Prerequisite: CIV ENG 203 and credit or registration in MATH 3J04

CIV ENG 3Q03 WATER QUALITY MODELLING
Physical, chemical and biological characteristics of water. Stoichiometry, reaction kinetics, and material balances. Mathematical modelling of physical systems. Water quality in rivers. Water quality standards. Two lectures, one lab (three hours); first term

Prerequisite: CIV ENG 2J03, 203 and MATH 2M06

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 HYDROLOGY
Hydrologic cycle; climate; precipitation; hydrologic abstractions; streamflow analysis; unit hydrograph; frequency analysis; hydrologic routing; rainfall-runoff modelling; urban runoff models; design storms; snow and ice hydrology. Three lectures, one tutorial (three hours); first term

Prerequisite: CIV ENG 3M04

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: 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 3G03, 3J04

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 3G03

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: 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); first 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. Stormwater systems; floodplain analysis; network systems; reservoir analysis; flood control; river engineering. Two lectures, one tutorial, one lab (three hours); second term

Prerequisite: CIV ENG 3G03

CIV ENG 4M04 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 4N04 FOUNDATION ENGINEERING
Principles of foundation design; bearing capacity, settlement and location, footings, deep foundations, piles, pile groups and drilled piers; geotechnical techniques and case histories. Three lectures, one tutorial (two hours); first term

Prerequisite: CIV ENG 3G03

CIV ENG 4P04 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 4Q04 BRIDGES AND OTHER HEAVY CIVIL STRUCTURES
Introduction to bridge engineering; design of post/prefabricated prestressed concrete structures; calculation of ultimate strength and serviceability. Plate girders; composite construction. Applications to heavy civil structures. Three lectures, one lab (three hours) or one tutorial (two hours); second term

Prerequisite: CIV ENG 3G03, 3J04, 3S03
Three lectures; one term

Cross-list: COMP LIT 3103

The architecture, sculpture, and painting of the Greek and Hellenistic world.
Prerequisite: Six units of Classics
Cross-list: ART HIST 2B03

CLASSICS 3103 TOPICS IN GREEK AND ROMAN LITERATURE

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 3113

CLASSICS 3113 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: Registration in Level II and above
Cross-list: ART HIST 3B03

CLASSICS 4C06 ANCIENT GREEK PHILOSOPHY

A study of Western philosophical thought from its earliest beginnings to the triumph of Christianity in the Roman Empire, with emphasis on Plato and Aristotle.
Three lectures; two terms
Prerequisite: Registration in Level II and above
Cross-list: PHILOS 2A06

CLASSICS 4G06 THE HISTORY OF GREECE AND ROME

Greece from the rise of the city-states to Alexander; Rome from the Middle Republic through the early Empire. Attention will be given to political, military and social developments in the light of both literary and archaeological evidence.
Three lectures; two terms
Prerequisite: Registration in Level II and above
Cross-list: HISTORY 2G06

CLASSICS 4K03 ROMAN ART

A study of the myths of Greek and Roman gods and heroes, their explanation according to theories on the nature of myths, and their use by Greek and Roman authors, particularly Homer and Vergil.
Three lectures; one term
Prerequisite: Registration in Level II and above
Cross-list: COMP LIT 2K03

CLASSICS 4L06 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
Cross-list: COMP LIT 2L06

CLASSICS 4P06 GREEK AND ROMAN THEATRE AND DRAMA

The history of the theatre in the Classical world; readings from Greek and Roman tragedies and comedies.
Three lectures; two terms
Prerequisite: Registration in Level II and above
Antirequisite: CLASSICS 2H03 or 2H03, DRAMA 2H03 or 2H03
Cross-list: COMP LIT 2P06

CLASSICS 4R06 ROMAN ART

The art and architecture of the Roman world.
Three lectures; one term
Prerequisite: CLASSICS 2R03
Cross-list: ART HIST 2R03

CLASSICS 2B03 GREEK ART

The architecture, sculpture, and painting of the Greek and Hellenistic world.
Three lectures; one term
Prerequisite: Registration in Level II and above
Cross-list: ART HIST 2B03

CLASSICS 1B06 MYTHOLOGY AND LITERATURE OF GREECE AND ROME

A study of ancient literature based on myth and legends such as the Trojan War, tales of heroes such as Hercules, and other aspects of life in the Classical World. Readings in English translation from a variety of Greek and Roman authors, with special attention to epic poetry and drama.
Two lectures, one tutorial: two terms

CLASSICS 1L06 HISTORY AND ARCHAEOLOGY OF THE ANCIENT WORLD

The history of the Ancient Near East, Greece, and Rome based on documentary sources and archaeological evidence.
Two lectures, one tutorial: two terms
Cross-list: HISTORY 1L06

CLASSICS 2A03 INTRODUCTION TO CLASSICAL ARCHAEOLOGY

A study of the history and methodology of Greek and Roman archaeology illustrated with materials from excavated sites.
Three lectures; one term
Prerequisite: Registration in Level II and above

CLASSICS 2B03 GREEK ART

The architecture, sculpture, and painting of the Greek and Hellenistic world.
Three lectures; one term
Prerequisite: Registration in Level II and above
Cross-list: ART HIST 2B03

CLASSICS 2D03 GREEK AND ROMAN MYTHOLOGY

A study of the myths of Greek and Roman gods and heroes, their explanation according to theories on the nature of myths, and their use by Greek and Roman authors, particularly Homer and Vergil.
Three lectures; one term
Prerequisite: Registration in Level II and above
Cross-list: COMP LIT 2D03

CLASSICS 2H03 THE HISTORY OF GREECE AND ROME

Greece from the rise of the city-states to Alexander; Rome from the Middle Republic through the early Empire. Attention will be given to political, military and social developments in the light of both literary and archaeological evidence.
Three lectures; two terms
Prerequisite: Registration in Level II and above
Cross-list: HISTORY 2H03
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 3103
CLASSICS 3113 may be repeated, if on a different topic, to a total of six units.

CLASSICS 3113 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 CLASSICS 1L06, 2G06, HISTORY 2I06, RELIG ST 2E06, or six units of Classics
Cross-list: HISTORY 3L13

CLASSICS 3113 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 the following: CLASSICS 1L06, 2G06, 2K03, 2V03, 3VV3
Cross-list: HISTORY 3M3
CLASSICS 3113 may be repeated, if on a different topic, to a total of six units.

CLASSICS 3103 THE ARCHAEOLOGY OF GREEK CITIES
An examination of major Greek archaeological sites, focusing on selected sanctuaries and settlements from the Bronze Age to the Hellenistic period.
Three lectures; one term
Prerequisite: One of CLASSICS 2A03, 2B03, 3S03
Alternates with CLASSICS 3S03.

CLASSICS 3S03 THE ARCHAEOLOGY OF THE CITY OF ROME AND ROMAN ITALY
The growth of the city of Rome, from its origins to the triumph of Christianity, and an examination of the archaeological remains of Pompeii, Ostia and other cities of Roman Italy.
Three lectures; one term
Prerequisite: One of CLASSICS 2A03, 2C03, 3R03
Alternates with CLASSICS 3R03.

CLASSICS 3U03 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: Six units of Classics, including 2K03 or 2U03; or CLASSICS 1L06 or 2G06
Cross-list: HISTORY 3U03
Alternates with CLASSICS 3V03.

CLASSICS 3V03 ROMAN SOCIETY
Advanced study of selected aspects of the social life of Rome, based on contemporary literature, documents and artifacts.
Three lectures; one term
Prerequisite: Six units of Classics, including 2K03 or 2V03; or CLASSICS 1L06 or 2G06
Cross-list: HISTORY 3V03

CLASSICS 4B03 SEMINAR IN CLASSICAL ARCHAEOLOGY
Consult the Department concerning the topic to be offered.
Seminar (two hours); one term
Prerequisite: Six units from CLASSICS 2A03, 3R03, 3S03, and registration in Level III or IV of an Honours programme in Classics (A)
Enrolment is limited.
CLASSICS 4B03 may be repeated, if on a different topic, to a total of six units.

CLASSICS 4B03 SEMINAR IN ANCIENT ART
Consult the Department concerning the topic to be offered.
Seminar (two hours); one term
Prerequisite: CLASSICS 2B03 and 2C03, and registration in Level III or IV of an Honours programme in Classics (A)
Cross-list: ART HISTORY 4B03
Enrolment is limited.
CLASSICS 4B03 may be repeated, if on a different topic, to a total of six units.

CLASSICS 4C03 PLATO
Critical examination of Plato's writings with reference to selected central philosophical issues.
One lecture, one seminar (two hours); one term
Prerequisite: CLASSICS 2P06, and registration in Level III or IV of any programme
Cross-list: PHILOS 4C03
Offered in alternate years.

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, 2U03, 3L33, 3U03, 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, 2U03, 2V03, 3U03, and registration in Level III or IV of an Honours programme in Classics (A)
CLASSICS 4E03 may be repeated, if on a different topic, to a total of six units.
Enrolment is limited.

CLASSICS 4J03 ARISTOTLE
A systematic study of Aristotle's major doctrines.
Seminar (two hours); one term
Prerequisite: CLASSICS 2P06, and registration in Level III or IV of any programme
Cross-list: PHILOS 4J03
Offered in alternate years.

CLASSICS 4T06 THESIS
Reading and research 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 1Z06
   Intermediate Level Language Courses
   GREEK 2A03, 2A03, 3R03
2. Students with OAC Ancient Greek should normally register in GREEK 2A03, but with special permission, may register in GREEK 1Z06.

Courses
If no prerequisite is listed, the course is open.

GREEK 1Z06 BEGINNER'S INTENSIVE GREEK
A rapid introduction to the grammar of Classical Greek. Passages of simple Greek are read in the second term.
Five hours (lectures and tutorials); two terms
Prerequisite: Open except to graduates of OAC Ancient Greek, who must have special permission to register in the course
This course, with a grade of at least B-, is accepted as a prerequisite for admission to any Honours programme in Classics, or, with a grade of at least C-, for admission to the B.A. programme in Classics.

GREEK 2A03 INTERMEDIATE GREEK I
A study of selected passages from Greek authors designed to develop a student's proficiency in reading Greek.
Three lectures; one term
Prerequisite: OAC Ancient Greek or GREEK 1Z06. Students using this course as a Humanities I requirement will register for GREEK 2A03 and 2R03 or for GREEK 2A03 and 2A03.

GREEK 2A03 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 1Z06. 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.
LATIN 2AA3 INTERMEDIATE LATIN 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
GREEK 3BB3 may be repeated, if on a different topic, to a total of six units.
Alternates with GREEK 4BB3.

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 3A03.
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 ...
Notes:
1. Students should note that the Department has classified its Latin language courses under the following categories:
   - Introductory Level Language Course
   - Intermediate Level Language Courses

2. Students with OAC Latin should normally register in LATIN 2A03, but with special permission, may register in LATIN 1Z06.

Courses
If no prerequisite is listed, the course is open.

LATIN 1Z06 BEGINNER'S INTENSIVE LATIN
Five hours (lectures and tutorials); two terms
Prerequisite: Open except to graduates of OAC Latin who must have special permission to register in the course.
This course, with a grade of at least B-, is accepted as a prerequisite for admission to any Honours programme in Classics, or, with a grade of at least C-, for admission to the B.A. programme in Classics.

LATIN 2A03 INTERMEDIATE LATIN I
A study of selected passages designed to develop a student's proficiency in reading Latin. The course will also include grammatical exercises.
Three lectures; one term
Prerequisite: OAC Latin or LATIN 1Z06. Students using this course as a Humanities I requirement will register for LATIN 2A03.

LATIN 2A03 INTERMEDIATE LATIN II
A study of selected passages from Latin authors designed to further a student's proficiency in reading Latin. Attention will be given to grammar and techniques of literary criticism.
Three lectures; one term
Prerequisite: LATIN 2A03
Antirequisite: LATIN 2F03 or 2G03

LATIN 3BB3 TOPICS IN LATIN LITERATURE I
Previous topics include: Roman Verse Satire, Poetry of the Neronean Age, Petronius. Consult the Department for the topic to be offered.
Three lectures; one term
Prerequisite: Six units of Level II Latin
LATIN 3BB3 may be repeated, if on a different topic, to a total of six units.

LATIN 3R03 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 4R03.
This course introduces the basic principles and practices of financial accounting which includes an examination of income measurement and asset and liability valuation to provide an understanding of financial accounting information and the ethics of financial reporting.

Prerequisite: ECON 1A06 or 1B03 (See Note 2 above.)

Antirequisite: BUSINESS 2W06

COMMERCE 2B03 MANAGERIAL ACCOUNTING I

An introduction to concepts underlying the use of cost accounting information for managerial planning and control, and for inventory valuation. The nature and analysis of costs, and the usefulness and limitations of accounting data for decision-making, including ethical considerations, will be discussed.

Prerequisite: COMMERCE 2A3

Antirequisite: COMMERCE 3A03

COMMERCE 2B03 ORGANIZATIONAL BEHAVIOUR AND HUMAN RESOURCES

This course provides students with a knowledge of organizational behaviour and human resource issues and practices from a general management education perspective. Topics covered include organizational research processes, creative thinking, problem solving and decision making, systems approach and organizational effectiveness, motivation and reward systems, work reorganization (e.g., teams, quality circles, participative management) and organizational structures.

(See Note 2 above.)

Antirequisite: BUSINESS 3W06

COMMERCE 2F03 INTRODUCTION TO FINANCE

This course introduces the main instruments and institutions in the Canadian financial system. The basics of modern financial theory are introduced through lectures and "hands-on" problem solving. Topics include the time value of money, capital budgeting, the trade-off between risk and return and security valuation.

Prerequisite: ECON 1A06, COMMERCE 2A3 (See Note 2 above.)

Antirequisite: BUSINESS 3X03

COMMERCE 2M03 INTRODUCTION TO MARKETING

This course introduces the conceptual underpinnings and operational facets of marketing with a primarily consumer (as opposed to industrial) focus.

Prerequisite: ECON 1A06 or 1B03 (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 INT126, MATH 1103 or STATS 1L03, and one of MATH 1MO3 or 1A03 and 1AA3, and one of COMP SCI 1A03, 1B3A, 1Z3A (See Note 2 above).

COMMERCE 2QB3 INFORMATION SYSTEMS IN MANAGEMENT

This course emphasizes the strategic role of information systems in modern business. Topics include: the technical foundations of information systems, the impact of information systems on business operations and decision-making, and the processes that are required for successful implementation of business information systems.

Prerequisite: One of COMP SCI 1B3A, 1Z3A (See Note 2 above.)

Antirequisite: COMMERCE 2QB3

COMMERCE 2SO3 COMMUNICATION, THINKING AND GROUP SKILLS

Students will be introduced to the effective use of written and oral communication skills, thinking skills including convergent, divergent and creative thinking as well as logic and rhetoric, and group and interpersonal skills including leadership. Students practice these skills in exercises concerned with current business issues.

Prerequisite: COMMERCE 1SO3

COMMERCE 3AB3 FINANCIAL ACCOUNTING II

A first course in intermediate financial accounting dealing with the theory and practice of financial statement preparation and reporting. The emphasis will be on asset valuation and the related impact on income measurement.

Prerequisite: COMMERCE 2AA3

COMMERCE 3AC3 FINANCIAL ACCOUNTING III

A second course in intermediate financial accounting dealing with reporting issues that relate to liabilities and owners' equity. In particular, the concepts of recognition, measurement and disclosure of such items as bonds, taxes, leases and pensions as well as the phenomenon of off-balance sheet financing are examined.

Prerequisite: COMMERCE 3AB3

Antirequisite: COMMERCE 4AB3

First offered in 1996-97.

COMMERCE 3BC3 HUMAN RESOURCE MANAGEMENT AND LABOUR RELATIONS

This course builds on COMMERCE 2BA3, focusing on human resource management and labour relations issues and practices from a general management education perspective.

Prerequisite: COMMERCE 2BA3 (See Note 2 above.)

Antirequisite: COMMERCE 2BB3, BUSINESS 3Z03

First offered in 1996-97.

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 2FA3 (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 2FB3

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 3FA3

Antirequisite: COMMERCE 4FX3

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 COMMERCE 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 Ps in greater depth. It also has a heavier industrial and service sector component, and relies more on practical, real world cases. A major field project (student teams working with companies) is a critical part of the course.

Prerequisite: COMMERCE 2MA3 (See Note 2 above.)

First offered in 1996-97.

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 the use of quantitative analysis to assist decision-making. Topics include: layout of facilities, aggregate planning, scheduling, inventory control and quality control.

Prerequisite: COMMERCE 3QA3, or registration in an Engineering and Management programme

Antirequisite: COMMERCE 4QA3, MECH ENG 4C03

First offered in 1996-97.

Level IV Commerce Courses ...

In most Level IV Commerce courses, section size will be restricted to a maximum of 40 students; students will be admitted on a first-come basis.

COURSES

COMMERCE 4A3 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 2A3 or 3A3

COMMERCE 4AB3 FINANCIAL ACCOUNTING III

This course considers reporting issues that relate to liabilities and owners' equity including 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.

Prerequisite: COMMERCE 2A3

Antirequisite: COMMERCE 3AC3

COMMERCE 4AC3 FINANCIAL ACCOUNTING IV

An advanced accounting course considering specific problems of accounting for the corporate entity, such as, business combinations, intercorporate investments, consolidated financial statements, accounting for foreign operations and foreign currency transactions, segment reporting.

Prerequisite: COMMERCE 3AC3 or 4AB3

COMMERCE 4AD3 INTRODUCTION TO AUDITING

An examination of the attest function in accounting including ethical, legal, and statutory influences in the development of auditing standards. The nature of control structures and of audit evidence is examined. The nature, scope, and application of auditing procedures are examined through a selective analysis of asset, liability, revenue, and expense items.

Prerequisite: COMMERCE 3A3

COMMERCE 4AE3 ACCOUNTING INFORMATION SYSTEMS

Considers the principles underlying the role of accounting as an information system for planning and controlling business operations. The course emphasizes the importance of internal control in both manual and automated systems.

Prerequisite: COMMERCE 3A3

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: COMMERCE 3AC3 or 4AB3, may be taken concurrently
COMMERCED1 ADVANCED ACCOUNTING TOPICS
This course extends the knowledge base of earlier accounting courses and deals with specific advanced accounting topics, such as accounting for changing prices and not-for-profit accounting, the conceptual framework and standard setting and fiduciary accounting.
Prerequisite: COMMERCED4AC3, 4AF3
Available summers 1996, 1997 subject to sufficient enrolments and availability of qualified instructors.
Continuing Students refer to School of Business: Continuing Students.

COMMERCED4AH3 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: COMMERCED4AC3, 4AD3
Available summers 1996, 1997 subject to sufficient enrolments and availability of qualified instructors.
Continuing Students refer to School of Business: Continuing Students.

COMMERCED4AI3 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: COMMERCED4AC3, 4AD3
Available summers 1996, 1997 subject to sufficient enrolments and availability of qualified instructors.
Continuing Students refer to School of Business: Continuing Students.

COMMERCED4AX3 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
First offered in 1997-98.

COMMERCED4BA3 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.

COMMERCED4BB3 PERSONNEL SELECTION
This course considers the strategies and problems in personnel decisions in the context of the Canadian environment. Topics include job analysis and manpower planning, methods of personnel recruitment and selection, human rights legislation in Canada and the U.S., the practice of recruitment and selection in Canada, decision-making strategies in personnel recruitment and selection, and assessment centres.
Prerequisite: COMMERCED3BB3 or 3BC3

COMMERCED4BC3 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: COMMERCED3BA3 or 3BC3, or LABR ST 2A03 or 2A06

COMMERCED4BD3 SETTLEMENT OF INDUSTRIAL DISPUTES
The nature and the role of industrial conflict as well as the techniques which have been developed to control the incidence of conflict in union-management situations.
Prerequisite: COMMERCED3BA3, 3BC3, or LABR ST 2A03 or 2A06

COMMERCED4BE3 COMPENSATION ADMINISTRATION
Various aspects of the process of developing and administering a compensation plan for an organization are discussed. Considerable emphasis is placed on the applications of concepts and theories to actual organizational contexts. Topics include economic and behavioural theories of compensation, job evaluation, incentive systems, fringe benefits, and compensation plans for managerial and professional employees.
Prerequisite: COMMERCED3BB3 or 3BC3

COMMERCED4BF3 LABOUR LAW AND POLICY
An analysis of the concepts and fundamentals of Canadian labour law and analysis of Canadian labour policy.
Prerequisite: COMMERCED3BA3 or 3BC3, and subject to space availability
Cross-list: LABR ST 3C03

COMMERCED4BG3 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.
Prerequisite: COMMERCED4BC3 and subject to space availability
Cross-list: LABR ST 4C03

COMMERCED4BH3 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: COMMERCED3BA3 or 3BC3 and subject to space availability
Cross-list: LABR ST 4D03

COMMERCED4BI3 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: COMMERCED3BB3 or 3BC3
Antirequisite: COMMERCED4BX3, if taken in Jan. 1994

COMMERCED4BJ3 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 the time of offering
First offered in 1997-98.

COMMERCED4FA3 CASES IN MANAGERIAL FINANCE
This course covers the application of basic financial theory and analysis, from a managerial point of view, to specific cases. Consideration is given to the strategic, marketing, operational and personal factors which interact with financial factors.
Prerequisite: COMMERCED3FA3

COMMERCED4FD3 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: COMMERCED3FA3

COMMERCED4FE3 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: COMMERCED3FA3

COMMERCED4FF3 PORTFOLIO THEORY AND MANAGEMENT
This course offers an advanced treatment of investment decision-making and the role of financial markets in pricing securities. Topics include portfolio selection models, the institutional environment of investment decisions, and investment and asset pricing theory.
Prerequisite: COMMERCED3FA3
Antirequisite: COMMERCED4FC3

COMMERCED4FG3 FINANCIAL THEORY
This course explores the theoretical foundations of finance and their applications to corporate finance policy. Topics covered include rational investment decisions, asset pricing, efficient markets, financial decisions and the role of information in financial decision-making.
Prerequisite: COMMERCED3FA3
Antirequisite: COMMERCED4FB3

COMMERCED4FX3 SPECIAL TOPICS IN FINANCE
Various topics in Finance are considered. They will vary depending upon recent developments in the field and upon the research interests of the instructor. The topics to be included are announced at the time of the course offering.
Prerequisite: Announced at the time of offering
First offered in 1997-98.

COMMERCED4MC3 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: COMMERCED3MA3

COMMERCED4MD3 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: COMMERCED3MA3
COURSE 4MX3 SPECIAL TOPICS IN MARKETING, POLICY & INTERNATIONAL BUSINESS

Various topics in Marketing, Policy & 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
First offered in 1997-98.

COURSE 4PA3 BUSINESS POLICY: STRATEGIC MANAGEMENT

This case course focuses primarily upon the concept of corporate strategy formulation and implementation by exploring the functions and nature of general management and the role of the CEO within an organization. The course integrates and builds upon the learning experiences of previous functional area courses within a broader strategic analysis framework.
Prerequisite: Registration in fourth year of a Commerce program or fifth year of an Engineering and Management program

COURSE 4PB3 INTRODUCTION TO CANADIAN TAXATION

The principles of Canadian federal income taxation are examined in considerable detail through a reading of both the statute law and the common law. Emphasis is placed on the application of the law to the situations of individuals and businesses. Topics include: administration, liability for income tax, computation of income, computation of taxable income and computation of tax.
Prerequisite: COMMERCE 3A3 and 3F3
Antirequisite: COMMERCE 4SB3

COURSE 4PC3 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 4PB3
Antirequisite: COMMERCE 4SC3

COURSE 4PD3 COMMERCIAL LAW

This course emphasizes those areas of law which are most relevant to business activity. Particular attention is given to the law relating to contracts and business organizations. Other areas of study include sources of law, the judicial process, real and personal property, torts, agency, credit and negotiable instruments.
Prerequisite: COMMERCE 4SD3, BUSINESS 3V3

COURSE 4PE3 INTERNATIONAL BUSINESS

A survey of theories, concepts, and corporate strategies relevant to the actual conditions and problems of international investment, trade, finance, and other related areas. Topics include balance of payments, foreign exchange, political risk, joint ventures, global strategy, international personnel and international development.
Prerequisite: COMMERCE 4SA3

COURSE 4Q3 PRODUCTION/OPERATIONS MANAGEMENT

An introduction to the production/operations function with emphasis on the use of quantitative analysis to assist decision-making. Topics include: layout of facilities, aggregate planning, scheduling, inventory control and quality control.
Prerequisite: COMMERCE 3QA3, or registration in an Engineering and Management program
Antirequisite: COMMERCE 3QC3, MECH ENG 4C03

COURSE 4QB3 ANALYSIS OF PRODUCTION/OPERATIONS PROBLEMS

An examination of analytical approaches to problems in the field of production/operations. The course will provide in-depth coverage of a limited number of topics. These topics may be selected from among: layout and location of facilities, scheduling, inventory control and materials handling.
Prerequisite: COMMERCE 3QC3 or 4QA3, or MECH ENG 4C03

COURSE 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 program

COURSE 4QD3 MANAGEMENT SUPPORT SYSTEMS

This course examines the database approach and model building, in supporting managerial decision making processes.
Prerequisite: COMMERCE 2Q3 or 3Q3

COURSE 4QX3 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
First offered in 1997-98.

COURSE 4SA3 INTERNATIONAL BUSINESS

A survey of theories, concepts and corporate strategies relevant to the conditions and problems of international investment, trade, finance and other related areas. A strong emphasis is placed upon the multi-disciplinary understanding of international business. Topics include balance of payments, foreign exchange, political risk, joint ventures, global strategy, international personnel and international development.
Prerequisite: Registration in Level IV of a Commerce program or Level V of an Engineering and Management program
Antirequisite: COMMERCE 4PE3
First offered in 1997-98.

COURSE 4SB3 INTRODUCTION TO CANADIAN TAXATION

The principles of Canadian federal income taxation are examined in considerable detail through a reading of both the statute law and the common law. Emphasis is placed on the application of the law to the situations of individuals and businesses. Topics include: administration, liability for income tax, computation of income, computation of taxable income and computation of tax.
Prerequisite: COMMERCE 3A3 and 3F3
Antirequisite: COMMERCE 4PB3
First offered in 1997-98.

COURSE 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
Antirequisite: COMMERCE 4PC3
First offered in 1997-98.

COURSE 4SD3 COMMERCIAL LAW

This course emphasizes those areas of law which are most relevant to business activity. Particular attention is given to the law relating to contracts and business organizations. Other areas of study include sources of law, the judicial process, real and personal property, torts, agency, credit and negotiable instruments.
Prerequisite: COMMERCE 4PD3, BUSINESS 3V3

COURSE 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 (a local entrepreneur).
Prerequisite: COMMERCE 3F3 and one of COMMERCE 3MA3, 3MC3

COURSE 4SX3 SPECIAL TOPICS IN BUSINESS

Various topics in 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.
Prerequisites: Announced at the time of offering
First offered in 1997-98.

COURSE 4SY3 INDEPENDENT STUDY IN BUSINESS

A student wishing to pursue independent study in business may do so under the supervision of a faculty member from the School of Business. If successful, the student receives credit for one Level IV three unit elective course in Commerce. The student is expected to develop an original paper, research paper or project. It is the responsibility of the student to find a supervising faculty member and to gain approval of the study from the Associate Dean (Academic) in the semester preceding the semester in which the study will be done.
Prerequisite: To be determined by the supervising faculty member
First offered in 1997-98.
COMPARATIVE LITERATURE

Comparative Literature courses are administered within the Department of Modern Languages of the Faculty of Humanities.

Coordinator, Togo Salmon Hall, Room 611

Department 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 any 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.

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
Prerequisite: OAC English

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 2A03 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 2D03 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 2D03

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 2V/3

COMP LIT 2H06 GREEK AND ROMAN THEATRE AND DRAMA
The social history of the theatre in the Classical world; readings from Greek and Roman tragedies and comedies.
Three lectures; two terms
Prerequisite: Registration in Level II and above
Antirequisite: COMP LIT 2H03 or 2H3, CLASSICS 2H03 or 2H3, DRAMA 2H03 or 2H3
Cross-list: CLASSICS 2H06

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 2D03

COMP LIT 3CC3 MODERN EUROPEAN DRAMA FROM BRECHT TO THE PRESENT
A study of representative plays by ten major dramatists, including Garcia Lorca, Cocteau, Frisch, Sartre, Weiss, Genet, 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
Alternates with COMP LIT 3E03

COMP LIT 3D03 TOPICS IN LITERARY GENRES
Previous topics include: Lyric Poetry, The Novel. Consult the Department concerning topic to be offered.
Seminar (two hours); one term
Prerequisite: Registration in Level II and above of a Comparative Literature programme
COMP LIT 3D03 may be repeated, if on a different topic, to a total of six units.

COMP LIT 3D03 TOPICS IN LITERARY GENRES II
Previous topics include: Short Fiction, The Structure of Comedy. Consult the Department concerning topic to be offered.
Seminar (two hours); one term
Prerequisite: Registration in Level II and above of a Comparative Literature programme
COMP LIT 3D03 may be repeated, if on a different topic, to a total of six units.

COMP LIT 3E03 MODERN EUROPEAN DRAMA FROM IBSEN TO PIRANDELLO
A study of representative plays by eight major dramatists, including Strindberg, Chekhov, Gorki, Wedekind and Kaiser.
Seminar (two hours), plus play readings; one term
Prerequisite: Registration in Level III or IV of a Comparative Literature programme
Cross-list: DRAMA 3C03

COMP LIT 3J03 TOPICS IN GREEK AND ROMAN LITERATURE I
Previous topics include: The Poet and Society, Greek and Roman Elegiac and Lyric Poetry, The Legend of the Trojan War, Satire. Consult the Department concerning topic to be offered.
Three lectures; one term
Prerequisite: Registration in Level III or IV of a Comparative Literature programme
Cross-list: CLASSICS 3J03
Alternates with COMP LIT 3103

COMP LIT 3J03 TOPICS IN GREEK AND ROMAN LITERATURE II
Topics include: Greek and Roman Epic. Consult the Department concerning topic to be offered.
Three lectures; one term
Prerequisite: Registration in Level III or IV of a Comparative Literature programme
Cross-list: CLASSICS 3J03
Alternates with COMP LIT 3103

COMP LIT 3Q03 THE HISTORY AND THEORY OF CRITICISM
Previous topics include: Short Fiction, The Structure of Comedy. Consult the Department concerning topic to be offered.
Three lectures; one term
Prerequisite: Registration in Level III or IV of a Comparative Literature programme
Cross-list: ART HIST 3CC3, DRAMA 3H03 and ENGLISH 3CC3

COMP LIT 3Q03 MODERN CRITICAL THEORY
Previous topics include: Short Fiction, The Structure of Comedy. Consult the Department concerning topic to be offered.
Cross-list: ART HIST 3CC3, DRAMA 3H03 and ENGLISH 3CC3

COMP LIT 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 Level III or IV of a Comparative Literature programme
Cross-list: ENGLISH 3Q03

COMP LIT 3Q03 MODERN CRITICAL THEORY
The theory and practice of literary criticism from Eliot to the present.
Three lectures; one term
Prerequisite: Registration in Level III or IV of a Comparative Literature programme
Cross-list: ENGLISH 3Q03
COMPLIT 4AA3  TOPICS IN LITERARY MOVEMENTS
Previous topics include: European Romanticism. Consult the Department concerning topic to be offered.
Seminar (two hours); one term
Prerequisite: Registration in Level III or IV of a Comparative Literature programme
COMPLIT 4AA3 may be repeated, if on a different topic, to a total of six units.

COMPLIT 4B03  TOPICS IN LITERARY METHODOLOGY
Previous topics include: Narrative and Psychoanalysis, Feminist Theory, Formalism and Structuralism, Semiotics. Consult the Department concerning topic to be offered.
Seminar (two hours); one term
Prerequisite: Registration in Level III or IV of a Comparative Literature programme
COMPLIT 4B03 may be repeated, if on a different topic, to a total of six units.

COMPLIT 4C03  LITERATURE AND OTHER DISCIPLINES
Previous topics include: Literature and Philosophy, Literature and Politics. Consult the Department concerning topic to be offered.
Seminar (two hours); one term
Prerequisite: Registration in Level III or IV of a Comparative Literature programme
COMPLIT 4C03 may be repeated, if on a different topic, to a total of six units.

COMPLIT 4E03  TOPICS IN COMPARATIVE LITERATURE
Previous topics include: Twentieth-Century Women Writers, Literature and Ideology. Consult the Department concerning topic to be offered.
Seminar (two hours); one term
Prerequisite: Registration in Level III or IV of a Comparative Literature programme
COMPLIT 4E03 may be repeated, if on a different topic, to a total of six units.

COMPLIT 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.
Tutorials; one term
Prerequisite: Registration in Level IV of a Comparative Literature programme and permission of the Department

ASSISTANT PROFESSORS
Barbara E. Levy (B.S., (Brock), M.Sc., Ph.D. (Toronto)/part-time
David G. Jones (B.Sc. (Western), Ph.D. (Stanford)

ASSOCIATE MEMBERS
Norman P. Archer (Business) B.Sc. (Alberta), M.S. (New York), Ph.D. (McMaster)
Sue Backer (Psychology) B.A., M.Sc. (Queen's), Ph.D. (Toronto)
David L. Parnas (Electrical and Computer Engineering) B.S., M.S., Ph.D. (Carnegie Inst. of Technology)
Alexander Rosal (Mathematics) M.S., (Kiev), Ph.D. (Slovak Acad. Sciences)
George Steiner (Business) Ph.D. (Waterloo)
Yufei Yuan (Business) B.S. (Fudan), Ph.D. (Michigan)

DEPARTMENT NOTES
1. The following are suggested Computer Science options for students not in Computer Science programmes:
   Science-oriented students: COMP SCI 1MC3, 1MD3, 2MF3 and 2SB3, 2SC3, 3MG3, 3CA3, 3SD3, 3SE3.
   Business-oriented students: COMP SCI 1BA3, 1MC3, 1MD3, 2ME3, 2SC3, 3SE3, 4EC3.
   Social Sciences and Humanities students: COMP SCI 1SA3, 2SC3, 3SE3.

2. Students wishing to pursue a Computer Science Minor are referred to the Department of Computer Science and Systems in the Faculty of Science section of this Calendar.

3. MATH 1A06, 1A86, 1C06, 1NO6 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.

COURSES
If no prerequisite is listed, the course is open.

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 wordprocessing/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, 1M03, STAT1 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
Students with credit in COMP SCI 1SA3 will lose this credit if COMP SCI 1MC3 is taken.

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 1MA3, 1MC3, ENGINEER 1D04 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 1ZA3.
COMP SCI 2MD3 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: One of COMP SCI 1MB3, 1MD3, 2MC3
Antirequisite: COMP ENG 2YA3
COMP SCI 2ME3 DESIGN OF INFORMATION SYSTEMS I
Introduction to structured system design, emphasizing the software development process in the business environment: management systems; system analysis, design, implementation, and maintenance. Features COBOL.
Three lectures; one term
Prerequisite: COMP SCI 1MB3 or 1MC3
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 1MA3, 1MC3, ENGINEER 1D04
COMP SCI 2MJ3 DISCRETE STRUCTURES
An introduction to the basic concepts of discrete mathematics and discrete structures needed in many areas of computer science. Logic, combinatorics, graph theory and their applications are included.
Three lectures; one term
Prerequisite: One of MATH 1B03, 1H05, STATS 1C03
COMP SCI 2SB3 COMPUTATIONAL METHODS FOR SCIENCE AND ENGINEERING
Algorithms for the solution of common scientific problems and their efficient implementation in FORTRAN, analysis and estimation of both computational error and program efficiency.
Three lectures; one term
Prerequisite: One of COMP SCI 1MA3, 1MC3, 1SA3, ENGIN 1D04 and either MATH 1H05 and 1N06 or MATH 1A05 and 1B03
Antirequisite: COMP ENG 2KA3
COMP SCI 2SC3 DESIGN AND IMPLEMENTATION OF C PROGRAMS
Algorithmic development, stepwise refinement, modularization, searching and sorting methods, problem solving: data types, arithmetic/logical expressions, looping arrays, subprograms, input/output, style and program testing.
Three lectures, one tutorial; one term
Prerequisite: One of COMP SCI 1MA3, 1MC3, 1SA3, ENGINEER 1D04 and credit in one of MATH 1A03, 1B03, 1C03, 1H05, 1M03, 1N06
COMP SCI 3CA3 COMPUTER ORGANIZATION AND ASSEMBLER PROGRAMMING
A second course in computer organization with particular emphasis on assembly language programming and software development tools.
Two lectures, one lab (two hours); one term
Prerequisite: COMP SCI 2MF3
Not offered in 1996-97.
COMP SCI 3EA3 INTRODUCTION TO 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 2MD3 or COMP ENG 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 modelling and display techniques: visual realism, perspective, visibility and shading.
Three lectures; one term
Prerequisite: COMP SCI 2MD3 or COMP ENG 2YA3 and either one of MATH 2B06, 2J06, 2M06, 2004 or MATH 2R03 and one of MATH 2S03, 2T03
COMP SCI 3HA3 LIST PROCESSING AND LOGIC PROGRAMMING
Data and control structures for AI systems: symbolic expressions; LISP (lists, list processing functions, forms); POP-11 (user stack, structures, matching, macros, backtracking); resolution principle; basic PROLOG.
Three lectures; one term
Prerequisite: COMP SCI 2MD3 or COMP ENG 2YA3
COMP SCI 3MG3 COMPUTER SYSTEM ARCHITECTURE
Processor, memory and input/output; compilers, assemblers, loaders; introduction to pipelining, virtual memory and parallel computing techniques.
Three lectures; one term
Prerequisite: COMP SCI 2MF3 or COMP ENG 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 and 3MG3 or COMP ENG 2YA3 and 3HB3
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 2YA3
COMP SCI 3SD3 COMPUTER SIMULATION TECHNIQUES
Techniques for the application of computer simulation software to scientific and engineering problems, especially queuing and network problems.
Three lectures; one term
Prerequisite: One of COMP SCI 1MB3, 1MD3, 2SB3, COMP ENG 2YA3
Not offered in 1996-97
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.
Two lectures, one lab; one term
Prerequisite: One of COMP SCI 1MA3, 1MC3, 1SA3, 1ZA3, ENGINEER 1D04
First offered in 1997-98.
COMP SCI 3TA3 INTRODUCTION TO AUTOMATA AND FORMAL LANGUAGE THEORY
Three lectures; one term
Prerequisite: COMP SCI 2MD3; and one of COMP SCI 2MJ3, MATH 2M06, 2Q04 or both MATH 2R03 and one of MATH 2S03 or 2T03
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: One of COMP SCI 1MA3, 1MC3; one of MATH 1A03, 1C03; and one of MATH 1B03, 1H05
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 4D06
COMP SCI 4CC3 ADVANCED OPERATING SYSTEMS
Modern operating systems: large-scale interactive to small real-time systems; microcomputer/mainframe interconnections; message passing techniques; networks; languages for implementation of distributed operating systems.
Three lectures; one term
Prerequisite: COMP SCI 3MH3 or COMP ENG 4WA3
COMP SCI 4CD3 DISTRIBUTED SYSTEM ARCHITECTURES
Distributed systems: real-time, agent-oriented, heterogeneous, multi-computer, multi-processor; coupling schemes: loose, tight, networking, ATM, frames relay, clustering, software protocols; communication strategies, client/server approaches.
Two lectures; one lab; one term
Prerequisite: COMP SCI 3MG3 or COMP ENG 3HB3 or credit or registration in PHYSICS 4D06
COMP SCI 4EB3 DATABASE MANAGEMENT SYSTEM DESIGN
Concepts and structures for the design of database management systems. Topical 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 2YA3

COMP SCI 4EC3 DESIGN OF INFORMATION SYSTEMS II
Advanced software development in the business/industrial environment. Comparative analysis of alternatives to structured design, especially object-oriented techniques. Three lectures; one term
Prerequisite: COMP SCI 2MD3 and registration in Level IV of a Computer Science programme

COMP SCI 4ED3 SOFTWARE ENGINEERING APPLICATIONS
A continuation of COMP SCI 3EA3. Use of advanced software specification techniques and software tools to support program development. A large-scale team project produces high-quality production software. Three lectures; one term
Prerequisite: COMP SCI 3EA3 or COMP ENG 3VA3

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: Credit or registration in MATH 3B03, and credit in COMP SCI 2MD3 or a grade of at least B- in COMP SCI 1MB3 or 2SB3

COMP SCI 4IB3 INTRODUCTION TO ARTIFICIAL INTELLIGENCE
AI disciplines: perception, pattern recognition, machine learning, image processing, scene analysis, speech processing, problem solving, production systems, backtracking, graph search techniques, GPS, STRIPS, PLANNER, PROLOG. Three lectures; one term
Prerequisite: COMP SCI 3A3

COMP SCI 4IC3 THE ARCHITECTURE OF EXPERT SYSTEMS
“Hands-on” experience in the design and development of knowledge-based systems applying human expertise to specific areas of problem-solving: knowledge representations, knowledge engineering, and knowledge-based programming. Three lectures; one term
Prerequisite: COMP SCI 3A3
Not offered in 1996-97.

COMP SCI 4MP6 PROJECT FOR COMBINED PROGRAMMES
Under the supervision of a faculty member, teams of two to three students implement, write up and defend a substantial project, in the area of the combined programme. Occasional tutorials, no lectures; two terms
Prerequisite: Registration in Level IV of any combined Honours Computer Science programme. Completion of COMP SCI 3EA3 is strongly recommended.
Antirequisite: COMP SCI 4ZP6, COMP ENG 4J4A4

COMP SCI 4TC3 RECURSIVE FUNCTION THEORY AND COMPUTABILITY
Recursive and primitive recursive functions, decidability and undecidability with applications to formal language theory, logic and algebra. Three lectures; one term
Prerequisite: COMP SCI 2MD3; and either COMP SCI 2MJ3 or one of MATH 2M06, 2Q04; or MATH 2R03 and one of MATH 2503, 2T03
Antirequisite: MATH 4S03
Not offered in 1996-97.

COMP SCI 4TD3 DESIGN AND ANALYSIS OF ALGORITHMS
Techniques for the design and analysis of algorithms, especially divide-and-conquer, greedy, and dynamic programming algorithms. An introduction to computational complexity. Analysis of particular algorithms of practical or theoretical importance in computer science. Three lectures; one term
Prerequisite: COMP SCI 2MD3, 2MJ3 and one of MATH 2B06, 2J06, 2M06, 2Q04, 2R03

COMP SCI 4Z13 COMPUTER SCIENCE INQUIRY
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 3EA3 is strongly recommended
Antirequisite: COMP SCI 4MP6, COMP ENG 4J4A4

Collaborative Course Offerings
The Department is participating in an experimental venture with the University of Guelph to provide courses over the Video Link. 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 3EA3
Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

COMP SCI 4HF3 HUMAN COMPUTER INTERACTION
Methodology for software design, interface representations, testing; evaluation and design of sample application systems; impacts of computer-based information systems on individuals and organizations; implementation and testing tools. Four hours (lectures and tutorials); one term
Prerequisite: COMP SCI 2ME3 and 3EA3
Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

COMP SCI 4JB3 COMPILER CONSTRUCTION
Lexical analysis; scanner construction; syntax analysis and syntax-directed translation; compiler compi/ers; intermediate code generation; code generation and optimization. Two lectures, one lab or tutorial (three hours); second term
Prerequisite: Registration in Level IV of a Computer Science programme or Level IV or V Computer Engineering Cross-list: COMP ENG 4HF3
Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

DRAMA
Courses and programmes in Drama are administered within the School of Art, Drama and Music of the Faculty of Humanities.

Note:
Students are advised to note carefully the prerequisites for all courses. Students are also advised to take note which courses are offered in alternate years.

Courses
If no prerequisite is listed, the course is open.

DRAMA 1A06 INTRODUCTION TO DRAMA
An exploration of theatrical media. Emphasis will be placed on the study of plays from major periods of Western drama. The relationship of theatre to film, opera and other performing arts will be introduced. Two lectures, one tutorial; two terms

DRAMA 2A06 THE ART OF ACTING
An exploration of the theories and methods that inform the actor’s art, designed to expose the student to the range and complexity of performance styles used in the contemporary theatre. The class will be organized around the preparation of performances using Realist, Epic and Collective approaches. Two studio (three hours); two terms

160 COMPUTER SCIENCE AND SYSTEMS
Prerequisite: DRAMA 1A06, with a grade of at least B-
Enrolment is limited. Priority is given to students enrolled in Drama
programmes.

DRAMA 2D06
THE DRAMATIC TEXT
An examination of the different kinds of texts produced for dra
matic 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 informa-
tion.
Three hours; (lectures and discussion groups); one term
Prerequisite: DRAMA 1A06

DRAMA 2M06
HISTORY OF THEATRICAL PERFORMANCE
IN THE WESTERN WORLD
A survey of the traditions of Western theatrical production from
Classical Greece to the present, including architecture, design, stage
machinery, the organization of production, the training and prepa-
ration of the actor, and the expectation of the audience. Some
emphasis will be placed on the social context of theatre, and on
research methods and problems.
Two lectures, plus evening lab; two terms
Prerequisite: DRAMA 1A06

DRAMA 2X06
THE ART OF THE FILM
An introduction to film style and technique through a detailed critical
analysis of major works from the silent period to the present day.
Two lectures, plus one weekly film screening; two terms
Prerequisite: Six units from the Faculty of Humanities and registration in
Level II and above
Cross-list: ART HIST 2X06

DRAMA 3A03
TOPICS IN ACTING
The study and performance of scenes from the works of Classical
Greece and Medieval Britain. 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.

DRAMA 3A03
ACTING SHAKESPEARE
The study and performance of scenes from the works of William
Shakespeare. Extension of acting skills through specific voice, body
and language techniques.
Two studio (three hours); one term
Prerequisite: DRAMA 2A06
Enrolment is limited. Priority is given to students enrolled in Drama
programmes.

DRAMA 3B03
INDEPENDENT STUDY IN DRAMA I
Students who wish to undertake independent study must consult the
Chair prior to registration.
One term
Prerequisite: Registration in a programme in Drama and permission of the
School of Art, Drama and Music

DRAMA 3C03
MODERN EUROPEAN DRAMA
FROM IBSEN TO PIRANDELLO
A study of representative plays by eight major dramatists, including
Ibsen, Strindberg, Chekhov, Gorky, Wedekind and Kaiser.
One seminar (two hours), plus play readings; one term
Prerequisite: Six units of Level II Drama
Cross-list: COMP LIT 3E03
Offered in alternate years.

DRAMA 3C03
MODERN EUROPEAN DRAMA
FROM BRECHT TO THE PRESENT
A study of representative plays by ten major dramatists, including
Garcia Lorca, Cocteau, Frisch, Sarrie, Weiss, Genet, Dario Fo,
One seminar (two hours), plus play readings; one term
Prerequisite: Six units of Level II Drama
Cross-list: COMP LIT 3C03
Offered in alternate years.

DRAMA 3D03
TECHNICAL ASPECTS OF THE THEATRE
A survey of the theory and practice of all the technical skills involved in
a theatrical production: 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 and permission of the
School of Art, Drama and Music
Students wishing to take this course must complete an application form in
the School of Art, Drama and Music before March 31 to guarantee consideration.
Enrolment is limited.

DRAMA 3E03
PRODUCTION AND STAGE MANAGEMENT
A study of the organizational skills involved in a theatrical production. In
addition to lecture/discussion, each student will be involved in one production
during the academic year as Stage Manager/Production Assistant.
Two hours, first term; one hour (workshops), second term
Prerequisite: Registration in a programme in Drama and permission of the
School of Art, Drama and Music
Students wishing to take this course must complete an application form in
the School of Art, Drama and Music before March 31 to guarantee consideration.
Enrolment is limited.

DRAMA 3F03
OPERA II: ROMANTIC TO MODERN
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: One of DRAMA 2D06, 2M06. One of DRAMA 3F03, 3I03 is
recommended. Offered in alternate years.

DRAMA 3F03
STUDIES IN OPERA
Previous topics include: Giuseppe Verdi, The Gramaphone and the Voice.
Consult the School of Art, Drama and Music concerning topic to be offered.
Three lectures; one term
Prerequisite: One of DRAMA 2D06, 2M06. 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.

DRAMA 3G03
PERFORMANCE HISTORY BEFORE 1800
An examination of issues in the study of Western theatrical tradition.
Three lectures; one term
Prerequisite: One of DRAMA 2D06, 2M06
Offered in alternate years.

DRAMA 3G03
LITERATURE AND FILM
An examination of the particular characteristics of both literature and film and
the relationships between them through a detailed study of selected novels,
short stories and plays and the films that have been based on them.
Three lectures, plus one weekly film screening; one term
Prerequisite: Registration in Level III of IV of a programme in Drama or
Literature or Art History. DRAMA 2X06 is recommended.
Cross-list: ART HIST 3C03, COMP LIT 3L03, ENGLISH 3C03
Offered in alternate years.

DRAMA 3L03
OPERA I: RENAISSANCE TO ROMANTIC
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: One of DRAMA 2D06, 2M06
Offered in alternate years.

DRAMA 3L03
TOPICS IN FILM
Previous topics include: Genre Studies, Film Comedy. Consult the School of
Art, Drama and Music concerning topic to be offered.
Two lectures, plus one weekly film screening; one term
Prerequisite: DRAMA 2X06
Cross-list: ART HIST 4S03

DRAMA 3L03 may be repeated, if on a different topic, to a total of six units.

DRAMA 3L03
MODERN EUROPEAN THEATRE HISTORY
A study of the major influences that have shaped the growth of modern
theatre movements in Europe from the late nineteenth century to the present.
One seminar (two hours); one term
Prerequisite: Six units of Level II Drama
Offered in alternate years.

DRAMA 3L03
AMERICAN AND CANADIAN THEATRE HISTORY
A study of the development of theatrical performance in the United States and
Canada.
Seminar (two hours); one term
Prerequisite: Six units of Level II Drama
Offered in alternate years.

DRAMA 3F03
OPERA II: ROMANTIC TO MODERN
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: One of DRAMA 2D06, 2M06. One of DRAMA 3F03, 3I03 is
recommended. Offered in alternate years.

DRAMA 3G03
STUDIES IN OPERA
Previous topics include: Giuseppe Verdi, The Gramaphone and the Voice.
Consult the School of Art, Drama and Music concerning topic to be offered.
Three lectures; one term
Prerequisite: One of DRAMA 2D06, 2M06. One of DRAMA 3F03, 3I03 is
recommended. Offered in alternate years.

DRAMA 3G03 may be repeated, if on a different topic, to a total of six units.

DRAMA 3G03
LITERATURE AND FILM
An examination of the particular characteristics of both literature and film and
the relationships between them through a detailed study of selected novels,
short stories and plays and the films that have been based on them.
Three lectures, plus one weekly film screening; one term
Prerequisite: Registration in Level III of IV of a programme in Drama or
Literature or Art History. DRAMA 2X06 is recommended.
Cross-list: ART HIST 3C03, COMP LIT 3L03, ENGLISH 3C03
Offered in alternate years.

DRAMA 3L03
OPERA I: RENAISSANCE TO ROMANTIC
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: One of DRAMA 2D06, 2M06
Offered in alternate years.

DRAMA 3L03
TOPICS IN FILM
Previous topics include: Genre Studies, Film Comedy. Consult the School of
Art, Drama and Music concerning topic to be offered.
Two lectures, plus one weekly film screening; one term
Prerequisite: DRAMA 2X06
Cross-list: ART HIST 4S03

DRAMA 3L03 may be repeated, if on a different topic, to a total of six units.

DRAMA 3L03
MODERN EUROPEAN THEATRE HISTORY
A study of the major influences that have shaped the growth of modern
theatre movements in Europe from the late nineteenth century to the present.
One seminar (two hours); one term
Prerequisite: Six units of Level II Drama
Offered in alternate years.

DRAMA 3L03
AMERICAN AND CANADIAN THEATRE HISTORY
A study of the development of theatrical performance in the United States and
Canada.
Seminar (two hours); one term
Prerequisite: Six units of Level II Drama
Offered in alternate years.
DRAMA 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 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 3T03 and Modern Languages 3T03
DRAMA 3T03 may be repeated, if on a different topic, to a total of six units.

DRAMA 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: DRAMA 2X06
Cross-list: ART HIST 3T03
DRAMA 3T03 may be repeated, if on a different topic, to a total of six units.

DRAMA 3203  INDEPENDENT STUDY IN PRACTICAL THEATRE
Students who wish to undertake independent study must consult the Director of the School of Art, Drama and Music prior to registration.
One term
Prerequisite: Registration in a programme in Drama and permission of the School of Art, Drama and Music

DRAMA 4A06  PRINCIPLES OF STAGE DIRECTING
Play analysis, schedule planning, rehearsal techniques, technical stagewear required to bring a play to performance, direction of a play for performance under the supervision of the instructor.
Class meets twice a week, total five hours; two terms
Prerequisite: DRAMA 2A06 and one of 3A03, 3A33, 3D03, 3E03; 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. Enrolment is limited and is based on academic achievement. The School of Art, Drama and Music reserves the right to limit any student's involvement in the Lunch Hour theatre season.

DRAMA 4B03  INDEPENDENT STUDY IN DRAMA II
Students who wish to undertake independent study must consult the Director of the School of Art, Drama and Music prior to registration.
One term
Prerequisite: Registration in a programme in Drama and permission of the School of Art, Drama and Music

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 4F03  STUDIES IN CONTEMPORARY DRAMA
Senior seminar: An examination of selected plays from western drama written since 1956.
Seminar (two hours); one term
Prerequisite: Registration in Level IV of an Honours programme in Drama
Offered in alternate years.
Enrolment is limited.

DRAMA 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 Drama.
DRAMA 2X06/ART HISTORY 2X06 is recommended.
Cross-list: ART HIST 4F03
Offered in alternate years.
Enrolment is limited.

The following courses, offered by other departments, directly pertain to the study of Drama. These are recommended as electives. With the approval of the Director of the School of Art, Drama and Music, a limited number of courses from this list may be available as substitutes for Drama courses, and counted toward the fulfillment of a programme in Drama. Students are advised that there may be restrictions on enrolment in these courses.

CLASSICS 2H06  GREEK AND ROMAN THEATRE AND DRAMA
ENGLISH 2B06  DEVELOPMENT OF ENGLISH DRAMA
ENGLISH 3K06  SHAKESPEARE
ENGLISH 3P03  MODERN DRAMA IN ENGLISH
ENGLISH 3X03  TOPICS IN DRAMA
FRENCH 3B3  CONTEMPORARY QUEBEC THEATRE
FRENCH 3Q03  17TH-CENTURY FRENCH LITERATURE
KINESIOL 4J03  PERSPECTIVES IN DANCE: DANCE IN CONTEMPORARY SOCIETY
MOD LANG 3G03  GERMAN DRAMA (IN ENGLISH)
MOD LANG 4L03  SURVEY OF SPANISH THEATRE (IN ENGLISH)
WOMEN ST 3B03  TOPICS IN WOMEN AND THE ARTS I: THEATRE AND FILM

ECONOMICS

Faculty as of January 15, 1996

Chair
Alan Harrison

Associate Chair
Stephen R.G. Jones

Professors Emeriti
Syed Ahmad/M.A.,LL.B. (Alligarh), M.Sc. (Econ.), D.Sc. (Econ.) (London)
R. Craig McVror/B.A. (Western), M.A.,Ph.D. (Chicago), F.R.S.C.
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 F. Williams/ M.A., Ph.D. (Minnesota)

Professors
Martin J. Browning/B.Sc., M.Sc. (London)
John B. Burridge/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)
Alain Harrison/B.A., Ph.D. (Quebec)
James A. Johnson/M.A., Ph.D. (Minnesota)
Atif A. Kubursi/B.A., (American University, Beirut), M.A., Ph.D. (Purdue)
Peter J. Kuhn/B.A. (Carleton), Ph.D. (Harvard)
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COURSES

**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 1B03

**ECON 1B03**
Introductory Microeconomics

An introduction to the method and theory of microeconomics for engineering students. The analysis will involve mathematics and will be applied to contemporary problems.

Three hours; one term

Prerequisite: Registration in an Engineering or Science programme

Antirequisite: ECON 1A06

**ECON 1BB3**
Introductory Macroeconomics

An introduction to the method and theory of macroeconomics for engineering students. The analysis will involve mathematics and will be applied to contemporary problems.

Three hours; one term

Prerequisite: Registration in an Engineering 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 ECON 1B03 and 1B03

Cross-list: LABR ST 3A03

Enrolment is limited.

**ECON 2B03**
Analysis of Economic Data

Application of statistical concepts to the analysis of economic data, with attention to Canadian sources. Regression analysis and the use of spreadsheets are included. Topics may also include index numbers.

Three hours; one term

Prerequisite: ECON 1A06 with a grade of at least C-, or ECON 1B03 and 1B03 with an average of at least 4.0 and MATH 1K03 (or OAC Calculus) and one of MATH 1L03 or STATS 1L03 or 2D03 (or OAC Finite Math)

Not open to students with credit or registration in ECON 3006, CHEM ENG 4C03, COMMERCE 2Q3A, GEOG 2L13, 2N03, POL SCI 2F06, 3N06, PSYCH 2G03, 2R03, SOCIOLO 2Y03, 3H06, or any Statistics course other than STATS 1A03, 1C03, 1L03 or 2D03; or if COMMERCE 2Q3A is a programme requirement.

**ECON 2C03**
Asian-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-, or ECON 1B03 and 1B03 with an average of at least 4.0

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 with a grade of at least C-, or ECON 1B03 and 1B03 with an average of at least 4.0

**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 with a grade of at least C-, or ECON 1B03 and 1B03 with an average of at least 4.0

**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 with a grade of at least C-, or ECON 1B03 and 1B03 with an average of at least 4.0

**ECON 2G03**
Intermediate Microeconomics I

Elements of consumer behaviour; production and cost, price and output determination under various market structures; employment of inputs.

Three hours; one term

Prerequisite: ECON 1A06 or 1B03 with a grade of at least C-, 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 2X03 or 2L06

**ECON 2G03**
Intermediate Microeconomics II

Price and output determination under various noncompetitive market structures; factor input markets; general equilibrium; welfare; topics in consumer theory.

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 with a grade of at least C-, OAC Calculus or MATH 1K03 or equivalent. Students without credit in MATH 1M03 or equivalent are strongly advised to take it concurrently with ECON 2H03.

Antirequisite: ECON 2M06
ECON 2H03 INTERMEDIATE INCOME AND EMPLOYMENT THEORY II
Selected topics from macroeconomics 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 3M06

ECON 2K03 ECONOMIC HISTORY OF CANADA
A survey of the changing structure of the Canadian economy from the colonial period to the present; early significance of primary production for export markets; emerging domestic markets and industrialization; government's role in promoting the development of the national economy.
Three hours; one term
Prerequisite: At least C- in ECON 1A06, or ECON 1B03 and 1BB3 with an average of at least 4.0

ECON 2N03 PUBLIC POLICY TOWARD BUSINESS
The economic effects of federal competition policy and the regulation of business by all levels of government. The impacts of government ownership and bail-out activity on the Canadian business environment are also analyzed.
Three hours; one term
Prerequisite: ECON 1A06 with a grade of at least C-, or ECON 1B03 and 1BB3 with an average of at least 4.0
Antirequisite: ECON 3N03

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 ECON 1B03 and 1BB3
Cross-list: LABR ST 3B03
Enrolment is limited.

ECON 2X03 APPLIED BUSINESS ECONOMICS
The economic analysis of the strategy of managerial decision-making. A variety of market structures are examined.
Three hours; one term
Prerequisite: ECON 1A06 or ECON 1B03 and OAC calculus or MATH 1K03 or equivalent. Students without credit in MATH 1M03 are strongly advised to take it concurrently with ECON 2X03
Antirequisite: ECON 2G03 or 2L06. Not open to students registered in Economics programs.

ECON 3A03 ADVANCED ECONOMIC THEORY I
Mathematically oriented approaches to the analysis of the behaviour of individual consumers, workers and firms.
Three hours; one term
Prerequisite: MATH 1M03 and an average of at least 7.0 in ECON 2G03 or 2X03, 2GG3 (or 2L06), 2H03, 2HH3 (or 2M06); one of ECON 3G03 or MATH 2A06, 2G03, 2L03

ECON 3A04 ADVANCED ECONOMIC THEORY II
Comparative static and dynamic analysis of macroeconometric models.
Three hours; one term
Prerequisite: MATH 1M03 and an average of at least 7.0 in ECON 2G03 or 2X03, 2GG3 (2L06), 2H03, 2HH3 (or 2M06); one of ECON 3G03 or MATH 2A06, 2G03, 2L03

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

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 ECON 2B03 or 3006 or an equivalent

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 1L03, or STATS 1L03; MATH 1M03 or equivalent; and an average of at least 7.0 in ECON 2G03 or 2X03, 2GG3 (or 2L06), 2H03, 2HH3 (or 2M06)
Antirequisite: MATH 2A06, 2G03, 2L03
Not open to students with credit in registration in ECON 3A03 or 3A04.

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 2G03 or 2L06

ECON 3H13 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 3I03 ECONOMIC HISTORY OF THE UNITED STATES
Economic analysis of the development of the U.S. economy. Topics include the colonial economy, slavery, transportation, income distribution, foreign trade, technical and institutional change and the Great Depression.
Three lectures; one term
Prerequisite: One of ECON 2G03, 2X03, 2L06. ECON 2H03 or 2M06 is recommended.

ECON 3J03 MONETARY ECONOMICS AND FINANCIAL ORGANIZATION: THEORY AND POLICY
Objectives, organization and operation of the financial sector; financial intermediaries in the capital market; mechanism of international payments; monetary theory and policy concerning Canadian allocative and stability objectives.
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, 2L06, 2X03

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 coalitionary games. Applications in economics, political science and evolutionary biology are discussed.
Three hours; one term
Prerequisite: One of ECON 2G03, 2X03, 2L06
Not open to students with credit in ECON 3Y03, if the topic was Introduction to Game Theory.

ECON 3O06 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.
ECONOMICS

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, MATH 1L03 or STAT 1L03 or 2D03
Antirequisite: STATS 3D06
Not open to students with credit or registration in ECON 4G03.

ECON 3P03 LINEAR ECONOMIC MODELS
Application and interpretation in economics of linear programming, game theory and inter-industry analysis.
Three hours; one term
Prerequisite: One of OAC Finite Math, MATH 1B03 or 1L03, or STAT 1L03; at least C- in each of MATH 1M03, ECON 2G03 or 2X03 (or 2L06), and 2H03 (or 2M06). Credit in MATH 1A03, 1A06, 1A66, 1C06 or 1N06 is accepted in place of C- in MATH 1M03.

ECON 3S03 INDUSTRIAL ORGANIZATION
A study of the structure, conduct and performance of industrial markets.
Three lecture; 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, agricultural, 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 3TT3 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
Not open to students with credit or registration in ECON 3N06 or 4G03.

ECON 3W03 NATURAL RESOURCES
Competitive and socially optimal exhaustion of nonrenewable resources; market failure as illustrated by mineral cartels, fisheries and forestry; environmental economics.
Three hours (lectures and seminars); one term
Prerequisite: One of ECON 2G03, 2X03, 2L06, and MATH 1M03

ECON 3X03 URBAN MODELS AND POLICY ANALYSIS I
A survey of modern literature on urban social structure. Topics include welfare criteria, income distribution, externalities, public goods and fiscal policies.
Two lectures (one hour), one tutorial (two hours); one term
Prerequisite: One of ECON 2G03, 2X03, 2L06, or GEOG 3X03
Antirequisite: Registration in a Geography programme or GEOG 3X03
Cross-list: 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 3Y03 SELECTED TOPICS II
In 1996-97, 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, 2H43, 3L03 or 3006, 3F03

ECON 4E03 TOPICS IN MICROECONOMICS
Applications of advanced microeconomic theory. Consult the Economics Department for 1994-95 topic.
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 1996-97 topic.
Three hours; one term
Prerequisite: At least C- in ECON 3A03

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 3C03, STAT 3D03 and 2D03 (or 2M06)

ECON 4G03 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 4G03

ECON 4M06 DIRECTED RESEARCH I
A reading and/or research programme supervised by a Department member. A major paper is required. 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 GEOG 3X03
Cross-list: GEOG 4X03

ELECTRICAL AND COMPUTER ENGINEERING
Faculty as of January 15, 1996

Chair
D.R. Conn

Professors Emeriti
Arthur S. Gladwin/B.Sc. (Glasgow), Ph.D. (London)
Reuven Kitai/M.Sc., D. Sc. (Witwatersrand), F.I.E.E.

Professors
Radek M. Biernacki/M.Sc., Ph.D. (Warsaw)/part-time
Charles R. Carter/B.A.Sc., M.A.Sc., (British Columbia), Ph.D. (McMaster), P.Eng.
David R. Conn/B.Sc., M.Sc., Ph.D. (Queen's), NSERC Industrial Research Chair in Monolithic Microwave Integrated Circuits, BNR/NSERC Chair, P.Eng.
Mohamed A. El-Kady/B.Sc. (Eng.), M.Sc. (Eng.) (Cairo), Ph.D. (McMaster), S.M.I.E.E., P.Eng./part-time
Simon Haykin/B.Sc., Ph.D., D. Sc. (Birmingham), F.R.S.C., F.I.E.E.
**COMPUTER ENGINEERING**

**COMP1 ENG 2KA3 DIGITAL CIRCUITS**
Number systems; Boolean algebra, switches, logic gates, simplification of Boolean functions, combinational logic, flipflops, analysis and design of clocked sequential circuits.

Two lectures, one tutorial, one lab (three hours) every other week;
second term
Prerequisite: COMP ENG 2KA3 and ELEC ENG 2DA3

**COMP ENG 2KA3 COMPUTATIONAL METHODS**
Computational techniques for solving electrical engineering problems; linear and non-linear equations; eigen decompositions; numerical integration; differentiation; differential equations; interpolation; numerical stability and computational efficiency.

Two lectures, one tutorial, one lab (three hours) every other week;
second term
Prerequisite: ENGINEER 1D04, MATH 1H05, 1N06, and registration or credit in ELEC ENG 2BA3
Antirequisite: COMP SCI 2SB3

**COMP ENG 2Y3A DATA STRUCTURES AND COMPUTER ALGORITHMS**
Data structures; lists, stacks, trees, file management; sorting algorithms; semi-numeric algorithms; graph algorithms.

Two lectures, one tutorial, one lab (three hours) every other week;
first term
Prerequisite: ENGINEER 1D04, and registration in a Computer Engineering programme
Antirequisite: COMP SCI 2MD3

**COMP ENG 3HB3 DIGITAL COMPUTER PRINCIPLES**
Elements of digital computers; register transfer logic; memory; organization and control of central processor unit.

Two lectures, one tutorial, one lab (three hours) every other week;
first term
Prerequisite: COMP ENG 2HA3
Antirequisite: ENGINEER 4C03, PHYSICS 4D3A, 4D06

**COMP ENG 3HC3 MICROPROCESSOR SYSTEMS**
Microprocessor architecture, programming, timing, memory interfacing and interrupt handling using 8086; peripheral interfaces including handshaking, PPI, UART, keyboards, CRT, timers and event counters; system bus structures.

Two lectures, one tutorial, one lab (three hours) every other week;
second term
Prerequisite: Registration or credit in COMP ENG 3HB3

**COMP ENG 3KB3 SIMULATION AND OPTIMIZATION I**
Optimization-oriented computer-aided engineering; CAD systems; optimization fundamentals and algorithms; non-linear equations; approximation practice; adjacent network gradients; sensitivities, tolerances.

Two lectures, one tutorial, one lab (three hours) every other week;
second term
Prerequisite: COMP ENG 2KA3 and ELEC ENG 2DA3

**COMP ENG 3VA3 SOFTWARE ENGINEERING**
Software life-cycle; planning; requirements analysis; the design process and methods; design tools; testing; maintenance; software reliability. Application of design methods in a group project.

Two lectures, one tutorial, one lab (three hours) every other week;
first term
Prerequisite: COMP ENG 2Y3A and registration in a Computer Engineering programme
Antirequisite: COMP SCI 3EA3

**COMP ENG 4HD3 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 (three hours) every other week;
first term
Prerequisite: COMP ENG 3HB3

**COMP ENG 4HE3 ADVANCED REAL TIME COMPUTING SYSTEMS**
Real time systems, jobs and tasks; disk management; real time implementation; multiprocessor systems.

Two lectures, one tutorial, one lab (three hours) every other week;
second term
Prerequisite: COMP ENG 3HB3

**COMP ENG 4HF3 COMPILER DESIGN AND IMPLEMENTATION**
Lexical analysis; scanner construction; syntax analysis and syntax-directed translation; compiler compilers; intermediate code generation; code generation and optimization.

Two lectures, one tutorial, one lab (three hours) every other week;
second term
Prerequisite: Registration in Level IV Computer Engineering or Computer Science
Cross-list: COMP SCI 4TB3
Enrolment is limited.
COMP 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.
Both terms
Prerequisite: Registration in Level IV of Computer Engineering or Level V of Computer Engineering and Management
Antirequisites: COMP SCI 425, 426

COMP ENG 4KC3  SIMULATION AND OPTIMIZATION II
Analog IC and system simulation; advanced optimization techniques; design centring, tolerancing and tuning; use of professional CAD software; VLSI and MMIC applications.
Two lectures, one tutorial, one lab (three hours) every other week; first term
Prerequisite: COMP ENG 3KB3

COMP ENG 4MA3  COMPUTER COMMUNICATION NETWORKS
Modern communication networks; switching methods; open systems interconnection architecture; design of communication subnetworks; local and metropolitan area networks; communication protocols; Fiberoptic systems; integrated services digital networks.
Two lectures, one tutorial, one lab (three hours) every other week; first term
Prerequisite: ELEC ENG 3MA3

COMP 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 (three hours) every other week
Prerequisite: ELEC ENG 3BB3 and 3NA3

ELECTRICAL ENGINEERING...

ELEC ENG 2BA3  ELECTRICAL SCIENCE
Electrostatic fields; Coulomb's Law, electric flux, potential; capacitance; conductors and dielectrics, polarization; magnetic fields; magnetic flux; magnetic circuits, forces and torques; energy concepts; inductance.
Two lectures, one tutorial, one lab (three hours) every other week; second term
Prerequisite: MATH 1H05, 1N06, PHYSICS 1E03, and registration in a programme in Computer Engineering or Electrical Engineering

ELEC ENG 2DA3  CIRCUITS AND SYSTEMS I
Mesh and nodal analysis of networks; transient response; steady-state response for sinusoidal inputs using phasors; power in AC circuits; network theorems; dependent sources; transformers; polyphase circuits.
Two lectures, one tutorial, one lab (three hours) every other week; first term
Prerequisite: MATH 1H05, 1N06, PHYSICS 1E03, and registration in a programme in Computer Engineering or Electrical Engineering

ELEC ENG 2FA3  ELECTRONICS I
Diodes, bipolar junction transistors, field effect transistors, operational amplifiers: principles of operation; electrical characteristics; circuit models; basic application circuits.
Two lectures, one tutorial, one lab (three hours) every other week; second term
Prerequisite: Registration or credit in ELEC ENG 2BA3 and 2DA3

ELEC ENG 3AA3  ELECTROCOMMUNICATIONS SYSTEMS I
Introduction to modern communication systems; data networks, protocol architectures, switching methods, physical communications, amplitude modulation, angle modulation, generation of AM and FM, digital modulation.
Two lectures, one tutorial, one lab (three hours) every other week; second term
Prerequisite: Registration or credit in ELEC ENG 3DB3

ELEC ENG 3BB3  ELECTROMAGNETIC FIELDS AND WAVES
Scalar and vector potential fields; Maxwell's equations, boundary conditions, electromagnetic energy and momentum theorems, transmission lines; waves.
Two lectures, one tutorial, one lab (three hours) every other week; first term
Prerequisite: ELEC ENG 2BA3

ELEC ENG 3CA3  FEEDBACK CONTROL SYSTEMS I
Models of physical systems: transfer functions and block diagrams, characteristics of feedback systems, frequency response, Nyquist criterion for stability.
Two lectures, one tutorial, one lab (three hours) every other week; second term
Prerequisite: ELEC ENG 2DA3 and registration or credit in ELEC ENG 3DB3

ELEC ENG 3DB3  CIRCUITS AND SYSTEMS II
Introduction to discrete time signals and systems: z-transforms, discrete and continuous time convolution, frequency response in discrete time systems, Fourier series, Fourier transforms, two-port networks.
Two lectures, one tutorial, one lab (three hours) every other week; first term
Prerequisite: ELEC ENG 2DA3

ELEC ENG 3FB3  ELECTRONICS II
Diodes, transistors, operational amplifiers: dynamic operation; dynamic circuit models; multitransistor circuits; frequency response and switching speed; negative feedback; computer software for electronic circuit analysis.
Two lectures, one tutorial, one lab (three hours) every other week; first term
Prerequisite: ELEC ENG 2FA3

ELEC ENG 3FC3  ELECTRONICS III
Non-linear operational amplifier circuits; signal generation; active filters; power amplifiers; power supplies; A/D and D/A conversion; analog multiplexers, sample and hold.
Two lectures, one tutorial, one lab (three hours) every other week; second term
Prerequisite: Registration or credit in ELEC ENG 3FB3

ELEC ENG 3NA3  AC POWER CONCEPTS
Polyphase circuits; transformers; voltage control and regulation; introduction to polyphase machines; synchronous generators and motors; squirrel-cage induction motors; applications to small industrial plants.
Two lectures, one tutorial, one lab (three hours) every other week; first term
Prerequisite: ELEC ENG 2BA3 and 2DA3

ELEC ENG 3SA3  SMALL MOTORS AND DRIVES
Small motors; direct current, single-phase induction, wound rotor induction, hysteresis, universal, stepper and permanent magnet motors. Elementary speed control techniques.
Two lectures, one tutorial, one lab (three hours) every other week; second term
Prerequisite: Registration or credit in ELEC ENG 3NA3

ELEC ENG 4AB3  COMMUNICATION SYSTEMS II
Communication systems in noisy and imperfect channels; random processes; noise in CW modulation systems including AM, DBSBC and SSB; digital signal and digital communications, multiplexing; technology issues.
Two lectures, one tutorial, one lab (three hours) every other week; first term
Prerequisite: ELEC ENG 3AA3, 3BB3 and STAT 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 (three hours) every other week; second term
Prerequisite: ELEC ENG 3AA3, 4AB3 and MATH 3K03

ELEC ENG 4CB3  FEEDBACK CONTROL SYSTEMS II
Design and compensation of control systems using frequency response as well as s-plane methods; Controllability and observability; state variable feedback; asymptotic observers; design of digital control systems; nonlinear systems analysis.
Two lectures, one tutorial, one lab (three hours) 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 (three hours) every other week; second term
Prerequisite: ELEC ENG 3CA3

ELEC ENG 4FD3  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 (three hours) 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.
Both terms
Prerequisite: Registration in Level IV of Electrical Engineering or Level V of Electrical Engineering and Management

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 (three hours) every other week
Prerequisite: ELEC ENG 3BB3 and 3NA3
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, and registration in COMP ENG 4JA4 or ELEC ENG 4JA4
ELEC ENG 4RA3  TRANSMITTING AND RADIATING SYSTEMS
Principles of transmission lines, matching and Smith charts; waveguides and rasonic cavities; antenna radiation; dipole antennas; antenna arrays. Two lectures, one tutorial, one lab (three hours) every other week; first term
Prerequisite: ELEC ENG 3BB3.
ELEC ENG 4SB3  POWER ELECTRONICS
Power circuits with switches; basic rectifier circuits; commutation; trijunctions; inverters; choppers; inverter control. Two lectures, one tutorial, one lab (three hours) every other week; first 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 (three hours) every other week; second term
Prerequisite: ELEC ENG 3FB3 or ENGINEER 3N03 or PHYSICS 3B06

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). Two hours, 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. Project designs 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
ENGINEER 2C03  ELECTRICAL CIRCUITS AND MEASUREMENTS
Electrostatics and applications, electrical quantities and circuit elements, Kirchoff's laws and network theory; transient response of circuits, simple measurement devices and transducers, characteristics of motors. Two lectures, one lab or tutorial; second term
Prerequisite: PHYSICS 1E03, and registration in MATH 2M06, or MATH 2P04 and 2Q04
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 2Q04
Antirequisite: ENGINEER 3M03
ENGINEER 2P04  ENGINEERING MECHANICS 'A'
Principles of statics as applied to deformable solid bodies. Stress and strain, elastic behaviour of simple members under axial force, bending and torsion. Principal stresses; deflection of beams; statistical determinacy. 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 2S03  MECHANICS FOR ELECTRICAL ENGINEERING
Three dimensional statics. Equivalent force systems in statics and dynamics. Three dimensional and planar kinematics. Principles of mechanics: moments, work and energy. Dynamics of particles and planar motion of solid bodies. Three lectures; first term
Prerequisite: PHYSICS 1D03 and registration in any programme in Electrical Engineering.
ENGINEER 2V04  THERMODYNAMICS
An introduction to the principles of macroscopic, microscopic and statistical thermodynamics and the application of these principles to engineering. Two lectures; both terms
Prerequisite: CHEM 1A06 or 1E03 and credit or registration in MATH 2M06, or MATH 2P04 and 2Q04
ENGINEER 3N03  ELECTRONICS AND INSTRUMENTATION
Semiconductor devices; diodes, transistors and silicon-controlled rectifiers. Transistor characteristics and load lines. Amplifier circuits with and without feedback. Rectifier and passive filter circuits. Operational amplifiers and active filters. Digital circuits, Microcomputers, Interfacing. Two lectures, one tutorial (two hours) or one lab (three hours); second term
Prerequisite: ENGINEER 2M04 or 2M03 or 3M03
ENGINEER 3P03  MECHANICAL BEHAVIOUR OF MATERIALS
Phenomenological treatment of elastic and plastic deformation, creep, fatigue and fracture mechanics of engineering materials particularly of interest in civil engineering. Physical processes in metals, ceramics, polymers, concrete, wood and composite materials. Application to mechanical design of structures, welded components and materials selection decisions. Properties of concrete. Three lectures, two 3-hour lab periods for concrete project; first term
Prerequisite: MATH 2M06, or MATH 2P04 and 2Q04, and ENGINEER 2P04
Antirequisites: ENGINEER 2C03, 3R03, MATHS 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
Prerequisite: Registration in final level of an Engineering programme
Antirequisite: CHEM ENG 4N04 or students registered in Engineering and Management programmes.
ENGINEER 4C03  REAL-TIME COMPUTER INTERFACING
Organization of real-time computers; instrumentation and interfacing for data acquisition and control; computer communication and local area networks; diagnostics for real-time operations. Two lectures, one lab (three hours); first term
Prerequisite: Registration in Level IV of Manufacturing Engineering
Antirequisite: COMP ENG 3HB3 or PHYSICS 4D06
ENGIN 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 section Faculty of Engineering in this calendar. These programmes lead to the B.Eng. Society degree.

Operating Committee, as of July 1, 1995:
Programme Director
H.M. Jenkins
M. Shoucri (Dean of Engineering)
R. G. Drysdale (Associate Dean of Engineering)
D. Gaykin (Mechanical Engineering and Society, Student)
K. Groen (Mechanical Engineering and Society, Student)
A. A. Harms (Engineering Physics)
S. Haykin (Electrical and Computer Engineering)
R. Hendriks (Civil Engineering and Society, Student)
K. C. Hudson (Mechanical Engineering)
R. M. Korol (Civil Engineering)
T. E. Marlin (Chemical Engineering)
S. Panagiotou (Philosophy)
M. Pazuk (Mechanical Engineering and Society, Student)
L. Pho (Electrical Engineering and Society, Student)
D. S. Wilkinson (Materials Science and Engineering)

Courses
If no prerequisite is listed, the course is open.

ENGSOC 1X03 INQUIRY IN AN ENGINEERING CONTEXT
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 involves 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.
One lecture, one tutorial, one seminar; first term
Prerequisite: Registration in an Engineering and Society programme

ENGSOC 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 in Level III of an Engineering and Society programme.
Two lectures, one tutorial; second term
Prerequisite: Registration in an Engineering and Society programme

ENGSOC 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.
One lecture, one seminar (two hours); second term
Prerequisite: ENGSOC 2X03

ENGSOC 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.
One lecture, one tutorial, one seminar; first term
Prerequisite: ENGSOC 2Y03

ENGSOC 3Z03 ENVIRONMENTAL STUDIES
Course covers aspects of environmental studies such as: environmental assessment, energy and elemental cycles, sustainable development, and hazardous waste management, air and water quality control, and environmental legislation.
Two lectures, one tutorial; second term
Prerequisite: Registration in Level III of an Engineering and Society Programme or the Honours Geography and Environmental Science (B.Sc.) Programme
ENGSOCTY 4X03 INQUIRY IN AN ENGINEERING CONTEXT III
Under the supervision of a faculty member, students write an inquiry paper and present their findings orally. Topics for inquiry must bear on the relation of technology to society and have implications for the practising engineer.
One lecture, one seminar (two hours); two terms
Prerequisite: ENGSOCTY 3X03

ENGSOCTY 4Z03 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 an approach to social responsibility in engineering.
One lecture, one tutorial, one seminar; one term
Prerequisite: ENGSOCTY 3Z03

ENGINEERING PHYSICS
Faculty as of January 15, 1996
Chair
P. Mascher

Professors Emeriti
John A. Davies/B.A., M.A., Ph.D. (Toronto), F.R.S.C., F.D.R.S.
Terence J. Kennett/B.Sc., M.Sc., Ph.D. (McMaster)

Associate Professors
Edward A. Ballik/B.Sc., (Queen's), D.Phil. (Oxford), P.Eng.
Harold K. Haugen/B.Sc. (Acadia), M.Eng. (McMaster), Ph.D. (Aarhus)
Derek C. Houghton/B.Sc. (Birmingham), Ph.D. (Cambridge)/part-time
David P. Jackson/B.Sc., M.A., M.A.Sc., Ph.D. (Toronto)/part-time
Krish V. S. Krishnan/B.Tech. (Madras), M.S., Ph.D. (York)/part-time
John G. Simmons/B.Sc. (London), M.Sc. (Temple University), Ph.D., D.Sc. (London), BNRINSERC Chair in Microelectronic and Optoelectronic Materials and Devices
Anthony J. Spring Thorpe/B.Sc., Ph.D. (Sheffield)/part-time
David A. Thompson/B.Sc., Ph.D. (Reading)/Eng.

COURSES
If no prerequisite is listed, the course is open.

ENG PHYS 2A03 ELECTRICAL SCIENCE I
An introduction to electricity and magnetism for Engineering Physics students.
Two lectures, one tutorial, one lab (three hours), every other week; first term
Prerequisite: PHYSICS 1E03, and credit or registration in MATH 2004

ENG PHYS 2E04 ELECTRICAL SCIENCE II
Analysis of ac circuits and ac power. Maxwell's equations and electromagnetic theory. Introductory modern physics.
Three lectures, one tutorial, one lab (three hours), every other week; second term
Prerequisite: Registration or credit in ENG PHYS 2A03
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.
Two lectures, one tutorial; first term
Prerequisite: PHYSICS 3N03, or ENG PHYS 3E03

ENG PHYS 4H05  SPECIAL STUDIES IN ENGINEERING PHYSICS
A special programme of studies to be arranged by mutual consent of the professor, departmental chair, and the student. A student elects to work with a professor carrying out literature surveys, experiments, theoretical investigations, etc. A written report is required.
Two tutorials, one lab (three hours); both terms
Prerequisite: Registration in final level of an Engineering Physics programme and a C.A. of at least 9.5

ENG PHYS 4K03  OPTICAL COMMUNICATIONS SYSTEMS
Three lectures
Prerequisite: Registration in Level IV or V of any programme in Engineering or Physics

ENG PHYS 4L03  NUCLEAR REACTOR THERMALHYDRAULICS
Introduction to two phase flow and nuclear reactor thermalhydraulics systems. Condensation and boiling phenomena and heat transfer mechanisms. Two phase flow apparatus and diagnostics techniques. Modelling of two phase flow by homogeneous and separated flow models.
Two lectures, one lab; second term
Prerequisite: CHEM ENG 2004 or 3004 or ENG PHYS 3003 or MECH ENG 3004

ENG PHYS 4N03  PRINCIPLES OF FUSION ENERGY
Fusion phenomena and the plasma state; reaction analysis; Coulomb scattering; field effect trajectories; magnetic field configurations; particle transport; energy viability; burn cycles; inertial confinement; muon catalyzed fusion.
Three lectures; first term
Prerequisite: ENG PHYS 3D03

ENG PHYS 4S04  LASERS AND ELECTRO-OPTICS
Two lectures; both terms
Prerequisite: PHYSICS 3N03, or ENG PHYS 3E03

ENG PHYS 4U04  MODERN AND APPLIED PHYSICS LABORATORY
Selected advanced experiments in two areas of applied physics, chosen from among: lasers and electro-optics; solid state electronics; nuclear engineering. Two labs (three hours); both terms
Prerequisite: Registration in Level IV Engineering Physics or Engineering Physics and Management

ENG PHYS 4Z03  SEMICONDUCTOR DEVICE PHYSICS
Physical, chemical and metallurgical processes for fabrication of modern semiconductor devices. Doping, chemical vapour deposition, oxidation, diffusion, epitaxy, implantation, ion etching, metal and dielectric deposition.
Two lectures, one tutorial (two hours); second term
Prerequisite: Credit or registration in ENG PHYS 4E03

PHYSICS 3B06  ELECTRONICS
Network theory and filters, semiconductor devices, amplifier circuits, D.C. power supplies, integrated circuits, operational amplifiers and digital circuits.
Two lectures; both terms; one lab (two hours); both terms
Prerequisite: ENG PHYS 2A03 and 2E04, or PHYSICS 2B06

PHYSICS 4D06  DIGITAL LOGIC AND COMPUTER SYSTEMS
The design and use of digital logic systems, and their application to data acquisition and control techniques. The project-oriented laboratory involves both hardware and software.
Two lectures, one lab (three hours); both terms
Prerequisite: ENG PHYS 2A03 and 2E04, or PHYSICS 2B06
Antirequisite: COMP ENG 3HB3, PHYSICS 4DA3, 4DB3
ENGLISH 3F03  Creativity and Human Interaction
ENGLISH 3H03  Topics in Poetry
ENGLISH 3H13  Topics in Prose
ENGLISH 3P03  Modern Drama in English
ENGLISH 3X03  Topics in Drama
ENGLISH 3Z03  Contemporary Canadian Poetry

Students may also wish to apply to the Departmental Counselor for permission to take other Level II and III English courses.

2. Courses restricted to students registered in programmes in English may be available to qualified students in other programmes if space permits. Students interested in such courses should request permission from a departmental counselor.

3. Level IV seminars are open only to Honours students registered in Level IV of an English programme. Enrolment will be limited to 15 students per seminar. A list of seminars to be offered will be available prior to registration.

Courses  If no prerequisite is listed, the course is open.

ENGLISH 1D06  ENGLISH LITERATURE: FORMS AND APPROACHES
A selection of various areas of literary study (such as periods, genres, contexts, and approaches) will be examined, using texts from a wide variety of periods and forms of English literature. In this course considerable emphasis is placed on the development of critical skills in reading and writing.
Two lectures, one tutorial; two terms
Prerequisite: OAC English 1

ENGLISH 2A06  BRITISH LITERATURE
A chronological survey of British Literature. One Shakespeare play will be included.
Two lectures, one tutorial; two terms
Prerequisite: Registration in a programme in English or permission of the Department

ENGLISH 2B06  THE DEVELOPMENT OF ENGLISH DRAMA
English drama from the medieval period to the close of the 18th century (excluding Shakespeare).
Three lectures; two terms
Prerequisite: Registration in a programme in English or permission of the Department

ENGLISH 2C03  CONTEMPORARY CANADIAN FICTION
A study of the themes and structure of the contemporary Canadian novel, usually with emphasis upon the relationship of Canada's cultural patterns and its literature.
Three lectures; one term
Prerequisite: Registration in Level II and above.

ENGLISH 2D03  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

ENGLISH 2E03  TWENTIETH-CENTURY BRITISH LITERATURE
A study of selected works of twentieth-century British Literature with an emphasis on the historical, intellectual, ideological and aesthetic contexts.
Three lectures; one term
Prerequisite: Registration in Level II and above
Not available to students with credit or registration in ENGLISH 2106 or 3H06.

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 or 3H06.

ENGLISH 2G06  CANADIAN LITERATURE
Major aspects of the development of Canadian literature from the late 18th century to the mid-20th century. French-Canadian work in translation will be used for comparative purposes.
Three lectures; two terms
Prerequisite: Registration in a programme in English or permission of the Department

ENGLISH 2H06  AMERICAN LITERATURE
A survey of significant American writers from the 17th century to the present, which emphasizes the interrelationship between the literature and its philosophical and historical background.
Three lectures; two terms
Prerequisite: Registration in a programme in English or permission of the Department

ENGLISH 2I06  MODERN BRITISH LITERATURE
A study of representative literature by British writers of the 20th century.
Through criticism of poems, plays and fiction, an attempt is made to relate modern British literature to its social, intellectual and cultural context.
Three lectures; two terms
Prerequisite: Registration in a programme in English or permission of the Department

ENGLISH 3A03  TECHNIQUES OF EXPOSITORY WRITING
A course designed to provide practical training in the writing of clear, coherent, persuasive prose. Although there will be some study of contemporary prose models, the main work of the course will consist of brief but frequent writing assignments. (Students whose writing problems are remedial in nature should not attempt this course.)
Two hours (lecture), one hour (tutorial); one term
Prerequisite: Registration in Level II and above
Enrolment is limited.

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: SOCIOI 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 Level III or IV of a programme in English or permission of the Department
Antirequisite: ENGLISH 4E06

ENGLISH 3C3  LITERATURE AND FILM
An examination of the particular characteristics of both literature and film and the relationships between them through a detailed study of selected novels, short stories and plays, and the films that have been made on them. Three lectures; plus one weekly film screening; one term
Prerequisite: Registration in Level III or IV of a programme in Drama or Literature or Art History. It is recommended that students have already taken DRAMA 2X06.
Cross-list: ART HIST 3C3, DRAMA 3H03, and COMP LIT 3L03

ENGLISH 3E03  SHAKESPEARE: SELECTED PLAYS
A study of a representative selection of plays.
Three lectures; one term
Prerequisite: Registration in Level II and above
Notavailable to students with credit or registration in ENGLISH 3K06.

ENGLISH 3F03  CREATIVITY AND HUMAN INTERACTION
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: SOCIOI 3S03

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 Level III or IV of a programme in English or permission of the Department
Antirequisite: ENGLISH 4B06

ENGLISH 3H06  MODERN BRITISH LITERATURE
A study of representative literature by British writers of the 20th century.
Through criticism of poems, plays and fiction, an attempt is made to relate modern British literature to its social, intellectual and cultural context.
Three lectures; two terms
Prerequisite: Registration in Level III or IV of a programme in English or permission of the Department
Antirequisite: ENGLISH 2106
ENGLISH 3H3

TOPICS IN PROSE

Previous topics include: Contemporary British Poetry, Women Poets of the 20th century. Consult the Department concerning topic to be offered.

Three lectures; one term
Prerequisite: Registration in Level II and above
ENGLISH 3H3 may be repeated, if on a different topic, to a total of six units.

ENGLISH 3103

STUDIES IN 16TH-CENTURY LITERATURE

A study of the prose and poetry of the first phase of the English Renaissance, with some emphasis on the work of More and Sidney, and subsidiary reading of continental writers influential in England, such as Petrarch, Pico, Erasmus, Castiglione, Machiavelli and Montaigne.

Three lectures; one term
Prerequisite: Registration in Level III or IV of a programme in English or permission of the Department
Cross-list: COMP LIT 3J03

ENGLISH 313

TOPICS IN PROSE

Previous topics include: William Faulkner, James Joyce. Consult the Department concerning topic to be offered.

Three lectures; one term
Prerequisite: Registration in Level II and above
ENGLISH 313 may be repeated, if on a different topic, to a total of six units.

ENGLISH 3306

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 Level III or IV of a programme in English or permission of the Department
Antirequisite: ENGLISH 2006/2006

ENGLISH 3K06

SHAKESPEARE

An extensive critical reading and discussion of selected plays.

Three lectures; two terms
Prerequisite: Registration in Level III or IV of a programme in English or permission of the Department

ENGLISH 3L06/3LS6

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, drill 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 Department
Antirequisite: ENGLISH 3D03 or 3D03
Note: Students who wish to take the above course in fulfillment of the language requirement must register in it as ENGLISH 3LS6 in which case it may not be used to fulfill the English area requirement.

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 Level III or IV of a programme in English or permission of the Department
Antirequisite: ENGLISH 4L03

ENGLISH 3M3

VICTORIAN POETRY

A study of selected poems and, where appropriate, of the literary theory of the major Victorian poets. Special attention will be given to Tennyson, Browning, Arnold, Hopkins.

Three lectures; one term
Prerequisite: Registration in Level III or IV of a programme in English or permission of the Department
Antirequisite: ENGLISH 4M03

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 varieties of narrative forms, while also exploring the intellectual, cultural and psychological contexts of fiction.

Three lectures; two terms
Prerequisite: Registration in Level III or IV of a programme in English or permission of the Department
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 Level III or IV of a programme in English or permission of the Department
Cross-list: COMP LIT 3Q03

ENGLISH 3Q03

MODERN CRITICAL THEORY

The theory and practice of literary criticism from Eliot to the present.

Three lectures; one term
Prerequisite: Registration in Level III or IV of a programme in English or permission of the Department

ENGLISH 3V06

STUDIES IN 17TH-CENTURY LITERATURE

A detailed examination of poets and prose-writers of the period, with emphasis on the poetry of Donne, the "metaphysical school", Jonson and Milton.

Three lectures; two terms
Prerequisite: Registration in Level III or IV of a programme in English or permission of the Department

ENGLISH 3XX3

TOPICS IN DRAMA

Previous topics include: British Drama: 1950 to the Present, Modern Canadian Drama. Consult the Department concerning topic to be offered.

Three lectures; one term
Prerequisite: Registration in Level II and above
ENGLISH 3XX3 may be repeated, if on a different topic, to a total of six units.

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: Registration in Level II and above

ENGLISH 3X03

HONOURS ESSAY

In consultation with members of the English Department, students will prepare an essay on an approved topic.

Prerequisite: Registration in Level IV of an Honours programme in English; and permission of the Department. Departmental permission slip required. Enrolment is limited.

NOTE:

Level IV seminars are open only to Honours students registered in Level IV of an English programme. Enrolment will be limited to 15 students per seminar. A list of seminars to be offered will be available prior to registration.

ENGLISH 4AA3

AFRICAN-AMERICAN WOMEN WRITERS

A study of a selection of African-American women writers, including Hurston, Walker, Morrison and Nay/or, with a consideration of gender and race in literary theory.

Seminar (two hours); one term
Prerequisite: Registration in Level IV of an Honours programme in English. Enrolment is limited. Departmental permission required.

ENGLISH 4AC3

ARISTOPHANIC COMEDY AND LATER DRAMA

A study of Aristophanic comedy and of some later European drama which follows the Aristophanic model—from Aristophanes and Plautus to Ionesco, Orton and Stoppard.

Seminar (two hours); one term
Prerequisite: Registration in Level IV of an Honours programme in English. Enrolment is limited. Departmental permission required.
ENGLISH 4AM3 ANDREW MARVELL
A study of Marvell’s times and his place in them, as well as a critical study of the
poems, using traditional and current approaches.
Seminar (two hours); one term
Prerequisite: Registration in Level IV of an Honours programme in English
Enrolment is limited. Departmental permission required.

ENGLISH 4AP3 STUDIES IN AMERICAN POETRY
An in-depth study of some major figures in the tradition, with attention paid to
changes in voice, form and preoccupation from poet to poet.
Seminar (two hours); one term
Prerequisite: Registration in Level IV of an Honours programme in English
Enrolment is limited. Departmental permission required.

ENGLISH 4AW3 ASIAN AMERICAN WRITING
An examination of selected prose texts by American writers of Asian origin.
Issues of immigration, multiculturalism, race, and gender will be given close
attention.
Seminar (two hours); one term
Prerequisite: Registration in Level IV of an Honours programme in English
Enrolment is limited. Departmental permission required.

ENGLISH 4BC3 MODERN BRITISH COMIC NOVELS
The course will deal with a number of representative comic novels within a broad
theoretical context. It will investigate some of the ways in which humour is related to social attitudes toward such matters as class, ethnicity, gender and politics.
Seminar (two hours); one term
Prerequisite: Registration in Level IV of an Honours programme in English
Enrolment is limited. Departmental permission required.

ENGLISH 4BG3 THE BLOOMSBURY GROUP
An examination of the literary and cultural phenomenon known as Bloomsbury,
focussing 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 4BP3 CROSS-CURRENTS IN CONTEMPORARY BRITISH POETRY
Close readings of selected works by three contemporary British poets —
Philip Larkin, Ted Hughes and Charles Tomlinson.
Seminar (two hours); one term
Prerequisite: Registration in Level IV of an Honours programme in English
Enrolment is limited. Departmental permission required.

ENGLISH 4CF3 CONTEMPORARY FICTION
A study of recent English and American fiction, with emphasis on metafiction
as well as the relationship between contemporary literary theory and fiction.
Seminar (two hours); one term
Prerequisite: Registration in Level IV of an Honours programme in English
Enrolment is limited. Departmental permission required.

ENGLISH 4CM3 CHRISTOPHER MARLOWE
A consideration of Marlowe as poet, playwright, and as the subject of
biography and literary mythology, with attention to the intellectual and political
dimension of his life and work.
Seminar (two hours); one term
Prerequisite: Registration in Level IV of an Honours programme in English
Enrolment is limited. Departmental permission required.

ENGLISH 4CN3 BEYOND CANADIAN NATIONALISM
Critical readings of selected major works that reflect the international outlook
of some Canadian writers.
Seminar (two hours); one term
Prerequisite: Registration in Level IV of an Honours programme in English
Enrolment is limited. Departmental permission required.

ENGLISH 4CV3 REALISM AND THE AMERICAN CIVIL WAR
A multi-media investigation of the influence of the American Civil War on
American literature, music and art.
Seminar (two hours); one term
Prerequisite: Registration in Level IV of an Honours programme in English
Enrolment is limited. Departmental permission required.

ENGLISH 4CW3 FEMINIST LITERARY THEORY AND CANADIAN WOMEN POETS
A discussion of several contemporary Canadian women poets from the
perspective of feminist literary theory.
Seminar (two hours); one term
Prerequisite: Registration in Level IV of an Honours programme in English
Enrolment is limited. Departmental permission required.

ENGLISH 4DC3 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, focussing 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 4DV3 DREAMS, VISIONS AND ALLEGORY IN MIDDLE ENGLISH LITERATURE
A study of the evolution of the modes of literary dreams, visions and allegory
through text inherited from classical literature and their development within the
medieval world view.
Seminar (two hours); one term
Prerequisite: Registration in Level IV of an Honours programme in English
Enrolment is limited. Departmental permission required.

ENGLISH 4EC3 LITERATURE AND CULTURE OF THE LATER ELIZABETHAN COURT
A study of some texts, portraiture and music by or associated with courtiers,
and their deployment as instruments of political power or resistance to it.
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 ecologist approaches.
Seminar (two hours); one term
Prerequisite: Registration in Level IV of an Honours programme in English
Enrolment is limited. Departmental permission required.

ENGLISH 4ES3 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 4FS3 18TH-CENTURY ENGLISH SATIRE
Close readings of the satirical writings of Dryden, Swift and Pope, with attention to
the nature and function of satire and its development from classical literature.
Seminar (two hours); one term
Prerequisite: Registration in Level IV of an Honours programme in English
Enrolment is limited. Departmental permission required.

ENGLISH 4FW3 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 4FA3 FAUST IN DRAMA, OPERA, NOVEL AND FILM
A study of recent English and American fiction, with emphasis on metafiction
as well as the relationship between contemporary literary theory and fiction.
Seminar (two hours); one term
Prerequisite: Registration in Level IV of an Honours programme in English
Enrolment is limited. Departmental permission required.
ENGLISH 4FT3 THE FAIRY TALE
A study of the fairy tale from the structuralist, psychoanalytic, and sociologi- cal points of view, concentrating on the tales of the Brothers Grimm in the late 19th century and considering the nature of fairy tales in their acculturation and the symbolic significance of the fairy tale. (2 hours; one term) Prerequisite: Registration in Level IV of an Honours programme in English. Enrolment is limited. Departmental permission required.

ENGLISH 4GF3 GENRE FICTION
A study of selected novels of the fairy tale from the structuralist, psychoanalytic, and sociological points of view, concentrating on the tales of the Brothers Grimm in the late 19th century and considering the nature of genre fiction. Seminar (two hours); one term Prerequisite: Registration in Level IV of an Honours programme in English. Enrolment is limited. Departmental permission required.

ENGLISH 4GF3 THE POETRY OF GEORGE HERBERT
Close readings of most of Herbert’s English poems, with attention to the political 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 4FL3 HEMINGWAY AND FASKNKR
A study of selected novels of Hemingway and Faulkner, focusing primarily on psychological, racial and gender issues. Seminar (two hours); one term Prerequisite: Registration in Level IV of an Honours programme in English. Enrolment is limited. Departmental permission required.

ENGLISH 4HM3 HAWTHORNE AND MELVILLE
An examination of the works of the two most important novelists of the 19th century in the American Renaissance. The focus will be on certain of their characteristic works of the early modern and the period of the American Renaissance. Seminar (two hours); one term Prerequisite: Registration in Level IV of an Honours programme in English. Enrolment is limited. Departmental permission required.

ENGLISH 4JDO 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, with passages of Donne’s “Anatomy” and “Progre of the Soule” — 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:
Readings of sets of poems dealing with the experiences of human love and loss by two Renaissance and two Modern poets, with some study of the cultural backgrounds of such literature. Seminar (two hours; one term) Prerequisite: Registration in Level IV of an Honours programme in English. Enrolment is limited. Departmental permission required.

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 fantasy 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 4PQ3 19TH- AND 20TH-CENTURY QUEBECOS POETRY 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 4RN3 THE REGIONAL NOVEL IN THE EARLY NINETEENTH CENTURY
A study of the regional novel in English with individual works by Maria Edgeworth, Jane Austen, Walter Scott, John Galt and J. Fenimore Cooper. Seminar (two hours; one term) Prerequisite: Registration in Level IV of an Honours programme in English. Enrolment is limited. Departmental permission required.

ENGLISH 4SA3 THE LITERATURE OF SOUTHEAST ASIA
A study of contemporary literature in English from Malaysia and Singapore. Readings will include the novel, short story and poetry. 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 4VF3 WILLIAM BLAKE’S POETRY AND DESIGNS
A study of the work of William Blake, his prose tracts, 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 4VC3 THE WITCHCRAFT CONTROVERSY IN PRINT AND ON STAGE, 1565-1656
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 4WP3 WAR AND PEACE IN LITERATURE
A close study of selected literary works in English that focus on the experiences 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 AND ON STAGE, 1565-1656
An examination of significant alterations in Shakespeare’s work from the first to the last of his plays and the wide variation in their reception. Seminar (two hours; one term) Prerequisite: Registration in Level IV of an Honours programme in English. Enrolment is limited. Departmental permission required.

ENGLISH 4WT3 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

Courses  If no prerequisite is listed, the course is open.

ENVIR SC 1A06  INTRODUCTION TO ENVIRONMENTAL SCIENCE
Characteristics of the geosphere and biosphere and major environmental issues; earth composition, structure and tectonics, climate, hydrology, and geomorphology, atmospheric and environmental chemistry, ecosystems and population biology, and environmental toxicology. This course is specifically designed for students in Natural Science I, and those students in Social Sciences I who are planning on entering the B.A. Geography-Environmental Studies Programme.
Three lectures, or two lectures, one tutorial (three hours); two terms
Prerequisite: Registration in Level I programme, or Level II of Honours Geography and Environmental Science, Honours Science (Complementary Studies Option), General Science, or permission of the course coordinator. An average of at least 75% in two Science, Mathematics, Geography or Environmental Science OAC's is strongly recommended.

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 2N03 and registration in Honours Science (Environmental Science Option) or a programme in Chemical Engineering
Antirequisite: CHEM 3A03, CHEM 2M05

ENVIR SC 4I03  MINERALS AND SOCIETY
Case studies of mineral structures and properties with implications of practical importance. Gem and other economic minerals; workplace and environmental hazards.
Two lectures, one tutorial; one term
Prerequisite: Registration in Level IV Science or Engineering or Arts and Science
Cross-list: GEOLOGY 4I03
Enrolment is limited. However, students enrolled in a Geology programme, or Honours Science (Environmental Science Option) will be admitted. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

ENVIR SC 4W03  ENVIRONMENTAL ANALYSIS: A CASE HISTORY APPROACH
Three lectures; one term
Prerequisite: Registration in Level IV Science or Engineering or Arts and Science
Cross-list: GEOLOGY 4W03
Enrolment is limited. However, students enrolled in a Geology programme, or Honours Science (Environmental Science Option) will be admitted. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

FRENCH
Faculty of January 15, 1996
Chair
Madeleine Jeay

Professors Emeriti
G. Derek West/B.A. (Oxford), Ph.D. (London)

Professors
Caroline Bayard/Léa L., M. és L. (Toulouse), M.A., Ph.D. (Toronto)
Madeleine Jeay/L. és L. (Bordeaux), M.A., Ph.D. (Montréal)
Owen R. Morgan/B.A., M.A. (Nottingham)
César Rouben/L. és S. (Paris-Sorbonne), B.A. (Sir George Williams), M.A., Ph.D. (McGill)

Associate Professors
Michael Kiffert/B.A. (British Columbia), M.A. (Michigan), Ph.D. (Cornell)
Dominique Lepicq/L. és L. (Caen), M.A. (Ottawa), Ph.D. (Toronto)
Gabriel Moyal/B.A. (McGill), M.A., Ph.D. (Toronto)
Elaine Nardocchi/B.A. (St. Francis-Xavier), M.A. (Middlebury), Ph.D. (Laval)
Brian S. Pocknell/M.A. (Manchester), D. de l’U. (Paris-Sorbonne)
Anna St. Leger Lucas/B.A. (Nottingham), M.A. Ph.D. (British Columbia)

Assistant Professors
Vincent A. Betti/B.A., L. és L. (Laval)
Suzanne Crosta/B.A., M.A., M. és L., Ph.D. (McMaster), Ph.D. (Toronto)
Jane A.C. Rush/B.A., M.A., Ph.D. (Manchester), Ph.D. (U.C.L.A.)
John C. Stout/B.A. (British Columbia), Ph.D. (Princeton)

Lecturer

Instructors
Pauline Pocknell/B.A. (Manchester), B.Ed. (O.T.E.C.), M.A. (McMaster) part-time
Simone Venisse-Fam/L. és L., M.A. (Paris-Sorbonne), Ph.D. (Montréal) part-time

Department Notes:
1. The Department reserves the right to refuse admission to any of its language courses to a student who has, in the opinion of the Department, a level of competence unsuited to that course.
2. Students should note that the Department has classified its language courses under the following categories:
   Introductory Level Language Courses
   FRENCH 1N05, 1NN6, 1Z06
   Intermediate Level Language Courses
   FRENCH 1A06, 2M06
   Advanced Level Language Courses
   FRENCH 2B03, 2BB3, 2G03, 3C03, 3CC3, 3F03, 3GG3, 3H03, 4A03, 4B03
3. French courses requiring registration in a programme in French are also available to students in programmes in which French is a required component. As with French programme students, the Department of French reserves the right to place students on a waiting list for limited enrolment course offerings.

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 the reading of selected French and/or French-Canadian texts.
Three lectures, one lab; two terms
Prerequisite: OAC French with a grade of at least 80 percent. All students must take the French Language Placement Test. The Department reserves the right to place students in the course most appropriate to their abilities or to refuse permission for them to register in a French course.
Antirequisite: FRENCH 2M06

FRENCH 1N06  INTENSIVE FRENCH GRAMMAR
A course designed to further the command of the written language. It is intended to be a review of basic grammar and will include intensive computer-aided drilling, vocabulary building and composition.
Four tutorials; two terms
Prerequisite: OAC French with a grade of less than 80 percent
Antirequisite: FRENCH 1NN6
All students must take the French Language Placement Test. The Department reserves the right to place students in the course most appropriate to their abilities or to refuse permission for them to register in a French course.
FRENCH 1NN6  INTENSIVE FRENCH GRAMMAR
A course designed to further the command of the written language. It is intended to be a review of basic grammar and will include intensive computer-aided drilling, vocabulary building and composition.
Four tutorials: two terms
Prerequisite: FRENCH 1Z06
Antirequisite: FRENCH 1N06

FRENCH 1Z06  BEGINNER'S INTENSIVE FRENCH
An intensive course for developing basic skills in both written and spoken French. The normal sequel to this course is FRENCH 1NN6.
Five hours (including lab practice); two terms
Antirequisite: OAC French. Not open to Francophones. Students with prior knowledge of the language, as determined by a placement test, may be required to take an appropriate alternative.
Enrolment is limited.

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 2B03 with a grade of at least C-
Antirequisite: FRENCH 2A03 or 2C03

FRENCH 2B03  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 2A03 or 2C03

FRENCH 2C03  FRENCH LANGUAGE PRACTICE: ORAL
Development of conversational skills.
Three tutorials: one term
Prerequisite: FRENCH 1A06 or 2M06
Antirequisite: FRENCH 2B03 or 2BB3. Not available to Francophone students with native fluency.
Enrolment is limited.

FRENCH 2D03  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 2M06

FRENCH 2E03  LITERATURE OF QUEBEC
Selected novels, plays, and poems representative of the main currents of 20th-century Quebec Literature.
Three lectures; one term
Prerequisite: FRENCH 1A06 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 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 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 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 2M06

FRENCH 2M06  INTRODUCTION TO FRENCH STUDIES: ADVANCED LEVEL
Review of grammar, oral and written practice, and introduction to literary analysis by the reading of selected French and/or French-Canadian texts.
Three lectures; one lab; two terms
Prerequisite: FRENCH 1N06 or 1NN6
Antirequisite: FRENCH 1A06

FRENCH 2N03  INTRODUCTION TO THE CIVILIZATION OF FRANCE
The study of contemporary France through a selection of texts and audiovisual materials.
Three lectures; one term
Prerequisite: FRENCH 1A06 or 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 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 2M06

FRENCH 3A03  EVOLUTION OF THE FRENCH LANGUAGE
This course will be based on treatises of the French language dating from the Middle Ages to the present and will show how French has changed over the centuries. The subject matter is divided into four modules treating vocabulary, syntax, verb forms and spelling from a historical point of view.
Three lectures; one term
Prerequisite: FRENCH 2BB3
Antirequisite: FRENCH 3SS3

FRENCH 3A03  THE MODERN FRENCH-CANADIAN NOVEL
Representative novels by contemporary authors with emphasis upon the relationship between technique and meaning.
Three lectures; one term
Prerequisite: One of FRENCH 1A06 or 2M06 and 12 additional units of French beyond the introductory level

FRENCH 3BB3  CONTEMPORARY QUEBEC THEATRE
Contemporary experimental theatre, and representative playwrights such as Marcel Dube and Michel Tremblay.
Three lectures; one term
Prerequisite: One of FRENCH 1A06 or 2M06 and 12 additional units of French beyond the introductory level

FRENCH 3C03  FRENCH LANGUAGE PRACTICE: WRITTEN
Advanced grammar and composition; introduction to stylistics.
Two lectures; two terms
Prerequisite: FRENCH 2A03 or 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: One of either FRENCH 2A03 and 2G03 or FRENCH 2BB3 and 2G03
Enrolment is limited.

FRENCH 3F03  FRENCH LANGUAGE PRACTICE: CIVILIZATION AND CULTURE
An introduction to contemporary French society through oral discussions and presentations.
Two tutorials; two terms
Prerequisite: FRENCH 2C03 or registration in Level III or IV programme in French Not available to Francophone students with native fluency.
Enrolment is limited.

FRENCH 3G03  FRENCH LANGUAGE PRACTICE: TRANSLATION FROM FRENCH TO ENGLISH
The emphasis will be on inferencing strategies and stylistic comparisons between the two languages. Translation materials will be drawn from contemporary magazines such as L'Express, Le Nouvel Observateur and L'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.

**Prerequisite:** FRENCH 2BH3; 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 multicultural societies (Africa, America, Europe, ...).

**Prerequisites:** One of FRENCH 1A06 or 2M06 and 12 additional units of French beyond the introductory level and registration in a programme in French.

### FRENCH 3K03 18TH-CENTURY FRENCH LITERATURE I

The early 18th century with emphasis on Montesquieu, Marivaux and Prevost, and on the early writings of Voltaire.

**Prerequisites:** One of FRENCH 1A06 or 2M06 and 12 additional units of French beyond the introductory level and registration in a programme in French.

### 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.

**Prerequisites:** One of FRENCH 1A06 or 2M06 and 12 additional units of French beyond the introductory level and registration in a programme in French.

### FRENCH 3Q03 17TH-CENTURY FRENCH LITERATURE I

A study of selected plays by Corneille, Molique and Racine.

**Prerequisites:** One of FRENCH 1A06 or 2M06 and 12 additional units of French beyond the introductory level and registration in a programme in French.

### 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.

**Prerequisites:** One of FRENCH 1A06 or 2M06 and 12 additional units of French beyond the introductory level and registration in a programme in French.

### FRENCH 3S03 STUDIES IN MEDIEVAL LANGUAGE AND CIVILIZATION

An exploration of the particular characteristics of Old French through a selection of Medieval texts representative of the civilization of the period (chivalry, courtly love, feasts and rituals).

**Prerequisites:** FRENCH 2BH3

### FRENCH 3Z03 AFRICAN AND CARIBBEAN FRENCH LITERATURES


**Prerequisites:** One of FRENCH 1A06 or 2M06

### FRENCH 4A03 FRENCH LANGUAGE PRACTICE

Advanced stylistics and composition.

Two lectures, term one; one lecture, term two

**Prerequisites:** 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 4B03 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

**Prerequisites:** 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

**Prerequisites:** FRENCH 2H03 and registration in Level III or IV of a programme in French.

### 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

**Prerequisites:** One of FRENCH 1A06 or 2M06 and 12 additional units of French beyond the introductory level including FRENCH 3K03 or 3KK3, and registration in a programme in French.

**FRENCH 4F03 may be repeated, if on a different topic, to a total of six units.**

### FRENCH 4I03 TOPICS IN FRENCH POETRY

Previous topics include: Twentieth-Century Poetry, Poets and Humour, Object Poetry. Consult the Department concerning topic to be offered.

**Seminar:** (two hours); one term

**Prerequisites:** One of FRENCH 1A06 or 2M06 and 12 additional units of French beyond the introductory level and registration in a programme in French.

**FRENCH 4I03 may be repeated, if on a different topic, to a total of six units.**

### FRENCH 4J03 FRENCH LITERATURE OF THE RENAISSANCE

Characteristic themes of Renaissance humanism as they appear in the works of Rabelais, Montaigne, and selected poets.

**Prerequisites:** One of FRENCH 1A06 or 2M06 and 12 additional units of French beyond the introductory level and registration in a programme in French.

### FRENCH 4J03 FRENCH LITERATURE OF THE RENAISSANCE

Previous topics include: Lexicology, Pragmatics, Sociolinguistics. Consult the Department concerning topic to be offered.

**Seminar:** (three hours); one term

**Prerequisites:** FRENCH 2H03 and registration in Level III or IV of a programme in French.

**FRENCH 4J03 may be repeated, if on a different topic, to a total of six units.**

### FRENCH 4J03 FRENCH LITERATURE OF THE RENAISSANCE

Previous topics include: Twentieth-Century Poetry, Poets and Humour, Object Poetry. Consult the Department concerning topic to be offered.

**Seminar:** (two hours); one term

**Prerequisites:** One of FRENCH 1A06 or 2M06 and 12 additional units of French beyond the introductory level and registration in a programme in French.

**FRENCH 4J03 may be repeated, if on a different topic, to a total of six units.**

### FRENCH 4L03 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

**Prerequisites:** One of FRENCH 1A06 or 2M06 and 12 additional units of French beyond the introductory level and registration in a programme in French.

**FRENCH 4L03 may be repeated, if on a different topic, to a total of six units.**

### FRENCH 4M03 THE 18TH-CENTURY FRENCH NOVEL

A study of the genesis and themes of representative 18th-century novels.

**Seminar:** (two hours); one term

**Prerequisites:** One of FRENCH 1A06 or 2M06 and 12 additional units of French beyond the introductory level and registration in a programme in French.

### 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

**Prerequisites:** One of FRENCH 1A06 or 2M06 and 12 additional units of French beyond the introductory level and registration in a programme in French.

**FRENCH 4N03 may be repeated, if on a different topic, to a total of six units.**

### FRENCH 4O03 20TH-CENTURY FRENCH THEATRE

A study of the ideas and dramatic techniques of the playwrights of the modern period who have influenced the development of today’s theatre in France.

**Three lectures; one term**

**Prerequisites:** One of FRENCH 1A06 or 2M06 and 12 additional units of French beyond the introductory level and registration in a programme in French.
FRENCH 4Q03 TOPICS IN 17TH-CENTURY FRENCH LITERATURE
Previous topics include: Corneille, Racine, Mollet re, Consult the Department concerning topic to be offered.
Seminar (two hours); one term
Prerequisite: FRENCH 3Q03, and registration in a programme in French
FRENCH 4Q03 may be repeated, if on a different topic, to a total of six units.

FRENCH 4S03 MEDIEVAL LITERATURE
A study of selected texts of Medieval French Literature: songs and poetry of the troubadours and trouvères, Arthurian romance, comic and satiric narratives. Modern French translations will be used.
Three tutorials; one term
Prerequisite: FRENCH 22B3

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. Consult the Department concerning topic to be offered.
Seminar (two hours); one term
Prerequisite: One of FRENCH 1A06 or 2M06 and 12 additional units of French beyond the introductory level and registration in a programme in French
FRENCH 4U03 may be repeated, if on a different topic, to a total of six units.

FRENCH 4X03 LINGUISTICS AND MODERN FRENCH LITERARY CRITICISM (FROM STRUCTURALISM TO SEMIOTICS)
General linguistics applied to literary analysis. Includes narrative structures, pragmatics and sign theory.
Seminar (two hours); one term
Prerequisite: One of FRENCH 1A06 or 2M06 and 12 additional units of French beyond the introductory level and registration in a programme in French

FRENCH 4Y03 TOPICS IN 20TH-CENTURY FRENCH LITERATURE
Previous topics include: Women’s Writing, The essay. Consult the Department concerning topic to be offered.
Seminar (three hours); one term
Prerequisite: One of FRENCH 1A06 or 2M06 and 12 additional units of French beyond the introductory level and registration in a programme in French
FRENCH 4Y03 may be repeated, if on a different topic, to a total of six units.

NOTE:
The following course, of interest to students of French, is offered by the School of Art, Drama and Music:

DRAMA 3TT3 TOPICS IN NATIONAL CINEMAS II
(French Cinema will be a frequent topic of this course.)

GEOGRAPHY
Faculty as of January 15, 1996

Chair
S. Martin Taylor

Associate Chair
Pavlos S. Kanaroglou

Professors Emeriti
Andrew F. Burghardt/A.B. (Harvard), M.A., Ph.D. (Wisconsin)
R. Lloyd G. Reeds/M.A., Ph.D (Toronto)

Professors
Brian T. Bunting/M.A. (Sheffield), Ph.D. (London)
John A. Davies/B.A. (Bristol), M.Sc. (McGill), Ph.D. (London)
John J. Drake/M.A. (York), M.Sc., Ph.D. (McMaster)
Derek C. Ford/M.A., D.Phil. (Oxford), F.R.S.C.
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. (Oxford), Ph.D. (Queen’s)
Leslie J. King/M.A. (New Zealand), Ph.D. (Iowa), F.R.S.C.

Kao-Lee Liaw/B.S. (National Taiwan), M.A. (Kansas State), Ph.D. (Clark)
S. Brian McCann/B.Sc. (Wales), Ph.D. (Cambridge)
Yorgos Y. Papageorgiou/Dipl. Arch. Eng. (National Technical, Athens), M.C.P., Ph.D. (Ohio State), D.Sc. (Louvain)/Professor of Economics
Wayne R. Rouse/B.A. (McMaster), M.Sc., Ph.D. (McGill)
S. Martin Taylor/B.A. (Bristol), M.A., Ph.D. (British Columbia)
Ming-ko Woo/M.A., Ph.D. (British Columbia)

Associate Professors
William P. Anderson/M.A., Ph.D. (Boston)
Vera Chouinard/B.A. (Western), M.A., Ph.D. (McMaster)
Carolyn H. Eyles/B.Sc. (East Anglia), M.Sc. Ph.D. (Toronto)

Assistant Professor
Susan J. Elliott/M.A., Ph.D. (McMaster)

Associate Members
Donald C. Cole/ (Clinical Epidemiology and Biostatistics) B.Sc., M.D. (Toronto), F.C.H., F.R.C.P. (O), M.Sc. (McMaster)
Jonathan Lomas/ (Clinical Epidemiology and Biostatistics), B.A. (Oxford), M.A. (Western), MAP (Toronto)
William A. Morris/ (Geology), B.Sc. Ph.D. (Leeds)
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)
Norman F. White/ (Psychiatry), M.D.C.M. (McGill), D.Pych. (McGill), F.R.C.P., (C) (Royal College)

Instructional Assistants
Walter Peace/M.A. (McMaster)
Susan Vajoczki/M.Sc. (McMaster)

Department Notes:
1. A * indicates a Science course.
2. Students are advised that not all courses will be offered in every year.

Courses If no prerequisite is listed, the course is open.

GEOG 1A06 HUMAN GEOGRAPHY
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

GEOG 1G03 CLIMATOLOGY
An introduction to the global pattern of weather, climate, and surface waters and climate change.
Two lectures, one lab; one term
Antirequisite: GEOG 1A06

GEOG 1G03 GEOMORPHOLOGY
An introduction to earth surface process and landforms, providing a basic understanding of the physical environment and its potential for use and abuse by humans.
Two lectures, one lab; one term
Antirequisite: GEOG 1A06

GEOG 2A03 LOCALATIONAL ANALYSIS
Spatial location theory and spatial analysis methods as related to the siting of resource, manufacturing, and service activities.
Two lectures, one lab; one term
Prerequisite: GEOG 1A06

GEOG 2B03 URBAN ECONOMIC GEOGRAPHY
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: GEOG 1B06

GEOG 2C03 CHINA: PEOPLE AND LAND IN TRANSITION
Studies of the natural environment, cultural-historical setting, resources and economic development of China. Emphasis is placed upon the changing relationship between the people and the environment.
Three lectures, one term

GEOG 2D03 URBAN HISTORICAL GEOGRAPHY
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
<table>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<th>Description</th>
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<tr>
<td>GEOG 2E03</td>
<td>CANADA</td>
<td>3</td>
<td>Three lectures; one term</td>
<td>The geography of Canada emphasizing the economic and social geography of regions and current development issues.</td>
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<td>GEOG 2F03*</td>
<td>EARTH'S SURFACE CLIMATES</td>
<td>2</td>
<td>Two lectures, one lab (two hours); one term</td>
<td>The surface heat and water balance of natural and man-modified landscapes.</td>
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<tr>
<td>GEOG 2K03*</td>
<td>INTRODUCTION TO SOIL AND LAND USE STUDIES</td>
<td>3</td>
<td>Three lectures; one term</td>
<td>The composition, morphology, and environmental relationships of soils and their use and abuse by man.</td>
</tr>
<tr>
<td>GEOG 2LL3*</td>
<td>GEOGRAPHIC INFORMATION PROCESSING</td>
<td>3</td>
<td>Three lectures; one term</td>
<td>An introduction to the use of the microcomputer for the illustration and statistical analysis of geographical data.</td>
</tr>
<tr>
<td>GEOG 2P03</td>
<td>THE UNITED STATES OF AMERICA</td>
<td>3</td>
<td>Three lectures; one term</td>
<td>The physical and economic geography of the United States.</td>
</tr>
<tr>
<td>GEOG 2R03*</td>
<td>RESEARCH METHODS IN SOCIAL GEOGRAPHY</td>
<td>3</td>
<td>Three lectures; one term</td>
<td>An introduction to research methods in social geography. Emphasis is placed on the application of various methods to understanding human spatial behaviour.</td>
</tr>
<tr>
<td>GEOG 2T03*</td>
<td>FLUVIAL GEOMORPHOLOGY</td>
<td>3</td>
<td>Three lectures; one term</td>
<td>The effects of moving water on the earth's surface: principles of sediment entrainment, fluvial flow, stream transport, and analysis of resulting landforms, such as terraces and deltas.</td>
</tr>
<tr>
<td>GEOG 2W03*</td>
<td>HYDROLOGY IN CANADA</td>
<td>3</td>
<td>Three lectures; one term</td>
<td>A discussion of fresh water resources, including both surface and ground water.</td>
</tr>
<tr>
<td>GEOG 3C03*</td>
<td>ENVIRONMENTAL HAZARDS</td>
<td>4</td>
<td>Three lectures; one term</td>
<td>Geological and man-induced hazards affecting settlements and the natural environment will be discussed.</td>
</tr>
<tr>
<td>GEOG 3E03*</td>
<td>FIELD METHODS IN PHYSICAL GEOGRAPHY</td>
<td>3</td>
<td>Three lectures; one term</td>
<td>Field methods, including survey design, sampling, experiments, measurements, data collection, and presentation and the use and care of equipment.</td>
</tr>
<tr>
<td>GEOG 3F03*</td>
<td>PHYSICAL CLIMATOLOGY</td>
<td>3</td>
<td>Three lectures; one term</td>
<td>The physical basis of large scale climate and mechanisms of climatic change.</td>
</tr>
<tr>
<td>GEOG 3G03*</td>
<td>POPULATION GROWTH AND DISTRIBUTION</td>
<td>3</td>
<td>Three lectures; one term</td>
<td>Prerequisite: GEOG 2F03, and either registration in a programme in the Faculty of Science or one of GEOG 2LL3, STATS 1CC3, COMP SCI 1MA3, 1MC3</td>
</tr>
<tr>
<td>GEOG 3J03*</td>
<td>PLANETARY AND LUNAR GEOLOGY AND GEOMORPHOLOGY</td>
<td>3</td>
<td>Three lectures; one term</td>
<td>The geology and surface morphology of planets and moons of the solar system, with particular reference to the rocky bodies. Comparative studies are emphasized.</td>
</tr>
<tr>
<td>GEOG 3K03*</td>
<td>SOILS AND LAND USE IN CANADA</td>
<td>3</td>
<td>Three lectures; one term</td>
<td>The development of the major soil forms in Canada, their classification, capability and conservation. The application of soils studies to land use planning.</td>
</tr>
<tr>
<td>GEOG 3L03*</td>
<td>MULTIVARIATE ANALYSIS IN GEOGRAPHY</td>
<td>3</td>
<td>Three lectures; one term</td>
<td>Management and analysis of multivariate data sets in human and physical geography, with an emphasis on multiple regression.</td>
</tr>
<tr>
<td>GEOG 3M03*</td>
<td>GLACIAL AND PERIGLACIAL GEOMORPHOLOGY</td>
<td>3</td>
<td>Three lectures; one term</td>
<td>The nature and development of glaciers, glacial landform systems and periglacial processes.</td>
</tr>
<tr>
<td>GEOG 3N03*</td>
<td>GEOGRAPHICAL INFORMATION SYSTEMS</td>
<td>3</td>
<td>Three lectures; one term</td>
<td>Functionality and application of both raster-based and vector-based geographical information systems.</td>
</tr>
<tr>
<td>GEOG 3P03*</td>
<td>BIOGEOGRAPHY: ENVIRONMENTAL CHANGE AND THE BIOSPHERE</td>
<td>3</td>
<td>Three lectures; one term</td>
<td>The history of modes of explanation in geography, focusing on the application of the scientific model, and with an emphasis on the formulation of a research proposal.</td>
</tr>
</tbody>
</table>

*courses offered in 1996-97
GEOG 3Q03  INDUSTRIAL GEOGRAPHY
Principles underlying the locational decisions of manufacturing firms and the growth and decline of industrial regions, with examples from the Hamilton area.
Two lectures; one lab; one term
Prerequisite: GEOG 1B06 or ECON 1A06

GEOG 3R03  GEOGRAPHY OF A SELECTED WORLD REGION
The study of an area outside North America which will include topics in physical and human geography.
Three lectures; one term
Prerequisite: One of GEOG 1A06, 1B06, 1C03, 1G03
GEOG 3R03 may be repeated, if on a different topic, with permission of the Department.

GEOG 3T03  GEOGRAPHY OF PLANNING
A review of historical and contemporary approaches to city and regional planning problems.
Two lectures, one lab (two hours); one term
Prerequisite: One of GEOG 2A03, 2B03, 2R03, 2Y03

GEOG 3U03* ENVIRONMENTAL ISSUES: THE CANADIAN CONTEXT
The application of ecological principles and methods to the analysis of problems in the natural and built environments of Canada.
Two lectures, one lab; one term
Prerequisite: Registration in an Honours Geography, Biology, Geology, or Engineering and Society programme

GEOG 3U3* ENVIRONMENTAL IMPACT ASSESSMENT
Technical and policy issues involved in the production and the appraisal of environmental impact assessments.
Two lectures, one lab; one term
Prerequisite: Registration in an Honours Geography, Biology, Geology or Engineering and Society programme

GEOG 3W03* HYDROLOGY
Principles of hydrology and their applications in physical geography.
Two lectures, one lab (two hours); one term
Prerequisite: Enrolment in Level III (or above) of a Science programme or one of GEOG 2U3L, STATS 1CC3 and one of GEOG 1A06, 1C03, 1G03

GEOG 3X03  URBAN MODELS AND POLICY ANALYSIS
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
Prerequisite: GEOG 2B03 or ECON 2G03 or 2L06
Antirequisite: Registration in an Economics programme or ECON 3X03
Cross-list: CIV ENG 4H03

GEOG 3Z03  URBAN SOCIAL GEOGRAPHY
The social geography of North American cities. Topics include commuting, segregation, inner-city gentrification, suburban development.
Lectures and seminars; one term
Prerequisite: GEOG 2R03 or 2R3. GEOG 2Y03 and 2D03 are recommended.

GEOG 4A03* KARST GEOMORPHOLOGY AND HYDROGEOLOGY
Karst rocks, equilibria and kinetics of their aqueous dissolution; cavern genesis and porosity in aquifers; speleothorm chronology; features of surface landforms; practical applications.
Three lectures; one term
Prerequisite: GEOG 2T03

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 Geography Department.
Prerequisite: Registration in the Honours Geography and Environmental Science Co-op Programme. Approval of the project must be obtained from the Chair of the Department at least six weeks prior to the beginning of the research project.

GEOG 4C03* REVIEW PAPER
The student will conduct a comprehensive review of a selected topic in Geography. The review paper is due before the final examination period.
One seminar (two hours); first term
Prerequisite: GEOG 3C03 and registration in Level IV of an Honours programme in Geography
Antirequisite: GEOG 4V6 or 4C06

GEOG 4C06* SENIOR THESIS
A thesis based on a research project carried out under the direction of a Faculty member.
One seminar (two hours), every other week; two terms
Prerequisite: A grade of at least B+ in GEOG 3Q03, a Cumulative Average of at least 6.0 and permission of the course coordinator
Antirequisite: GEOG 4V6 or 4CC3

GEOG 4D03*   COASTAL GEOMORPHOLOGY
The dynamics and morphologies of the shore zone.
Two lectures, one lab; one term
Prerequisite: GEOG 2T03

GEOG 4E03* FIELD COURSE
Detailed study of a particular aspect of physical geography in the field. Held in the two weeks prior to Fall registration; report to be submitted before the end of first term. Various topics and locations: details announced in March.
Students enrolling in this course must pay both the incidental fees, as prescribed by the Department, and the regular tuition fees.
Prerequisite: Permission of the instructor, which is given only if the appropriate Level II and Level III courses have been passed

GEOG 4F03   URBAN DEVELOPMENT AND POLICY ISSUES
Current debates on urban development and policy issues. Emphasis on the political economy of urban change.
Three lectures; one term
Prerequisite: GEOG 2Y03, or permission of the instructor

GEOG 4H03* LAND USE AND TRANSPORTATION
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: GEOG 2N03 or 2NN3
Cross-list: CIV ENG 4H03

GEOG 4K03* APPLIED PEDOLOGY
Application of soil science to environmental problems: land conservation, ecosystem and crop productivity, waste disposal, forest fires and terrain stability.
Three lectures; one term
Prerequisite: GEOG 2K03 or 3K03

GEOG 4N03* GEOGRAPHIC INFORMATION SYSTEMS: MANAGEMENT AND APPLICATIONS
Analytical, operational, and institutional issues faced by the implementation of geographic information systems.
Two lectures; one lab (two hours); one term
Prerequisite: GEOG 3NN3 or 3N03

GEOG 4P03* ADVANCED BIOGEOGRAPHY: METHODS OF ENVIRONMENTAL RECONSTRUCTION
Selected topics and methods of reconstructing past environmental conditions using evidence from historical records, tree-rings and plant fossils.
Two lectures, one lab (two hours); one term
Prerequisite: GEOG 3P03

GEOG 4Q03* CLIMATES IN HIGH LATITUDES
Aspects of the heat and water balance climatology of terrestrial ecosystems in northern areas, with emphasis on the Canadian sub-arctic and tundra.
Three lectures; one term
Prerequisite: GEOG 3P03

GEOG 4R03* MODELS IN CLIMATOLOGY
Discussion of global climatic models and their application.
Three lectures; one term
Prerequisite: GEOG 3R03

GEOG 4S03  GEOGRAPHY OF HEALTH CARE
The environmental determinants of health and the spatial dimensions of health care delivery.
Two seminars; one term
Prerequisite: Registration in Level IV of an Honours Geography programme or an Honours Gerontology programme

GEOG 4T03  REGIONAL ANALYSIS AND PLANNING
Examination of processes and policies that influence urban form and the associated effects on natural environment.
Three lectures; one term
Prerequisite: GEOG 3F03 and one of MATH 1A03, 1A06, 1C03, 1C06 or 1M03

GEOG 4U03  SELECTED PROBLEMS IN URBAN PLANNING
An examination of planning as a public decision process, with emphasis on land use conflicts and their resolution in the Hamilton region.
Two seminars (two hours); one term
Prerequisite: GEOG 3T03
GEOLOGY 4V6*  THESIS IN ENVIRONMENTAL ISSUES
Students will select research topics in environmental science and prepare a thesis. Group work will be emphasized, one seminar (two hours); two terms.
Prerequisite: GEOG 3003 and either GEOG 3U03 or 3U03
Antirequisite: GEOG 4C06 or 4CC3

GEOLOGY 4W03* HYDROLOGIC MODELLING
A survey of deterministic and stochastic models in hydrology.
Two lectures, one lab (two hours); one term.
Prerequisite: GEOG 3W03

GEOLOGY 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 lab (two hours); one term.
Prerequisite: GEOG 3X03
Cross-list: ECON 4X03

GEOLOGY 4203 THE LANDSCAPE OF URBAN HOUSING
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: GEOG 3Z03. GEOG 3T03 and 3N03 are recommended.

GEOLOGY Faculty as of January 15, 1996

Chair
William A. Morris

Professors Emeriti
Brian J. Burley/B.Sc. (London), M.Sc. (British Columbia), Ph.D. (McGill)
Gerd E.G. Westermann/B.Sc. (Braunschweig), Dipl. Geol. Dr. rer. nat. (Tübingen)

Professors
Paul M. Clifford/B.Sc. (Southampton), Ph.D. (London)
James H. Crocket/B.Sc. (New Brunswick, Oxford), Ph.D. (M.I.T.)
Alan P. Dickin/M.A. (Cambridge), D. Phil. (Oxford)
H. Douglas Grundy/B.Sc., Ph.D. (Manchester)
Robert H. McNutt/B.Sc. (New Brunswick), Ph.D. (M.I.T.); part-time
Michael J. Risk/B.Sc. (Toronto), M.Sc. (Western), Ph.D. (Southern California, L.A.)
Henry P. Schwarz/B.A. (Chicago), M.S., Ph.D. (California Institute of Technology), F.R.S.C.

Associate Professor
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)

Associate Members
W. Brian Clarke/Physicis) B.A. (Dublin), Ph.D. (McMaster)
Derek C. Ford/Geography) M.A., D.Phil. (Oxford), F.R.S.C.
Carolyn H. Eyles/Geography) B.Sc. (East Anglia), M.Sc., Ph.D. (Toronto)
S. Brian McCann/Geography) B.Sc. (Wales), Ph.D. (Cambridge)

Senior Demonstrator
Kenneth B. MacDonald/B.A., B.Ed. (Mount Allison)

Department Notes:
1. Geology is becoming increasingly specialized. As a result, preparation for employment and research work can involve some difficult decisions about courses. This is particularly true as work on environmental problems becomes steadily more important. As a guide and help to students, the Department of Geology has a pamphlet (available in the departmental office) which gives details of possible course streams leading towards careers in environmental science, as well as towards the more traditional areas of energy and mineral resources.
2. In certain cases students lacking the specific prerequisites listed for a course may be deemed, by the course instructor, to have equivalent qualifications. In such cases permission to register in the course may be requested from the instructor.
3. GEOLOGY 4Q03 and GEOLOGY 4S03 are available to students registered in Level III or IV of any programme provided the stated prerequisites have been met.

Courses If no prerequisite is listed, the course is open.

GEOLOGY 1C03 EARTH PROCESSES
An introduction to geology through study of dynamic geological processes, particularly global plate tectonics.
Two lectures, one lab (three hours); one term.
Prerequisite: Open. An OAC in Chemistry or Physics is recommended.

GEOLOGY 2B04 OPTICAL CRYSTALLOGRAPHY AND MINERALOGY
Elementary optical theory with applications to and descriptive study of the common rock-forming minerals. The latter part of Geography 2B06.
Two lectures, one lab (two hours); in parts of both terms
Prerequisite: Open only to students registered in Ceramic Engineering.

GEOLOGY 2B06 OPTICAL CRYSTALLOGRAPHY AND MINERALOGY
Elementary optical theory with applications to and descriptive study of the common rock-forming minerals.
Two lectures, one lab (two hours); two terms.
Prerequisite: Registration in a Geology or B.Sc. Earth Science programme; or permission of the Department.

GEOLOGY 2C03 EARTH HISTORY
The principles of stratigraphy and continental evolution, as illustrated by the geology of Ontario and other classic localities.
Two lectures, one lab (three hours); one term.
Prerequisite: GEOLOGY 1C03 or ENVIR SC 1A06

GEOLOGY 2D03 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.
Prerequisite: GEOLOGY 1C03 or ENVIR SC 1A06

GEOLOGY 2E01 HAND SPECIMEN PETROGRAPHY
An introduction to the study of mineral and rock suites in hand specimen with emphasis on field associations.
One lab (two hours); one term.
Prerequisite: GEOLOGY 1C03 or ENVIR SC 1A06

GEOLOGY 2EE2 FIELD CAMP
A field camp of about two weeks duration held immediately after the April-May Examinations, normally taken at the very end of Level II by students in all Geology and combined programmes. Students enrolling in this course must pay both the incidental fees, as prescribed by the Department, and the regular tuition fees.
Prerequisite: GEOLOGY 2E01 or permission of the Chair
Antirequisite: GEOLOGY 3E02

GEOLOGY 2I03 SOLID EARTH GEOPHYSICS
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: PHYSICS 1A06 or 1B06 or 1C06
Cross-list: PHYSICS 2I03

GEOLOGY 2J03 INTRODUCTORY PALEONTOLOGY
Uses of paleontology; importance in geologic 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: GEOLOGY 1C03 or ENVIR SC 1A06; or permission of the instructor

GEOLOGY 2K03 ENVIRONMENTAL SYSTEMS
Biogeochemical cycles applied to the environment; consideration of toxicity, anthropogenic perturbations; use of simple partitioning models.
Two lectures, one tutorial (two hours); one term.
Prerequisite: Registration in B.Sc. Earth Science, any Honours programme in the Faculty of Science or any programme in the Faculty of Engineering; or permission of the instructor
Antirequisite: CIV ENG 2J03
GEOL 303 EXPLORATION GEOPHYSICS A: GEOPHYSICAL MAPPING METHODS
Interpretation of geophysical survey data for regional geological mapping. Techniques covered are magnetics, gravity and radiometrics. Introduction to image processing and model interpretation.
Two lectures, one lab (two hours); one term
Prerequisite: GEOL 203 or PHYS 203; or permission of the instructor
Alternates with Geology 3B03.

GEOL 3B03 EXPLORATION GEOPHYSICS B: GEOPHYSICAL SURVEYS OF THE SUBSURFACE
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: GEOL 203 or PHYS 203; or permission of the instructor
Alternates with Geology 3A03.

GEOL 3C03 IGNEOUS AND METAMORPHIC PETROLOGY
Petrography of igneous and metamorphic rocks and discussion of their origin. Laboratory studies on rock suites.
Two lectures, one lab (two hours); one term
Prerequisite: GEOL 206
Antirequisite: GEOL 3C06

GEOL 3F03 SEDIMENTARY FACIES AND ENVIRONMENTS
A course in the field aspects of sedimentary rocks and the depositional environments of clastic and carbonate systems.
Three lectures, one term
Prerequisite: GEOL 206

GEOL 3G03 MINERALOGY
Topics in x-ray crystallography and mineralogy and an introduction to crystal chemistry.
Two lectures, one tutorial; one term
Prerequisite: GEOL 206

GEOL 3I03 PLANETARY AND LUNAR GEOLOGY AND GEOMORPHOLOGY
The geology and surface morphology of planets and moons of the solar system with particular reference to the rocky bodies. Comparative studies are emphasized.
Three lectures, one term
Prerequisite: One of GEOG 1A06, 1C03, 1G03, ENVIR SC 1A06, GEOL 1A03, 1C03, and completion of at least 12 units of Level II (or above) Science courses
Cross-list: GEOG 3I03

GEOL 3J03 PALEONTOLOGY
Marine habitats and possible changes through geologic time. Groups of fossils important in stratigraphy including microfossils; economic paleontology.
Two lectures, one lab (three hours); one term
Prerequisite: GEOL 203

GEOL 3K03 GEOLOGY RESEARCH PROJECT
Prerequisite: Registration in Level III of a Geology programme and permission of the Chair of the Department.
Two terms
May not be taken concurrently with GEOL 4K06.
See heading Courses Requiring Permission in the Faculty of Science section of the Calendar.

GEOL 3L03 GEOCHEMISTRY
Chemistry of the earth including cosmochemistry, global cycles, ocean chemistry, radiogenic and stable isotope systematics, geochronology, analytical techniques.
Three lectures; one term
Prerequisite: CHEM 203 or 2R3

GEOL 3M03 SEDIMENTARY PETROLOGY
Petrology of sediments and sedimentary rocks. Laboratory includes textural analysis of sediments and examination of sedimentary rocks suites in hand specimen and thin section.
Two lectures, one lab (two hours); one term
Prerequisite: GEOL 206
Not offered in 1996-97.

GEOL 4A03 ADVANCED FIELD COURSE IN GEOLOGY
Advanced field studies generally held between May and August; report to be submitted by the end of September. A list of approved field camps will be published by the Department. Students enrolling in this course must pay both the incidental fees, as prescribed by the Department, and the regular tuition fees.
Prerequisite: GEOL 2E2 or 3E2 or permission of the instructor

GEOL 4B03 IGNEOUS PETROLOGY
Advanced theory of igneous rocks.
Three lectures, one term
Prerequisite: Permission of the Chair
See heading Courses Requiring Permission in the Faculty of Science section of the Calendar

GEOL 4B03 METAMORPHIC PETROLOGY
Advanced theory and practice on metamorphic rocks.
Two lectures, one lab (three hours); one term
Prerequisite: Permission of the Chair
See heading Courses Requiring Permission in the Faculty of Science section of the Calendar

GEOL 4C03 CLIMATE CHANGE: A GEOLOGICAL PERSPECTIVE
Ancient and recent changes in the Earth's climate recorded in natural materials. Geologic records of climatic catastrophe and cyclicity, natural causes of past change and human influences on climate.
Two lectures, one tutorial; one term
Prerequisite: Registration in Level IV Science or Engineering or Arts and Science.
Enrollment is limited. However, students enrolled in a Geology programme or Honours Science (Environmental Science Option) will be admitted. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

GEOL 4D03 ECOLOGY AND GEOLOGY OF CORAL REEFS
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: GEOL 2I03 and 3J03 or completion of at least 12 units of Level III Biology

GEOL 4E03 METALLIC MINERAL DEPOSITS
Geology, geochemistry and genesis or ore deposits; environmental and economic aspects.
Three lectures; one term
Prerequisite: Registration in a Level III or IV of a Geology programme

GEOL 4E03 ORE MICROSCOPY
Reflected and transmitted light study of ore mineral assemblages.
One lab (three hours); two terms
Prerequisite: GEOL 206
Not offered in 1997-98.

GEOL 4I03 MINERALS AND SOCIETY
Case studies of mineral structures and properties with implications of practical importance. Gem and other economic minerals; workplace and environmental hazards.
Two lectures, one tutorial; one term
Prerequisite: Registration in Level IV Science or Engineering or Arts and Science.
Enrollment is limited. However, students enrolled in a Geology programme or Honours Science (Environmental Science Option) will be admitted. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.
Cross-list: ENVIR SC 4I03

GEOL 4J03 DYNAMIC MODELS OF EARTH ENVIRONMENTS
Physical principles applicable to geological environments and hazards: the flow of air, water, mud and ice; bending, flow, and fracture of rocks. Models of sediment transport, landslides, volcanic eruptions, earthquakes, and meteorite impacts.
Three lectures; one term
Prerequisite: GEOL 2I03 or PHYSICS 2I03 or permission of the instructor
Not offered in 1996-97.

GEOL 4K06 GEOLOGY THESIS
Prerequisite: Registration in Level IV of a Geology programme and permission of the Chair of the Department
See heading Courses Requiring Permission in the Faculty of Science section of the Calendar.
GEOLOGY 4M03  BASIS ANALYSIS AND PETROLEUM GEOLOGY
Principles of 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 history of basins. Three lectures; one term
Prerequisite: GEOLOGY 3F03

GEOLOGY 4MM3  SEDIMENTOLOGY: CHEMICAL PROCESSES
A review of equilibrium models and surface reactions. Topics covered are weathering, carbonate systems, evaporites, clays, iron minerals, phosphates, and diagenesis.
Three lectures; one term
Prerequisite: GEOLOGY 2C03, and CHEM 2P06 or 2R03
Alternates with GEOLOGY 4S03. Offered in 1996-97.

GEOLOGY 4Q03  ENVIRONMENTAL GEOCHEMISTRY
Geochemistry of the earth's surface. Weathering, atmospheric processes, soil processes, aqueous speciation, and global cycles are related to environmental quality and problems.
Three lectures; one term
Prerequisite: GEOLOGY 3Q03

GEOLOGY 4S03  PHYSICAL OCEANOGRAPHY
Energy budget of the ocean; optical oceanography, ocean dynamics. Examples for the Great Lakes.
Three lectures; one term
Prerequisite: Credit or registration in at least 15 units of Level III Science courses
Alternates with GEOLOGY 4MM3.

GEOLOGY 4T03  PLATE TECTONICS
Principles of plate tectonics, with application to regional and historical geology.
Three lectures; one term
Prerequisite: GEOLOGY 2C03; credit or registration in GEOLOGY 3C03 or 3CC6

GEOLOGY 4W03  ENVIRONMENTAL ANALYSIS: A CASE HISTORY APPROACH
Three lectures; one term
Prerequisite: Registration in Level IV Science or Engineering or Arts and Science
Enrolment is limited. However, students enrolled in a Geology programme or Honours Science (Environmental Science Option) will be admitted. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.
Cross-list: ENVIR SC 4W03

GERMAN

Courses and programmes in German are administered within the Department of Modern Languages of the Faculty of Humanities.

Department Notes:
1. Students should note that the Department has classified its German language courses under the following categories:
   - Introductory Level Language Course
     GERMAN 1Z06
   - Intermediate Level Language Courses
     GERMAN 1B06, 2Z06
   - Advanced Level Language Courses
     GERMAN 2E03, 2G03, 3Z03, 3ZZ3, 4CC3
   - German programme students with native fluency are not permitted to enrol in GERMAN 2G03.

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.
Enrolment is limited.
Students with prior knowledge of the language as determined by an interview may be required to take 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 2A03  INTRODUCTION TO GERMAN LITERATURE
Lectures outline the development of German literature against its cultural background and readings of literary texts.
Three hours (one hour first term; two hours second term)
Prerequisite: GERMAN 1Z06 or 1B06
Antirequisite: GERMAN 1AA3

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 1Z06 and registration in an Honours programme requiring German
Enrolment 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
Antirequisite: GERMAN 1A03, 1AA3 or 1B06

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 3ZZ3  ADVANCED ORAL AND WRITTEN LANGUAGE PRACTICE II
A continuation of the approach used in GERMAN 3Z03.
Three lectures; one term
Prerequisite: GERMAN 3Z03.
GERMAN 4C3 Translation: Techniques and Practice
Practice in the translation of texts of a literary and non-literary nature. (English to German and German to English). This course makes use of a special Annotated Screen program available in the Humanities Computer Laboratory.
Three hours; one term
Prerequisite: GERMAN 3Z23

GERMAN 4G3 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 4HH3 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 4I3 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 6 units.

GERMAN 4TT3 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

GERONTOLOGY

Faculty as of January 15, 1996

Director
C.J. Rosenthal

Professors
Michael J. MacLean (Gerontology/Social Work) B.A. (St. Thomas), M.A. (Sussex), 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., Ph.D. (McMaster)
John Henderson (Health Studies & Gerontology, University of Waterloo) B.Sc., M.A., Ph.D. (Waterloo) /part-time
Kaiervo I. Kinnen (Social Work) Dip S.W. (Helsinki), B.A. (McMaster) M.S.W. (British Columbia) /part-time
Olga Roman (Nursing) B.N. (McGill), M.Sc. (Boston), Ph.D. (Toronto) /part-time

Assistant Professors
Anju Joshi B.A., M.A. (Dalhousie)
Sheree D. Meredith (Gerontology/Social Work) B.A. (Trent), M.S.W. (Wilfrid Laurier)

Lecturer
Tamara L. Horton B.A. (Spring Arbor), M.S.W. (Michigan)

Associate Members
Larry W. Chambers (Clinical Epidemiology and Biostatistics) B.A. (McMaster), M.Sc. (McMaster), Ph.D. (Memorial)
James W. Glabstone (Social Work) B.A. (McGill), M.S.W. (British Columbia), Ph.D. (Toronto)
Alexander S. Macpherson (Psychiatry) M.Sc. (McMaster), M.D. (Toronto)
Gurmit Singh (Pathology) B.Sc., Ph.D. (Dalhousie)

Note:
Gerontology Programmes at McMaster University are administered by the Faculty of Social Sciences through the Office of Gerontological Studies, and are co-ordinated and supervised by an Interdisciplinary Committee of Instruction. Students wishing to register in a programme in Gerontological Studies must obtain written approval of the Chair of the Committee of Instruction of Gerontology Programmes.

Committee of Instruction:
Chair
C. Rosenthal (Gerontology/Sociology)
J. Aronson (Social Work)
A. Beckingham (Nursing)
D. Counts (Anthropology)
M. Denton (Gerontology/Sociology)
A. Hicks (Kinesiology)
J. Johnson (Dean) Ex-officio
A. Laver (Occupational Therapy)
B. Spencer (Economics)
J. Synge (Sociology)
I. Turpie (Medicine and Geriatric Medicine)
(Student Representative)

Courses:
If no prerequisite is listed, the course is open.

GERONTOL 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

GERONTOL 2A03 Aging, Health and Society
This course will examine aging and health including physical, mental, social and functional health, 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: GERONTOL 1A06 or its equivalent; and registration in a Gerontology programme

GERONTOL 2B03 Biological Dimensions of Human Aging
An examination of age-related changes in biology and physiology of organisms with a special emphasis on human aging. Attention will be given to the gradual deterioration of function and homeostatic controls and the maintenance of optimal operation for various organs.
Three hours (lectures); one term
Prerequisite: GERONTOL 1A06 or its equivalent

GERONTOL 2C03 Research Methods in Social Gerontology I
An introduction to qualitative and quantitative 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

GERONTOL 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: GERONTOL 1A06 or its equivalent; and enrolment in any programme in Gerontology, Social Work or Health Sciences

GERONTOL 3B03 Gerontology Field Observation
Directed observation of 36 hours in an approved field setting and a weekly seminar focusing on integration of theoretical knowledge and observation.
Three hours field observation per week, and two hours weekly seminar; one term
Prerequisite: Registration in a Gerontology Second Degree programme; or Level III or IV of any Gerontology programme
GERONTOLOGY

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, PSYCH 1A06 and registration in a Gerontology programme
Cross-list: PSYCH 3D03
Students in a Psychology Programme (except those in Gerontology and Psychology) must register for this course as PSYCH 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 a Gerontology First degree programme
GERONTOLOGY 3E03 may be repeated, if on a different topic, to a total of six units.

GERONTOLOGY 3F03 GERONTLOGICAL PRACTICE
Principles and methods of gerontological practice. The students will take part in the McMaster Summer Institute of Gerontology as partial fulfillment of course requirements, when offered in Term 1 of the Spring/Summer Session.
One term
Prerequisite: GERONTOLOGY 3B03; registration in a Gerontology Second Degree programme or Level III or IV of any Gerontology programme

GERONTOLOGY 3G03 RESEARCH METHODS IN SOCIAL GERONTOLOGY II
The focus of this course will be on data analysis and statistics in social gerontology. Students will be introduced to techniques of analyzing data using a statistical software package on a computer.
Three hours (lectures and labs); one term
Prerequisite: GERONTOLOGY 3C03; registration in a Gerontology Second Degree programme or Level III or IV of any Gerontology programme

GERONTOLOGY 3J03 AGING, WORK, RETIREMENT AND PENSIONS
An examination of the issues and concepts related to work, retirement and pensions and their implications for aging individuals and society.
Three hours (lectures and discussions); one term
Prerequisite: Registration in a Gerontology Second Degree programme or Level III or IV of any Gerontology programme

GERONTOLOGY 3Q03 ANTHROPOLOGICAL APPROACHES TO THE STUDY OF AGING
An examination of the contribution of anthropology to the study of aging with an emphasis on cross-cultural comparisons, and including an assessment of the anthropological literature relating to the biological basis of aging in modern and prehistoric populations.
Three hours (lectures and discussion); one term
Prerequisite: ANTHROP 1A03 and three other units of Social/Cultural Anthropology, or registration in any programme in Gerontology
Cross-list: ANTHROP 3Q03

GERONTOLOGY 4A06 GERONTLOGICAL THESIS
Research projects with individual faculty members. Students who write a thesis in the other subject of their combined programme must arrange for six additional units of Gerontology courses or courses from Course List 1 in place of GERONTOLOGY 4A06.
Prerequisite: One of GERONTOLOGY 2C03, 3C03 and GERONTOLOGY 3G03; registration in Level IV of the Combined Honours Programme in Gerontology and Another Subject

GERONTOLOGY 4B03 COMMUNICATION AND COUNSELLING WITH OLDER ADULTS
This course introduces the student to issues in communication and counseling with older adults. Appropriate theories will be explored through lectures, discussions and practice.
Three hours (lectures and discussion); one term
Prerequisite: GERONTOLOGY 3B03; registration in a Gerontology Second Degree programme or Level III or IV of any Gerontology programme
Enrolment is limited.

GERONTOLOGY 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 the Combined Honours Programme in Gerontology and Another Subject or any B.A. in Gerontology as a Second Degree programme

GERONTOLOGY 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 the Combined Honours Programme in Gerontology and Another Subject or any B.A. in Gerontology as a Second Degree programme

GERONTOLOGY 4E03 ADVANCED SEMINAR IN GERONTOLOGY
This course will focus on the process of research in gerontology. Presentations on different approaches to studying social aspects of aging (feminist methodology, historical methods, policy analysis, qualitative and quantitative methods) will be made by gerontological researchers about their research in progress.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level IV of the Combined Honours programme in Gerontology and Another Subject or any B.A. in Gerontology as a Second Degree programme; and three units of Research Methods

GERONTOLOGY 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 Gerontology as a Second Degree programme

GERONTOLOGY 4G03 DIRECTED STUDY 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 the Gerontology as a Second Degree programme

GERONTOLOGY 4I03 PHYSICAL ACTIVITY, LEISURE AND AGING
An examination of the concepts and theories of physical activity and leisure with respect to aging and vitality in later life.
Three hours (lectures); one term
Prerequisite: Registration in a Gerontology as a Second Degree programme or Level III or IV of any Gerontology programme
Cross-list: KINESIOLOGY 4I03

GERONTOLOGY 4S03 SOCIAL POLICY AND THE AGING POPULATION
Critical examination of the social and economic implications of the aging population and the nature of social welfare policy with respect to elderly people.
Three hours (seminar); one term
Prerequisite: Registration in Level IV of the Combined Honours Programme in Gerontology and Another Subject or any B.A. in Gerontology as a Second Degree programme
Cross-list: SOCIOLOGY 4S03
Enrolment is limited.

Course List 1: Other Designated Gerontology Courses

Students should check the prerequisites for these courses in the Course Listings section of the Calendar.

ANTHROP 3Z03 Medical Anthropology: The Biomedical Approach
ECON 3D03 Labour Economics
ECON 3Z03 Health Economics
GEOG 4S03 Geography of Health Care
HTH SCI 3B03 Science, Health and Society
PHILOS 3C03 Advanced Bioethics
RELIG ST 2M03 Death and Dying: Comparative Views
RELIG ST 2N03 Death and Dying: Western Experience
RELIG ST 2W03 Health, Healing and Religion
SOC WORK 3C03 Social Aspects of Health and Disease
SOC WORK 4E03 Women and Social Welfare
SOCIOLOGY 3C03 Special Topics in Sociology of the Family and the Life Cycle
SOCIOLOGY 3G03 Sociology of Health Care
SOCIOLOGY 3HH3 Sociology of Health
SOCIOLOGY 3X03 Sociology of Aging
SOCIOLOGY 4P03 Issues in the Sociology of Aging

Other courses may qualify as Gerontology courses. Students wishing to designate a course not in Course List 1 must consult the Chair of the Committee of Instruction, prior to registration.
HEALTH SCIENCES

Faculty Note:
Health Sciences courses are normally available only to students registered in Nursing (A, B and NP (C) Stream), Oncology or Midwifery, as applicable.

Courses

HTH SCI 1A06  HUMAN BIOCHEMISTRY
The biochemistry and nutrition of the human body in health and disease. Term I: major topic is production of energy from glucose and fat. Vitamins and minerals related to glucose and fat metabolism are also discussed. Term II covers electrolyte balance, body pH, proteins, enzymes, protein malnourishment and nucleic acids. A final section deals with nutritional patterns for each stage of life.
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.

HTH SCI 1B07  HUMAN BIOLOGICAL SCIENCE I
Term I examines cell structure, function and communication mechanisms and musculo-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 1C06  SOCIAL AND CULTURAL DIMENSIONS OF HEALTH CARE
Designed to introduce student midwives to social analysis primarily related to midwifery issues. Using a multidisciplinary perspective, the integrated analysis of race, class and gender will be discussed in relation to health and health care.
Lectures/tutorial; 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; one term
Prerequisite: Registration in Level II of the B.Sc.N. NP (C) Stream or permission of the instructor.
Antirequisite: HTH SCI 1ZZ4

HTH SCI 1D06  TOPICS IN BIOLOGICAL SCIENCES
This course covers basic concepts of human structure and function, genetics and embryology through lectures, demonstrations and appropriate laboratory assignments.
Lectures/tutorial; two terms
Prerequisite: Registration in the Midwifery Education programme.

HTH SCI 1D04  HUMAN ANATOMY
Study of gross human anatomy providing an overview of tissues and organs of the major body systems. This course is available as an elective for students who have advanced credit for all of the required physiology. Independent study: two hours lecture equivalent/four hours lab equivalent; one term
Prerequisite: Registration in the B.Sc.N. programme and permission of the instructor.

HTH SCI 1ZZ4  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 for six weeks; first term
Prerequisite: HTH SCI 1A06 and 1B07, or 1A06,1ZZ4 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 2B08  HUMAN BIOLOGICAL SCIENCE II
First term examines reproductive anatomy and physiology in the first half and the central and peripheral nervous system, anatomy and physiology in the second half.
The first half of second term examines clinical microbiology and principles of pharmacology and the latter half of the second term examines pharmacological principles.
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 1A06,1ZZ4 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 2BB2  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; first term
Prerequisite: HTH SCI 1A06 and 1B07, or 1A06,1ZZ4 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 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; one term
Prerequisite: HTH SCI 1CC7, registration in Level III of the B.Sc.N. NP (C) Stream or permission of the instructor.
Antirequisite: HTH SCI 2B08

HTH SCI 2CC2  TOPICS IN HUMAN BIOLOGICAL SCIENCES III
Medical microbiology and principles of pathology are considered, including structure and function of infectious agents, control measures and host defenses.
Two lectures (two hours each), two tutorials (two hours each), one lab (two hours) every other week for six weeks; second term
Prerequisite: HTH SCI 1A06 and 1B07, or 1A06,1ZZ4 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 2DD2  TOPICS IN HUMAN BIOLOGICAL SCIENCES IV
Principles of pharmacology and mechanisms of drug action are considered. Lecture (two hours), tutorial (six hours), every other week for six weeks; one lab (three hours), every other week for six weeks; second term
Prerequisite: HTH SCI 1A06 and 1B07, or 1A06,1ZZ4 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 development 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 3A04
HISPANIC STUDIES

HHT 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.

Antirequisite: HTH SCI 3B04

HHT SCI 3L02 INTRODUCTION TO THE RESEARCH PROCESS

Introduction to principles and methods of the clinical research process. Concepts of research design, implementation, analysis and application to health care settings are considered in this context. Lectures, tutorials (two hours); one term

Prerequisite: Registration in Level III of the B.Sc.N. (A) or (B) or NP (C) Stream; or registration in the Paediatric or Adult Oncology programme; or permission of the instructor.

HHT SCI 3L04 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 approaches will be used. Students will participate in an ongoing research project for a portion of their term.

Self-study/tutorial; two terms

Prerequisite: HHT SCI 3A03 and registration in Level III of the Midwifery Education programme or permission of the instructor.

Antirequisite: HHT SCI 3L04

HHT SCI 3R03 INDEPENDENT STUDY IN A HEALTH SCIENCE TOPIC

Special topics will be considered in depth under the supervision of a faculty member. The plan of study must be negotiated with the supervisor. Lectures or equivalent (three hours); one term

Prerequisite: Registration in Level II or above of the B.Sc.N. programme; permission of the instructor and permission of the Coordinator of Studies (Nursing).

Students will normally be permitted to apply more than one independent study course in the Health Sciences toward their elective requirements for the B.Sc.N. degree.

HHT SCI 4E06 INTRODUCTION TO HEALTH CARE LEADERSHIP/MANAGEMENT

Theories and principles of leadership and management are applied to the health care disciplines. Given in both problem-based tutorial format and through distance education. Enrolment is tutorial format is limited. Problem-based tutorial or equivalent (four hours); independent study at a clinical site (six hours); one term

Prerequisite: A minimum of one year clinical work experience in a health care profession or permission of the instructor.

Antirequisite: NURSING 4B06

HHT SCI 4L02 RESEARCH PROJECT

Students participate in a research study. Concepts of research design, implementation and analysis are studied. Approximately two hours per week; two terms

Prerequisite: HHT SCI 3A03, HHT SCI 3L02 and registration in Level IV of the B.Sc.N. (A) or (B) or NP (C) Stream; or permission of the instructor.

Antirequisite: HHT SCI 4L04

HEALTH AND SOCIETY

(SEE MINORS AND THEMATIC AREAS OF STUDY)

HEBREW

(SEE RELIGIOUS STUDIES, HEBREW)

HISPANIC STUDIES

Courses and programmes in Hispanic Studies are administered within the Department of Modern Languages of the Faculty of Humanities.

Department Note:

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 2A03, 3D03, 3DD3, 4D03

Courses

If no prerequisite is listed, the course is open.

HISPANIC 1A06 INTERMEDIATE SPANISH

A course designed to further the student's command of the language in its oral and written forms. There will be some review of basic grammar, but emphasis will be upon composition, expansion of vocabulary, and the more advanced aspects of the language.

Three hours; two terms

Prerequisite: OAC Spanish or permission of the Department.

Antirequisite: HISPANIC 2Z06.

Students with prior knowledge of the language as determined by a placement test may be required to take an appropriate alternative.

HISPANIC 1Z06 BEGINNER'S INTENSIVE SPANISH

A course designed to cover the rudiments of the language in both written and oral forms. This course also provides preparation for more advanced work in Spanish. This course is enhanced by a CALL (Computer-Aided Language Learning) module.

Four hours (including lab practice); two terms

Antirequisite: OAC Spanish or equivalent

Enrolment is limited.

Students with prior knowledge of the language as determined by a placement test may be required to take an appropriate alternative.

HISPANIC 2A03 LANGUAGE PRACTICE I

A course devoted to the expansion of vocabulary, the improvement of comprehension, and the achievement of greater confidence and versatility in the language by using different and creative forms of communication.

Three hours; one term

Prerequisite: HISPANIC 1A06; or credit in or concurrent registration in HISPANIC 2Z06; or permission of the Department.

Not available to students who have native fluency in Spanish.

HISPANIC 2B03 INTRODUCTION TO SPANISH LITERATURE AND CIVILIZATION

A survey of Spanish literature from the Middle Ages to the present. Most significant periods and representative writers will be studied with the purpose of understanding both the development of the literary genres and the cultural, political and social context in which they flourished.

Three lectures; one term

Prerequisite: HISPANIC 1A06 or 1Z06

HISPANIC 2L03 SPANISH AMERICAN LITERATURE AND CIVILIZATION I

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 both the development of the literary genres and the cultural, political and social context in which they flourished.

Three lectures; one term

Prerequisite: HISPANIC 1A06 or 1Z06

Antirequisite: HISPANIC 2C03

HISPANIC 2L13 SPANISH AMERICAN LITERATURE AND CIVILIZATION II

A survey of Spanish American literature from Modernism (1880) to the present. The most significant periods and representative writers will be studied with the purpose of understanding both the development of the 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 resumes and will develop related vocabulary.

Three lectures; one term

Prerequisite: HISPANIC 2A03
HISPANIC 3DD3  ADVANCED LANGUAGE PRACTICE
The main objective is to develop the students' abilities in the kinds of
writing they are expected to do at university level such as outlines, book
reviews and essays.
Three hours; one term
Prerequisite: HISPANIC 3DD3
HISPANIC 4DD3  SYNTAX
A course which provides opportunities to develop a deeper awareness
of style through the study of syntax. Elements of syntax and translation
will be included.
Three hours; one term
Prerequisite: HISPANIC 3DD3
HISPANIC 4II3  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.
Tutorials; one term
Prerequisite: 18 units of Hispanic Studies above Level I and permission of the
Department
HISPANIC 4LL3  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 I
Offered in alternate years.
HISPANIC 4MO3  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 I
Offered in alternate years.
HISPANIC 4MM3  CERVANTES AND HIS TIMES
An analytical study of the Quijote and of some of Cervantès' 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 I
Offered in alternate years.
HISPANIC 4NN3  THE SPANISH NOVEL OF THE 19TH CENTURY
A study of the novel of the 19th century. Representative Spanish novels
in the context of the stylistic trends and intellectual history of the period.
Three lectures; one term
Prerequisite: Nine units of Hispanic Studies above Level I
Offered in alternate years.
HISPANIC 4SS3  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 I
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 I
HISPANIC 4T03 may be repeated, if on a different topic, to a total of
six units.

HISTORY
Faculty as of January 15, 1996

Chair
Robert H. Johnston

Professors Emeriti

Ezio Cappadocia/B.A., M.A. (Toronto), Ph.D. (Chicago)
Alan Cassels/M.A. (Oxford), Ph.D. (Michigan), F.R.H.S.
Charles M. Johnston/B.A. (McMaster), M.A., Ph.D. (Pennsylvania)
John H. Trueman/B.A., M.A. (Toronto), Ph.D. (Cornell)

Professors

James D. Alspaugh/B.A. (Winnipeg), M.A. (Western), Ph.D. (Cambridge), F.R.H.S.
Paul S. Fritz/B.A. (Queens's), M.A. (Wisconsin), Ph.D. (Cambridge), F.R.H.S.
Daniel J. Geagan/A.B. (Boston), Ph.D. (Johns Hopkins)
Robert H. Johnston/B.A. (Toronto), M.A., Ph.D. (Yale)
Harvey A. Levenstein/B.A. (Toronto), M.S., Ph.D. (Wisconsin)
David J. Russo/B.A. (Massachusetts), M.A. Ph.D. (Yale)
John C. Weaver/B.A. (Queen's), M.A., Ph.D. (Duke)

Associate Professors

David P. Barrett/B.A., M.A., M.Phil. (Toronto), Ph.D. (London)
Edmond M. Beame/B.A. (Cornell), Ph.D. (Illinois)
John P. Campbell/M.A. (Glasgow), A.M., Ph.D. (Yale)
Ruth Frager/B.A. (Rochester), M.A., Ph.D. (York)
J. Michael Gauvrea/B.A. (Laureian), M.A., Ph.D. (Toronto)
Bermice M. Kaczynski/B.A. (Pittsburgh), M.Phil., Ph.D. (Yale)
Ph.D. (British Columbia)
Thomas E. Willey/B.A. (Butler), M.A., Ph.D. (Yale)

Assistant Professors

Virginia Aksen/B.A. (Allegeny College), M.A., Ph.D. (Toronto)
Kenneth Cruikshank/B.A. (Carleton), M.A., Ph.D. (York)
David W. Hall/Ph.D. (Columbia)
Martin Horn/B.A. (Western), M.A. (McMaster), Ph.D. (Toronto)

Instructor

Paul Doerr/B.A., M.A., Ph.D. (Waterloo) part-time

Associate Member

Peter J. George (Economics) B.A., M.A., Ph.D. (Toronto)

Department Notes:

1. The Department of History offers two Level I courses, each of which is
designed to introduce the student to the study of History at the
university level through the examination of an important aspect of the
development of western civilization. HISTORY 1A06 is recommended
for those students who anticipate entering B.A. or Honours programmes
in History, but students will be admitted to programmes in History from
HISTORY 1L06 (cross-listed as CLASSICS 1L06). Students may take
only one of these Level I History courses.

2. Enrolment in any Level IV History course will be limited to twelve
students. Students must be registered in an Honours History programme
to enrol in any Level IV History course. Preference will be given in order to students according to the following categories:
Level IV Honours History and Combined Honours in History; Level III Honours History and Combined Honours in History; Level III B.A.
History and others (with special permission of the Department).

3. Students interested in Ancient History are advised to examine the
courses in Classics offered by the Department of Classics.

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
Cross-list: CLASSICS 1L06

HISTORY 2A06  EARLY MODERN EUROPE 1400-1715
A study of the transition from late medieval to early modern civilization,
with emphasis upon the breakup of feudal society and the consequent
changes in the character of Europe.
Three lectures; two terms
Prerequisite: Registration in Level II and above

HISTORY 2B06  CHINA: FROM LATE IMPERIAL TIMES
to the Present
The history of China from the 17th century to the present, with emphasis on
the 19th and 20th centuries. The course will focus on political
development, social and cultural change, and China's relations with the
outside world.
Three lectures; two terms
Prerequisite: Registration in Level II and above
HISTORY 2C06  EUROPE AND THE WORLD, 1870-1992
An introduction to major historical developments in European politics, society and culture, from the age of imperialism to the end of the Cold War.
Three lectures; two terms
Prerequisite: Registration in Level II and above
Antirequisite: HISTORY 1C06
Alternates with History 3J06

HISTORY 2E06  THE ISLAMIC WORLD, 600-1800
A survey of the history of the Islamic world, its spread through Africa, Europe and Asia, and the nature of Muslim institutions and societies.
Three lectures; two terms
Prerequisite: Registration in Level II and above
Cross-list: RELIG 2E06

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
Enrollment is limited.

HISTORY 2I06  EUROPE IN THE MIDDLE AGES
A survey of European History from A.D. 400-1400. Particular attention will be given to the attempts at political and social organization which led to the birth of Europe.
Three lectures; two terms
Prerequisite: Registration in Level II and above

HISTORY 2J06  THE HISTORY OF CANADA
A study of the major social and political forces that have contributed to the development of modern Canada.
Three lectures; two terms
Prerequisite: Registration in Level II and above
Enrollment is limited.

HISTORY 2L06  THE HISTORY OF GREECE AND ROME
Greece from the rise of the city-states to Alexander; Rome from the Middle Republic through the early Empire. Attention will be given to the political, military and social developments in the light of both literary and archaeological evidence. (No Greek or Latin required).
Three lectures; two terms
Prerequisite: Registration in Level II and above
Cross-list: CLASSICS 2G06

HISTORY 2M06  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  IMPERIALISM: 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 3A33  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 impulsion 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: JAPANESE ST 3B03

HISTORY 3B83  THE TOWN IN UNITED STATES HISTORY
A study of the political, economic, social, cultural and intellectual aspects of town life, as well as an examination of the relationship of the town to American society as a whole.
Three lectures; one term
Prerequisite: Six units of History above Level I

HISTORY 3E06  SELECTED TOPICS IN THE RECENT HISTORY OF THE UNITED STATES
American society, politics, and foreign relations from World War I to the present, with considerable emphasis on social history, including the history of women, minorities, labor, and radicalism.
Three hours (lectures and discussion); two terms
Prerequisite: HISTORY 2H06

HISTORY 3F03  MEDIEVAL SOCIETY
An examination of the aristocratic, monastic, urban and rural communities of the Middle Ages. Attention will be given to patterns of social organization as well as to such specific themes as gender, popular piety, justice and warfare.
Three hours (lectures and discussion group); one term
Prerequisite: One of HISTORY 1D06, 2E06, 2L06

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 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 3H33  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 World War I 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
Enrollment is limited.

HISTORY 3I16  THE HISTORY OF WARFARE, 1865-1945
A survey of the development of military, naval and air doctrine and the triumph of the national unification movements; the causes of World War I.
Three lectures; two terms
Prerequisite: Registration in Level II and above

HISTORY 3J26  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: Six units of History

HISTORY 3J33  MODERN CANADA: THE GREAT TRANSFORMATION, 1890-1929
An intensive examination of themes in the social, economic, cultural, and political history of industrial Canada.
Three lectures; one term
Prerequisite: HISTORY 2J06
Alternates with HISTORY 3M03

HISTORY 3L03  MODERN CANADA: FROM DEPRESSION TO REFERENDUM, 1929-1980
An intensive thematic study of Canadian developments in society, politics and culture from the Great Depression to the Quebec Referendum.
Three lectures; one term
Prerequisite: HISTORY 2J06
Alternates with HISTORY 3L03.
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, 3V3V, CLASSICS 2K03, 2V03
Cross-list: CLASSICS 3MM3
History 3MM3 may be repeated, if on a different topic, to a total of six units.

HISTORY 3N03 | 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 programme
Offered in alternate years.

HISTORY 3P03 | RELIGION AND SOCIETY IN CANADA
This course will examine the origin, nature and development of the major Canadian religious denominations from the 17th to the mid-20th Century. Three hours (lectures and discussion groups); one term
Prerequisite: Registration in Level II and above
Offered in alternate years.

HISTORY 3Q03 | WAR AND SOCIETY IN EARLY MODERN ENGLAND, 1485-1713
A thematic study of the nature of English warfare and its relationship to society during the period in which England developed as a major military and naval power. Three hours (lectures and discussion groups); one term
Prerequisite: HISTORY 2N06

HISTORY 3R03 | RELIGION AND POLITICS IN THE AGE OF THE REFORMATION
An examination of both the Protestant and Catholic movements of the 16th century with particular attention to their political and social implications. Three lectures; one term
Prerequisite: Registration in Level II and above

HISTORY 3S03 | ASPECTS OF THE CULTURAL HISTORY OF ENGLAND, 1500-1668
An introduction to courtly, urban, and rural culture from the pre-Reformation humanism through to the Restoration era, with emphasis upon social, political and religious influences. Three hours (lectures and discussion groups); one term
Prerequisite: HISTORY 2N06

HISTORY 3T03 | 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 3U03 | ASPECTS OF FRENCH CANADIAN HISTORY
Emphasis will be placed on Quebec from the 16th to mid-20th Century. Three hours (lectures and discussion groups); one term
Prerequisite: Registration in Level II and above
Offered in alternate years.

HISTORY 3U03 | 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 2L06, or six units of Classics, including CLASSICS 2K03 or 2V03
Cross-list: CLASSICS 3U03
Alternates with HISTORY 3V03.

HISTORY 3V03 | ROMAN SOCIETY
Advanced study of selected aspects of the social life of Rome, based on contemporary literature, documents and artifacts. Three lectures; one term
Prerequisite: HISTORY 1L06 or 2L06, or six units of Classics, including CLASSICS 2K03 or 2V03
Cross-list: CLASSICS 3V03
Alternates with HISTORY 3U03.

HISTORY 3X03 | CANADIAN AND AMERICAN WOMEN'S HISTORY
An examination of the history of Canadian and American women primarily in the nineteenth and twentieth centuries. This includes investigation of paid and unpaid labour, sexuality, child-rearing, formal education and religion. Three lectures; one term
Prerequisite: HISTORY 2H06 or 2J06, or WOMEN ST 2A06
Offered in alternate years.

HISTORY 3Y03 | EARLY LATIN AMERICA
From the Amerindian cultures to 1820. This course will deal with the pre-Columbian civilizations, the Spanish conquest and its consequences until the wars for independence from Spain. Three lectures; one term
Prerequisite: Registration in Level II and above
Alternates with HISTORY 3Y03.

HISTORY 3Y03 | MODERN LATIN AMERICA SINCE 1820
Liberalism, nationalism, militarism and the various revolutions will be covered as well as the U.S. role in Latin America and the Caribbean. Three lectures; one term
Prerequisite: Registration in Level II and above
Alternates with HISTORY 3X03.

HISTORY 3Z03 | JUDAISM, THE JEWISH PEOPLE AND THE BIRTH OF THE MODERN WORLD
On the lures and threats of the modern world from the early eighteenth to the early twentieth century. Topics include: Jewish philosophy in the age of Reason, new Jewish denominations, assimilation, early Zionism, Yiddish socialism, the beginnings of modern anti-semitism movements of cultural renewal. Two lectures, one tutorial; one term
Prerequisite: Open to students in Level II and above
Cross-list: RELIG ST 3203

HISTORY 3Z03 | JUDAISM AND THE JEWISH PEOPLE IN THE TWENTIETH CENTURY
Jews and Judaism in a century of catastrophe and renewal. The progress of Emancipation; Jews in Canada and the U.S.; the Jewish catastrophe in Europe; the Jewish identities in literature and the arts. Two lectures, one tutorial; one term
Prerequisite: Open to students in Level II and above
Cross-list: RELIG ST 3273

HISTORY 4A06 | SPECIAL TOPICS IN BRITISH HISTORY (1688-1830)
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 4A06 | SPECIAL STUDIES IN THE HISTORY OF TUDOR AND STUART ENGLAND
Studies in the political, religious, intellectual and social life of Tudor and Stuart England. Seminar (two hours); two terms
Prerequisite: One of HISTORY 2N06, 3Q03, 3S03, or 3T03, and registration in Level III or IV of any Honours programme in History
Enrolment is limited. Departmental permission required.

HISTORY 4B06 | MODERN CANADA, 1896-1968:
AN INTELLECTUAL AND CULTURAL HISTORY
An intensive study of the shaping of the twentieth-century outlook in English-speaking Canada. Topics will include the growth of the welfare state, ideologies (liberalism, conservatism, socialism, feminism), the cultural impact of depression and the two world wars, and the role of religion in shaping the Canadian community. Seminar (two hours); two terms
Prerequisite: HISTORY 2J06 or 3K06 or 3L06 and 3M03, 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 4BB6 | 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 II or IV of the Japanese Studies programme
Alternates with HISTORY 4G06.
Enrolment is limited. Departmental permission required.
HISTORY 4CC6 SPECIAL TOPICS IN THE SOCIAL AND CULTURAL HISTORY OF VICTORIAN CANADA
An examination of the social and cultural development of English Canada between 1837 and 1901.
Seminar (two hours); two terms
Prerequisite: HISTORY 2J06 and registration in Level III or IV of any Honours programme in History
Students may take only two of HISTORY 4B06, 4CC6, 4H06, 4T06 and 4W06.
Enrolment is limited. Departmental permission required.

HISTORY 4D06 SPECIAL TOPICS IN GREEK HISTORY
Investigations into Greek social history and its interpretation.
Seminar (two hours); two terms
Prerequisite: Six units from HISTORY 2L06, 3L33, 3U33, CLASSICS 2K03, 2U03, and registration in Level III or IV of any Honours programme in History
Cross-list: CLASSICS 4D06
Enrolment is limited. Departmental permission required.

HISTORY 4E06 SPECIAL TOPICS IN THE HISTORY OF VICTORIAN BRITAIN
An examination of such themes as the two-party system, the Irish question, working-class life, religious and literary movements, evolving industrialism, imperialism and social reform.
Seminar (two hours); two terms
Prerequisite: HISTORY 2N06 and registration in Level III or IV of any Honours programme in History
Enrolment is limited. Departmental permission required.

HISTORY 4G06 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: HISTORY 2B06 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, 3A03, 3A13, 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 3X03 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 4J06 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 4L06 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 4M06 SPECIAL TOPICS IN THE HISTORY OF THE RENAISSANCE AND THE REFORMATION
Seminar (two hours); two terms
Prerequisite: One of HISTORY 2A06 or 3R03, and registration in Level III or IV of any Honours programme in History
Enrolment is limited. Departmental permission required.

HISTORY 4006 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 4P06 CONTEMPORARY EUROPE
Topics in the history of Europe during the 20th century.
Seminar (two hours); two terms
Prerequisite: Six units from HISTORY 2M06, 3F03, 3H13, 3I03, 3J06, 3W03, and registration in Level III or IV of any Honours programme in History
Enrolment is limited.

HISTORY 4Q06 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 2D06, 2L06, 3E03, 3L33, 3M33, 3U03, 3V33 and registration in Level III or IV of any Honours programme in History
Enrolment is limited. Departmental permission required.

HISTORY 4S06 SPECIAL TOPICS IN THE HISTORY OF THE MIDDLE AGES
Selected themes in the history of England and the Continent.
Seminar (two hours); two terms
Prerequisite: Six units from HISTORY 2D06, 2L06, 3F03, 3L33, 3M33, 3U03, 3V33 and registration in Level III or IV of any Honours programme in History
Enrolment is limited. Departmental permission required.

HISTORY 4T06 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, 3L33 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 4U06 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 4W06 THE NORTH AMERICAN CITY, 1700 TO THE PRESENT
An examination of: founders' designs; practices and influence of business communities; the impact of technologies and architecture; spatial organization of class and ethnicity; shelter and urban services; differences between Canadian and American cities.
Seminar (two hours); two terms
Prerequisite: HISTORY 2H06 or 2J06, and registration in Level III or IV of any Honours programme in History. HISTORY 3BB3 is recommended. Antirequisite: HISTORY 4C06
Students may take only two of HISTORY 4B06, 4C06, 4H06, 4T06 and 4W06.
Enrolment is limited. Departmental permission required.

HISTORY 4Y06 THE SECOND WORLD WAR
Emphasis will be placed on the military and diplomatic aspects of the subject.
Seminar (two hours); two terms
Prerequisite: HISTORY 3I16 or 3I03 and registration in Level III or IV of any Honours programme in History
Enrolment is limited. Departmental permission required.
HUMANITIES (GENERAL)

Lecturers
Jill LeBlanc/B.A. (McMaster), M.A., Ph.D. (Toronto)
Geoffrey Rockwell/B.A. (Haverford College), M.A., Ph.D. (Toronto)

Courses
If no prerequisite is listed, the course is open.

HUMAN 2C03 CRITICAL THINKING
This course aims to improve skills in analyzing and evaluating arguments and presentations found in everyday life and academic contexts, and to improve critical judgement.
Two lectures; one tutorial; one term
Prerequisite: [Indicated prerequisite]
Antirequisite: ARTS & SCI 1B06, PHILOS 2F03
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 human interaction. In this context, students will also learn skills such as how to use MS-DOS, word processing, electronic mail, how to browse the Internet, and how to search a database. No previous experience with computers is necessary.
Prerequisite: Registration in Level II or above of a programme in the Faculty of Humanities
HUMAN 2E03 is administered by Dr. G. Rockwell, TSH, Room 312
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/males 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 History for 1996-97.

HUMAN 3F03 QUANTITATIVE METHODS IN THE HUMANITIES
An introduction to the fundamentals of quantitative research in the humanities. In the context of humanities research, students will learn to use text-analysis tools and how to design and program a database. Students will be expected to use these tools to work on projects related to their specific discipline.
Prerequisite: HUMAN 2E03
Alternates with HUMAN 3G03.
HUMAN 3F03 is administered by Dr. G. Rockwell, TSH, Room 312
Enrolment is limited.

HUMAN 3G03 MULTIMEDIA IN THE HUMANITIES
This course is for students in the humanities who want to study computer-based multimedia and create multimedia works. Students will discuss how to evaluate multimedia works, create such works, and consider the application of multimedia technology to the humanities.
Prerequisite: HUMAN 2E03
Alternates with HUMAN 3F03.
HUMAN 3G03 is administered by Dr. G. Rockwell, TSH, Room 312
Enrolment is limited.

INOTGENO STUDIES

Courses
If no prerequisite is listed, the course is open.

INDIG ST 1A06 INTRODUCTION TO INDIGENOUS STUDIES
A study of the world views of Indigenous peoples, including the Inuit, First Nations and the Metis, and of contemporary Indigenous societies' social systems, political organization and economic development.
Three hours (lecture and seminars); two terms
Prerequisite: INDIG ST 1A06

INDIG ST 2A06 INTRODUCTION TO INDIGENOUS PEOPLES' SPIRITUALITY
A review of the Indigenous peoples' views of the world, particularly as they relate to the natural world, their spirituality and their social systems.
Three hours (lecture and seminars); two terms
Prerequisite: INDIG ST 1A06

INDIG ST 2B03 INTRODUCTION TO INDIGENOUS PEOPLES' HISTORY
An examination of the forces which shaped the history of the Indigenous peoples of Canada since the pre-contact period with Europeans, with special emphasis on eastern woodland peoples, the Iroquois Confederacy, and the Council of Three Fires.
Three hours (lecture and seminar); one term
Prerequisite: INDIG ST 1A06

INDIG ST 2C03 INTRODUCTION TO CONTEMPORARY INDIGENOUS SOCIETIES
A review of the geographical, cultural and demographic composition of Inuit, First Nations and Metis, and of the major current developments on land, cultural integrity, treaties, economic development, community social development and self-governance.
Three hours (lecture and seminars); one term
Prerequisite: INDIG ST 1A06

INDIG ST 3A03 THE SPIRITUAL TEACHINGS OF ELDER
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 Metis. 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
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

INDIG ST 3E03 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 (lecture and seminars); one term
Prerequisite: INDIG ST 1A06

CAYUGA...

CAYUGA 1206 BEGINNERS' INTENSIVE CAYUGA
This course will emphasize the spoken Cayuga language, including correct pronunciation, word formation, verb analysis and an introduction to the written form.
Three hours (lecture and seminars); two terms
Courses

If no prerequisite is listed, the course is open.

ITALIAN 1006  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 1206  BEGINNER'S INTENSIVE ITALIAN
An intensive beginner's course designed for students with no prior knowledge of the language. The course gives the student a basic knowledge of Italian grammar and the opportunity to practise the spoken language. This course is enhanced by a CALL (Computer-Aided Language Learning) module.
Four hours (including lab practice); two terms
Antirequisite: OAC Italian, or ITALIAN 1226
Enrolment is limited.
Students who speak or understand an Italian dialect or Standard Italian may not register in the course.

ITALIAN 1226  BEGINNER'S INTENSIVE ITALIAN FOR DIALECT SPEAKERS
An intensive beginner's course designed for students who understand an Italian dialect or Standard Italian. The course gives the student a basic knowledge of Italian grammar and the opportunity to practise the spoken language. This course is enhanced by a CALL (Computer-Aided Language Learning) module.
Four hours; two terms
Prerequisite: ITALIAN 1A06 or 2Z06, and registration in an Honours programme requiring Italian
Enrolment is limited.

ITALIAN 2A03  INTENSIVE ORAL PRACTICE IN ITALIAN
A conversation course designed to improve oral and aural proficiency in Italian.
Two hours; two terms
Prerequisite: ITALIAN 1A06 or 2Z06

ITALIAN 2F03  CONTEMPORARY ITALIAN LITERATURE AND CULTURE
This course will study Italian literature from Fascism and the Second World War, focusing on Neorealism in literature and film, and on major contemporary authors, from Moravia to Calvino.
Three lectures; one term
Prerequisite: ITALIAN 1A06, or registration or credit in ITALIAN 2206

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 1Z06 or 2Z06
Antirequisite: ITALIAN 1A06

ITALIAN 3D03  ITALIAN STYLISTICS
An introduction to the study of Italian stylistics through an intensive and systematic analysis of Italian clause, sentence and discourse structure.
Three hours; one term
Prerequisite: ITALIAN 2A03 and 2D03

ITALIAN 3D03  INTENSIVE LANGUAGE PRACTICE
An intensive oral language practice course, designed for the systematic comparison and interpretation of Italian and English discourse strategies.
Two hours; two terms
Prerequisite: ITALIAN 2D03, and registration in an Honours programme requiring Italian
Enrolment is limited.

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 Hermeneutic school of poetry.
Three lectures; one term
Prerequisite: Nine 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: Nine units of Italian above Level I
Antirequisite: MOD LANG 3B03

ITALIAN 3RR3  BOCCACCIO AND PETRARCH
A study of Petrarch’s *Canzoniere* and Boccaccio’s *Decameron*.
Three lectures; one term
Prerequisite: Nine units of Italian above Level I
Antirequisite: MOD LANG 3B03

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: Nine units of Italian above Level I
Offered in alternate years.

ITALIAN 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.
Tutorials; one term
Prerequisite: 18 units of Italian above Level I, and permission of the Department

ITALIAN 4M03  INTENSIVE COMPOSITION, STYLISTICS AND ORAL PRACTICE IN ITALIAN
An advanced language study course designed to develop the student’s skills in composition, stylistics and conversation. Practice materials will be drawn from 20th-century literary works for the purpose of language study.
Two hours; two terms
Prerequisite: ITALIAN 3D03

ITALIAN 4R03  RENAISSANCE
A study of the literature of the Renaissance.
Three lectures; one term
Prerequisite: Nine units of Italian above Level I
Antirequisite: MOD LANG 3SS3
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: Nine 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 language and literature 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.

Committee of Instruction
Director
Koichi Shinohara (Religious Studies)
Nobuko Adachi (Modern Languages)
Elko Virginia Ariga (Modern Languages)
David Barrett (History)
Kenneth S. Chan (Economics)
J.S. Chang (Engineering Physics)
Phyllis Granoff (Religious Studies)
J. Johnson (Dean)
Ex officio
K. L. Liaw (Geography)
Richard Stubbs (Political Science)
Noriko Yokokura (Modern Languages)

JAPANESE 1Z06  BEGINNER’S INTENSIVE JAPANESE
This course is designed to give students basic listening, speaking, reading and writing skills in Japanese. Exercise in the computerized language laboratory is an essential part of this course.
Five hours (including lab practice); two terms

JAPANESE 2Z06  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 1Z06, with a grade of at least B-, or permission of the instructor

JAPANESE 3B03  BUSINESS JAPANESE
Three hours; one term
Prerequisite: JAPANESE 2Z06
Enrollment is limited.

JAPANESE 3Z2S  ADVANCED INTENSIVE JAPANESE
This course continues the study of written and spoken Japanese begun in JAPANESE 1Z06 and 2Z06. Particular attention will be given to the development of the following language skills: conversational practice based on situational drills; study of advanced grammar structures; development of reading skills based on selected literary materials; writing short essays; continued study of kanji.
Four hours; two terms
Prerequisite: JAPANESE 2Z06, or permission of the instructor

JAPANESE 4L03  JAPANESE LITERATURE
Readings in the original of contemporary Japanese prose and poetry (Haiku and Tanka). Previous readings include: Murakami Haruki, Akutagawa, Itsuki Hiroyuki, Oe Kenzaburo, Toson, Siki, Basho. Consult the Department for readings to be offered.
Three lectures; one term
Prerequisite: JAPANESE 3Z2S, 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 3Z2S, 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
KINESIOLOGY

JAPAN ST 3E03 JAPANESE RELIGION
Two lectures, one tutorial; one term
Prerequisite: Registration in Level II and above. One of RELIG ST 1B06 or 2M6 or JAPAN ST 2P06 is recommended.
Cross-list: RELIG ST 3E03

JAPAN ST 3H03 STORYTELLING IN EAST ASIAN RELIGIONS
An in-depth study of selected examples of story literature in China and Japan with attention to the way religion is represented in them.
Two lectures, one tutorial; one term
Prerequisite: Registration in Level II and above
Cross-list: RELIG ST 3H03

JAPAN ST 3J03 JAPANESE ART
An introduction and discussion of major aspects of the visual arts of Japan.
Three lectures; one term
Prerequisite: Registration in Level II and above
Cross-list: ART HIST 3J03

JAPAN ST 3J03 GEOGRAPHY OF JAPAN
Human and physical geography of Japan with emphasis on historical, international, demographic and economic aspects.
Three lectures; one term
Prerequisite: GEOG 1B06 or registration in a Japanese Studies programme
Cross-list: GEOG 3J03

JAPAN ST 3P03 ESOTERIC BUDDHISM IN EAST ASIA
An examination of the doctrine, ritual, and art of Esoteric (Tantric) Buddhism in China and Japan. Emphasis will be on the teachings of Kukai (774-835) and the Japanese Shingon tradition.
Two lectures, one tutorial; one term
Cross-list: RELIG ST 3P03

JAPAN ST 3U03 CH'AN AND ZEN BUDDHISM
An examination of Ch'an and Zen Buddhist history, doctrine, monastic, culture, and ritual practice.
Two lectures, one tutorial; one term
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

JAPAN ST 4B03 GUIDED READING IN JAPANESE STUDIES
Independent study on an approved topic. A research essay and/or final examination will be required.
One term
Prerequisite: Registration in Level III or IV of a Japanese Studies programme and permission of the Director

KINESIOLOGY

Faculty as of January 15, 1996

Chair
Digby Sale

Professors Emeriti
Frank J. Hayden/B.A. (Western), M.A., Ph.D. (Illinois)
Alan J. Smith/B.S.A., M.Ed. (Toronto), D.Ed. (SUNY, Buffalo)

Professors
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. (Windsor), Ph.D. (Louisiana State)
J. Duncan MacDougall/B.A., B.P.H.E. (Queen's), M.S. (Oregon), Ph.D. (Wisconsin)
Digby G. Sale/B.P.H.E. (Toronto), M.A. (Western), Ph.D. (McMaster)
Janet L. Starkes/B.A. (Western), M.Sc., Ph.D. (Waterloo)

Associate Professors
Cameron J. Blimkie/B.A., B.P.E. (McMaster), M.A., Ph.D. (Western)
Nicola Cipriano/B.P.H.E., M.Sc. (Lakehead)
Audrey Hicks/B.P.E., M.Sc., Ph.D. (McMaster)
Susan E. Inglis/B.P.E., M.A. (Alberta), Ph.D. (Ohio State)
Mary E. Keyes/B.A., M.A. (Western), Ph.D. (Ohio State)

Neil McCartney/B.Ed. (Exeter), Ph.D. (McMaster)
Cindy Reaich/B.A., B.P.H.E., B.Ed., M.Sc. (Queen's), Ph.D. (Waterloo)

Assistant Professors
Nancy D. Bouchier/B.A., M.A., Ph.D. (Western)
James J. Dowling/B.H.K., M.H.K. (Windsor), Ph.D. (Waterloo)
Robert J. Henderson/B.P.E. (McMaster) M.A., Ph.D. (Alberta)
David C. Wilson/B.Ed. (Bristol), M.A. (York)

Part-time Instructors
Patti Blair, B.P.E. (McMaster)
Brian Lisson, B.R.L.S. (Brock)

Associate Members
Oded Bar-Ori(Peditriatric) M.D. (Hebrew Un., Jerusalem)
Scott Garner(Medicine) B.Sc. (Med.) (Manitoba), M.D. (Manitoba)
Janice A. Harvey/(Student Health Services) B.Sc. (Waterloo), M.D., C.C.F.P. (McMaster), Dip.Sp.Med. (Western)
John Hay/(O.T./PT)B.A.; B.P.H.E. (Queen's), M.A. (Alberta), Ph.D.
A.J. McComas(Medicine)B.Sc., M.B., B.S. (Durham), F.R.C.P.(C)
Robert S. Mckelvie(Medicine)B.Sc., M.Sc., M.D. (Western)

Department Notes:
1. Not all Level III and IV Kinesiology courses are taught every year.
2. Students registered in Kinesiology may take only 6 units of courses cross-listed with Kinesiology for elective credit. Course are KINESIO 3P03 and cross-list SOCIOl 3003; KINESIOl 3K03 and cross-list SOCIOl 3303; KINESIOl 36E3; KINESIOl 4103 and cross-list GERONTOL 4103.
3. With the permission of the department, the following courses may be taken as elective credit by undergraduates not in Kinesiology: KINESIOl 3P03, 3Q03, 3E03, 4E03, 4L03, 4M03. KINESIOl 3S33 and 4J03 may also be taken as elective credit by undergraduates not in Kinesiology. No permission is required but enrolment may be limited.
4. All other Kinesiology courses are open only to students registered in the B. Kin. programme.
5. Enrolment in some Level III and IV elective Kinesiology courses is limited and some require a prerequisite or permission of the instructor.
6. Registration with appropriate permission must be completed no later than the last day for registration as stated in the Calendar under Sessional Dates.

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 1B06 INQUIRY IN KINESIOLOGY
This course introduces students to the discipline of Kinesiology, and provides an understanding of the philosophical and procedural assumptions inherent in Kinesiology sub-disciplinary research.
Three hours (lectures, tutorials, computer labs); two terms

KINESIOl 1E06 PSYCHOMOTOR BEHAVIOUR
The behavioural and psychological principles underlying motor control and motor learning, and how those principles vary from infancy to old age.
Three hours (lectures, labs); two terms

KINESIOl 2A06 BIOMECHANICS
An introduction to the concepts of kinetics and kinetics of the musculoskeletal system in humans, and an exploration of the concepts of motor control of human movement with a focus on muscle contraction and the technique of electromyography.
Three hours (lectures, lab); two terms

KINESIOl 2B06 SOCIO-HISTORICAL APPROACHES TO SPORT AND HUMAN MOVEMENT IN CANADA
An examination of the origins and development of sport and recreational human movement in Canada, together with a consideration of the background and processes associated with various issues in sport and physical recreation.
Three hours (lectures); two terms
KINESIOLOGY

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

Levels III & IV

Note:
Previous Level III and IV Physical Education courses are now listed as Kinesiology courses. Students having credit in a Level III or IV Physical Education course may not take the corresponding course under the Kinesiology designation.

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 (lecture); one term
Enrolment is limited.

KINESIOL 3B03 PHYSICAL ACTIVITY FOR CHALLENGED POPULATIONS
Physical activity and movement designed to meet the needs, interests, and abilities of individuals referable to special physical activity programmes.
Three lectures; one term
Corequisite: Registration in PR89

KINESIOL 3C03 STATISTICS AND RESEARCH DESIGN
Introduction to research design and scientific method: elementary statistics.
Three hours (lecture); 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 tutorial; one term

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/athletics, rehabilitation, education and aesthetics.
Three hours (lectures, seminars); one term

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 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
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.
Three hours (lectures and seminars); one term
Prerequisite: KINESIOL 3F03 or PHYSED 3F03; or may be taken as a B.A. elective in Level III or IV of Social Work
Enrolment is limited.

KINESIOL 3M03 FOUNDATIONS OF ATHLETIC COACHING
An examination of the principles governing athletic coaching with emphasis placed on the behavioural aspects.
Three hours (lectures); one term

KINESIOL 3P03 SPORT AND SOCIAL DEVELOPMENT
Macro-analysis of sport and culture, considering the place of sport and leisure in cultural transmission and cultural change.
Three hours (lectures and discussion); one term
With permission of the instructor, this course may be taken as an elective for B.A. credit by undergraduates not in Kinesiology.
Cross-list: SOCIOL 3D03

KINESIOL 3Q03 SPORT AND SOCIALIZATION
Analysis of the process of becoming involved in sport, sustaining and changing that involvement, and retirement.
Three hours (lectures and discussion); one term
With permission of the instructor, this course may be taken as an elective for B.A. credit by undergraduates not in Kinesiology.
Cross-list: SOCIOL 3EE3
Not offered in 1996-97.

KINESIOL 3S03 BODY, MIND, SPIRIT
An exploration of the relationship between body, mind and spirit from the standpoint of eastern and western religious and philosophical thought with special reference to current perspectives. Course work includes experiential workshops.
Three hours (lectures; seminars); one term
This course may be taken as an elective for B.A. credit by undergraduates not in Kinesiology.
Enrolment is limited.

KINESIOL 4A06 ADVANCED BIOMECHANICS
In-depth study of the mechanics of human movement including the topics of multi-linked segment analysis in 3-D, fluid resistance, optimization, movement simulation and individual muscle force estimation with applications to occupational biomechanics, injury and rehabilitation.
Three hours (lectures, labs); two terms
Prerequisite: Permission of the instructor
Enrolment is limited.

KINESIOL 4B03 PHYSICAL ACTIVITY AND CORONARY HEART DISEASE
An examination of the role of physical activity in the prevention and rehabilitation of coronary heart disease.
Three lectures; one term

KINESIOL 4C06 HUMAN PERFORMANCE PHYSIOLOGY
Factors affecting human physical performance, with emphasis upon procedures for maximizing sport performance.
Two lectures, one lab; two terms
Prerequisite: Registration in Level IV
Enrolment is limited.
Not offered in 1996-97.

KINESIOL 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.

KINESIOL 4E03 NEURAL CONTROL OF HUMAN DEVELOPMENT
Neuromuscular control mechanisms underlying human movement. Topics include basic neuroanatomy, mechanisms of sensation and regulation of voluntary movement.
Two lectures, one lab; one term
With permission of the instructor, this course may be taken as an elective for B.A. credit by undergraduates not in Kinesiology.
Enrolment is limited.

KINESIOL 4F03 SELECTED TOPICS IN KINESIOLOGY
Each year the Department of Kinesiology offers a number of different courses under this category reflecting topics of contemporary interest with emphasis upon current theory and research. Students are advised to contact the Department of Kinesiology, Undergraduate Office, to get a description of the courses being offered during the current academic year.
Three hours (lectures, seminars); one term
Enrolment is limited for some topics.

KINESIOL 4G03 PEDAGOGY OF CONTEMPORARY AND TRADITIONAL WILDERNESS TRAVEL
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: KINESIOL 4D03 or PHYSED 4D03
(Approximate cost of field component is $50.00)
Enrolment is limited.
KINESIOL 4H03 PHYSICAL ACTIVITY AND LIFESTYLE INFLUENCES ON CHRONIC DISEASE
The relationship between physical activity and associated lifestyle influences on selected chronic diseases is examined from a biological perspective.
Three hours (lectures, labs, presentations); one term

KINESIOL 4I03 PHYSICAL ACTIVITY, LEISURE AND AGING
An examination of concepts and theories of physical activity and leisure with respect to aging and vitality in later life.
Three hours (lectures); one term
Prerequisite: Registration in Level III or IV Kinesiology or Gerontology programme
Cross-list: GERONTOL 4I03

KINESIOL 4J03 PERSPECTIVES IN DANCE: DANCE IN CONTEMPORARY SOCIETY
A survey of modern dance forms of the 20th century and their relationship to education, therapy, injuries, technology and aesthetics. Students view films, attend performances and participate in dance workshops.
Three hours (lectures, seminars); one term
This course may be taken as an elective for B.A. credit by undergraduates not in Kinesiology.

KINESIOL 4K03 ADVENTURE BASED LEARNING
Adventure based learning foundations, philosophy, and pedagogy will be examined through a combination of practices and theories relevant to contemporary educational issues.
Lectures, tutorials, and field experiences; one term
(Approximate field component cost is $120.00.)

KINESIOL 4L03 COMPARATIVE SPORT (SELECTED TOPICS)
Contemporary physical education and sport in selected countries; with special attention given to international sports competition.
Two lectures, one seminar; one term
With permission of the instructor, this course may be taken as an elective for B.A. credit by undergraduates not in Kinesiology.
Enrolment is limited.

KINESIOL 4M03 SPORT PSYCHOLOGY
Principles of sport psychology are applied to individual and team performance issues. Research is emphasized and topics include: personality, motivation, arousal, perception, biofeedback, the process of competition, children in sport, and ethics in sport psychology.
Two lectures, one lab; one term
With permission of the instructor, this course may be taken as an elective for B.A. credit by undergraduates not in Kinesiology.
Enrolment is limited.

KINESIOL 4N03 CONSUMERISM AND HEALTH
An examination of neural and mechanical factors influencing health and disease.
Three hours (lectures); one term
Not open to students with credit in PHYS ED 4F03 or KINESIOL 4F03 if the topic was Posture and Gait.
Enrolment is limited.

KINESIOL 403 PERSPECTIVES IN DANCE: DANCE IN CONTEMPORARY SOCIETY
A survey of modern dance forms of the 20th century and their relationship to education, therapy, injuries, technology and aesthetics. Students view films, attend performances and participate in dance workshops.
Three hours (lectures, seminars); one term
This course may be taken as an elective for B.A. credit by undergraduates not in Kinesiology.

KINESIOL 4P03 POSTURE AND GAIT
An examination of neural and mechanical factors in posture and gait control in normal and special populations. The format will be lectures and group discussion of case studies.
Three hours (lectures); one term
Not open to students with credit in PHYS ED 4F03 or KINESIOL 4F03 if the topic was Posture and Gait.
Enrolment is limited.

KINESIOL 4Q03 HUMAN FACTORS
The abilities and limitations of human performance are examined with respect to how we interact with objects in our environment.
Three hours (lectures, labs); one term

KINESIOL 4R03* INDEPENDENT RESEARCH COURSE
Investigation of a selected theoretical or applied problem mutually acceptable to instructor and student.
Prerequisite: Registration in Level IV and permission of the Undergraduate Coordinator and supervising instructor

KINESIOL 4S03 PHYSICAL ACTIVITY IN CHRONIC HEALTH IMPAIRMENTS
Focus on current issues in adaptives, including sections on aging, chronic health impairments, and the role of physical activity.
Three hours (two lectures, one seminar); one term
Prerequisite: KINESIOL 3B03, PR88
Enrolment is limited.

KINESIOL 4T03 GENDER, SPORT AND LEISURE
The influence of sport and leisure on the social construction of masculinity and femininity.
Three hours (seminars); one term
Prerequisite: Registration in Level III or IV Kinesiology, or a Sociology programme or permission of the instructor
Enrolment is limited.

KINESIOL 4U03 ADVENTURE BASED LEARNING
Adventure based learning foundations, philosophy, and pedagogy will be examined through a combination of practices and theories relevant to contemporary educational issues.
Lectures, tutorials, and field experiences; one term
(Approximate field component cost is $120.00.)

KINESIOL 4V03 HUMAN FACTORS
The abilities and limitations of human performance are examined with respect to how we interact with objects in our environment.
Three hours (lectures, labs); one term
Enrolment is limited.

KINESIOL 4W03 POSTURE AND GAIT
An examination of neural and mechanical factors in posture and gait control in normal and special populations. The format will be lectures and group discussion of case studies.
Three hours (lectures); one term
Not open to students with credit in PHYS ED 4F03 or KINESIOL 4F03 if the topic was Posture and Gait.
Enrolment is limited.

KINESIOL 4X03 CONSUMERISM AND 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 PHYS ED 4F03 or KINESIOL 4F03 if the topic was Consumerism and Health.
Enrolment is limited.

KINESIOL 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); one term

KINESIOL 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: KINESIOL 3F03 and 3L03
Enrolment is limited.

PRACTICUM COURSES KINESIOL...
Throughout the four levels of the B.KIN. programme, each student must complete a minimum of 12 units of practicum. See programme notes for further information.
One unit of practicum will normally comprise 24 hours; these hours may be compressed into one week (Camp or Orientation Week), spread over a term (Field Work Placement) or, more usually, extend over a six-week period of four hours per week.
Students may also choose to take practicum courses offered in the form of fieldwork or leadership experiences, e.g. Cardiac Rehabilitation, Outdoor Education, Administration, Adapted Physical Activity, Coaching, Coaching Apprenticeship. These fieldwork practicum are typically worth 1 unit.

Level I: Three units
CPR/First Aid (1CA1), Fitness (1F01), and Basic Aquatic Skills (1S01). Students may receive advance credit if they have current certification in CPR, HeartSaver, Standard First Aid and the Bronze Medallion award or higher from the Royal Life Saving Society.

Level II: Three units
Dance (2D01), Body Awareness (2E01), and Play (2P01).

Levels III and IV: Six units

PHYSICAL EDUCATION...
Entry in either 1992 or 1993:
Students who entered the Physical Education programme in 1992-93 and 1993-94 must complete a minimum of 11 units of practicum plus CPR/First Aid (1CA0) and swimming (1S00). Normally six of these units are completed in Levels III and IV.

KINESIOL 4B03 PHYSICAL ACTIVITY AND LIFESTYLE INFLUENCES ON CHRONIC DISEASE
The relationship between physical activity and associated lifestyle influences on selected chronic diseases is examined from a biological perspective.
Three hours (lectures, labs, presentations); one term

KINESIOL 4C03 PHYSICAL ACTIVITY, LEISURE AND AGING
An examination of concepts and theories of physical activity and leisure with respect to aging and vitality in later life.
Three hours (lectures); one term
Prerequisite: Registration in Level III or IV Kinesiology or Gerontology programme
Cross-list: GERONTOL 4C03

KINESIOL 4D03 PERSPECTIVES IN DANCE: DANCE IN CONTEMPORARY SOCIETY
A survey of modern dance forms of the 20th century and their relationship to education, therapy, injuries, technology and aesthetics. Students view films, attend performances and participate in dance workshops.
Three hours (lectures, seminars); one term
This course may be taken as an elective for B.A. credit by undergraduates not in Kinesiology.

KINESIOL 4E03 ADVANTAGENBASE LEARNING
Adventure based learning foundations, philosophy, and pedagogy will be examined through a combination of practices and theories relevant to contemporary educational issues.
Lectures, tutorials, and field experiences; one term
(Approximate field component cost is $120.00.)

KINESIOL 4F03 HUMAN FACTORS
The abilities and limitations of human performance are examined with respect to how we interact with objects in our environment.
Three hours (lectures, labs); one term
Enrolment is limited.

KINESIOL 4G03 POSTURE AND GAIT
An examination of neural and mechanical factors in posture and gait control in normal and special populations. The format will be lectures and group discussion of case studies.
Three hours (lectures); one term
Not open to students with credit in PHYS ED 4F03 or KINESIOL 4F03 if the topic was Posture and Gait.
Enrolment is limited.

KINESIOL 4H03 CONSUMERISM AND 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 PHYS ED 4F03 or KINESIOL 4F03 if the topic was Consumerism and Health.
Enrolment is limited.

KINESIOL 4I03 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); one term

KINESIOL 4J03 SELECTED TOPICS IN ADMINISTRATIVE STUDIES
A senior level seminar course which explores selected topics related to administrative theory and practice in human movement work environments.
Three hours (seminars and presentations); one term
Prerequisite: KINESIOL 3F03 and 3L03
Enrolment is limited.

PRACTICUM COURSES KINESIOL...
Throughout the four levels of the B.KIN. programme, each student must complete a minimum of 12 units of practicum. See programme notes for further information.
One unit of practicum will normally comprise 24 hours; these hours may be compressed into one week (Camp or Orientation Week), spread over a term (Field Work Placement) or, more usually, extend over a six-week period of four hours per week.
Students may also choose to take practicum courses offered in the form of fieldwork or leadership experiences, e.g. Cardiac Rehabilitation, Outdoor Education, Administration, Adapted Physical Activity, Coaching, Coaching Apprenticeship. These fieldwork practicum are typically worth 1 unit.

Level I: Three units
CPR/First Aid (1CA1), Fitness (1F01), and Basic Aquatic Skills (1S01). Students may receive advance credit if they have current certification in CPR, HeartSaver, Standard First Aid and the Bronze Medallion award or higher from the Royal Life Saving Society.

Level II: Three units
Dance (2D01), Body Awareness (2E01), and Play (2P01).

Levels III and IV: Six units

PHYSICAL EDUCATION...
Entry in either 1992 or 1993:
Students who entered the Physical Education programme in 1992-93 and 1993-94 must complete a minimum of 11 units of practicum plus CPR/First Aid (1CA0) and swimming (1S00). Normally six of these units are completed in Levels III and IV.
LABOUR STUDIES

Faculty as of January 15, 1996

Director
V. Walters

Professors
W. Lewchuk/M.A. (Toronto), Ph.D. (Cambridge)
V. Walters/B.A., M.A. (Sheffield), Ph.D. (McGill)

Associate Professors
R. Storey/B.A. (Toronto), M.A. (Dalhousie), Ph.D. (Toronto)
C. Yates/B.A. (Winipeg), M.A. (Queen's), Ph.D. (Carleton)

Assistant Professors
O. Rafferty/ B.A. (Western), M.A., Ph.D. (McMaster)
A. I...#1..._t
R. R.
D. Wells/B.A. (York), M.S.W., Ph.D. (Toronto)
P. Daenzer/(Social Work) B.A., B.S.W. (York), M.S.W., Ph.D. (Toronto)
A. Robb/(Economics) B.A., M.A. (British Columbia), Ph.D. (Essex)
P. Sugiman/(Sociology) B.A., M.A., Ph.D. (Toronto)

Associate Members
P. Daenzer/(Social Work) B.A., B.S.W. (York), M.S.W., Ph.D. (Toronto)
A. Robb/(Economics) B.A., M.A. (British Columbia), Ph.D. (Essex)
P. Sugiman/(Sociology) B.A., M.A., Ph.D. (Toronto)

NOTE:
Enrolment in Labour Studies Programmes is limited. Students wishing to enrol in Labour Studies Programmes must make written application to the Chair of the Committee of Instruction before April 15 for fall admission. The following courses may be taken for elective credit by qualified students registered in any programme: however, enrolment in these courses is limited and permission of the instructor is required.

LABR ST 2A06 Trade Unions
Lectures and discussion; one term
Prerequisite: LABR ST 2AD3

LABR ST 2B03 COOPERATIVE ORGANIZATIONS
Lectures and discussion; one term
Prerequisite: Registration in a Labour Studies programme or permission of the instructor

LABR ST 2BB3 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.

LABR ST 3A03 THEORETICAL FOUNDATIONS OF THE LABOUR MOVEMENT
An examination of political, sociological and economic explanations of labour behaviour in industrial society. The focus will be on attempting to explain why labour has tended to organize as well as the different strategies which labour has pursued to achieve its goals.
Lectures and discussion; one term
Prerequisite: Registration in a Labour Studies programme or permission of the instructor
Antirequisite: LABR ST 1B03

LABR ST 3A03 ECONOMICS OF LABOUR MARKET ISSUES
This course applies economic analysis to issues of importance in the labour market. Topics vary and may include: women in the Canadian labour market; discrimination in hiring and promotion; unemployment; job loss and workplace closure; work sharing.
Prerequisite: ECON 1A06 or ECON 1B03 and 1BB3; registration in a Labour Studies programme or permission of the instructor
Cross-list: ECON 2A03

LABR ST 3A03 CURRENT LABOUR ISSUES
Content may vary. Topics may include the nature of recent changes in the workplace; forces leading to restructuring including technological change, globalization of production, changes in skill and training, etc.; consequences for workplace relations; management and union responses; the role of governments.
Prerequisite: LABR ST 2A06; registration in a Labour Studies programme or permission of the instructor

LABR ST 3B03 ECONOMICS OF TRADE UNIONISM AND LABOUR
Topics will include the economics of the labour market, the impact of trade unions on the labour market, economic theories of strikes, trade unions and the state.
Lectures and discussion; one term
Prerequisite: ECON 1A06 or ECON 1B03 and 1BB3, and registration in a Labour Studies programme
Cross-list: ECON 2T03

LABR ST 3C03 LABOUR LAW AND POLICY
An analysis of the concepts and fundamentals of Canadian labour law and an analysis of Canadian labour policy.
Lectures; one term
Prerequisite: LABR ST 2A06; registration in a Labour Studies programme or permission of the instructor
Cross-list: COMMERCE 2B03
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.

Courses
- If no prerequisite is listed, the course is open.

LABR ST 1A03 AN INTRODUCTION TO THE CANADIAN LABOUR MOVEMENT
An examination of the impact of economic, social, cultural and political factors on the historical evolution, structure and actions of the Canadian working class and labour movement.
Lectures and discussions; one term

LABR ST 1Z03 AN INTRODUCTION TO ISSUES IN LABOUR STUDIES
An introduction to major issues in the field of Labour Studies. Topics will include the nature of work, technology, occupational health and safety, labour-management relations and the role of government.
Lectures and discussion; one term
Antirequisite: LABR ST 1AA3

LABR ST 2A06 TRADE UNIONS
An overview of the functioning of contemporary unions in Canada. Areas studied will include: union administration, union policy and the impact of unions on working conditions and on Canadian society.
Lectures and discussion; two terms
Prerequisite: Registration in a Labour Studies programme or permission of the instructor
Antirequisite: LABR ST 2A03

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: Registration in a Labour Studies programme
Cross-list: Term I of SOC WORK 2B06
(Students not in a Social Work programme must register for this course as LABR ST 2B03.)

LABR ST 2BB3 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: Term II of SOC WORK 2B06

LABR ST 2C03 THEORETICAL FOUNDATIONS OF THE LABOUR MOVEMENT
An examination of political, sociological and economic explanations of labour behaviour in industrial society. The focus will be on attempting to explain why labour has tended to organize as well as the different strategies which labour has pursued to achieve its goals.
Lectures and discussion; one term
Prerequisite: Registration in a Labour Studies programme or permission of the instructor
Antirequisite: LABR ST 1B03

LABR ST 3A03 ECONOMICS OF LABOUR MARKET ISSUES
This course applies economic analysis to issues of importance in the labour market. Topics vary and may include: women in the Canadian labour market; discrimination in hiring and promotion; unemployment; job loss and workplace closure; work sharing.
Prerequisite: ECON 1A06 or ECON 1B03 and 1BB3; registration in a Labour Studies programme or permission of the instructor
Cross-list: ECON 2A03

LABR ST 3A03 CURRENT LABOUR ISSUES
Content may vary. Topics may include the nature of recent changes in the workplace; forces leading to restructuring including technological change, globalization of production, changes in skill and training, etc.; consequences for workplace relations; management and union responses; the role of governments.
Prerequisite: LABR ST 2A06; registration in a Labour Studies programme or permission of the instructor

LABR ST 3B03 ECONOMICS OF TRADE UNIONISM AND LABOUR
Topics will include the economics of the labour market, the impact of trade unions on the labour market, economic theories of strikes, trade unions and the state.
Lectures and discussion; one term
Prerequisite: ECON 1A06 or ECON 1B03 and 1BB3, and registration in a Labour Studies programme
Cross-list: ECON 2T03

LABR ST 3C03 LABOUR LAW AND POLICY
An analysis of the concepts and fundamentals of Canadian labour law and an analysis of Canadian labour policy.
Lectures; one term
Prerequisite: LABR ST 2A06; registration in a Labour Studies programme or permission of the instructor
Cross-list: COMMERCE 2B03
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 workplace, 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 Director of Labour Studies concerning the topics to be examined.
Three hours (seminar); one term
Prerequisite: LABR ST 2A06; registration in a Labour Studies programme or permission of the instructor
May be repeated, if on a different topic, to a total of six units.
Generally offered in alternate years.

LABR ST 3I03 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: Sociological 1A06 and registration in a Labour Studies programme
Cross-list: Sociological 2I03

LABR ST 4A09 FIELD EXPERIENCE
Combined field experience and seminars to develop practical and research skills relating to labour issues. Students spend a minimum of one day per week in a labour union, government agency or other appropriate organization. This course includes formal and directed study of research methodology appropriate for the field placement seminar.
Two terms
Prerequisite: Registration in Level IV Specialist in Labour Studies, Level IV of a Combined Honours in Labour Studies and Another Subject, or Level IV of an Honours in Labour Studies

LABR ST 4B03 HONOURS SEMINAR
The seminar will provide an opportunity for in-depth study of selected topics relating to labour issues.
Seminar; one term
Prerequisite: Registration in Level IV Specialist in Labour Studies, Level IV of a Combined Honours in Labour Studies and Another Subject, or Level IV of an Honours 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 nature of public sector unions, models of public sector bargaining, legal aspects of bargaining rights and impasse resolution, bargaining issues and bargaining outcomes, and empirical studies of the effectiveness of dispute resolution procedures.
Lectures and discussion; one term
Prerequisite: Commerce 4B3 and registration in Level III or IV of a Labour Studies programme. Open to students in Level IV of a Commerce programme with the permission of the instructor, the Chair of the Labour Studies Committee of Instruction and the Undergraduate Student Advisor of the School of Business.
Cross-list: Commerce 4B3

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. Open to students in Level IV of a Commerce programme with the permission of the instructor and the Chair of the Labour Studies Committee of Instruction and the Undergraduate Student Advisor of the School of Business.
Cross-list: Commerce 4B3

LATIN
(SEE CLASSICS, LATIN)

LINGUISTICS

Courses
If no prerequisite is listed, the course is open.

LINGUIST 1A06 THE STUDY OF LANGUAGE
A survey intended to acquaint the student with the numerous disciplines that deal with language and many of the crucial concepts and techniques developed within them. The course will enable the student to pursue higher studies in either linguistics or other language-related disciplines.
Two lectures, one tutorial; two terms

LINGUIST 2A03 THE MAKING OF THE EUROPEAN LINGUISTIC LANDSCAPE
The history of language use in Europe from the fall of the Roman Empire to the flowering of linguistic nationalism.
Three lectures; one term
Prerequisite: Registration in Level II and above
Cross-list: Anthropology 3A03

LINGUIST 2A03 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, French, Russian, Italian and Spanish and other Indo-European-based languages of Europe.
Three lectures; one term
Prerequisite: Linguistics 1A06 or 2A03
Antirequisite: Linguistics 3B03
Cross-list: Anthropology 2A03

LINGUIST 2L03 PHONETICS
A study of the sounds of language and the articulatory capabilities of man.
Three lectures; one term
Prerequisite: Registration in Level II and above
Cross-list: Anthropology 2L03

LINGUIST 2L03 LANGUAGES OF THE WORLD
An introduction to population linguistics: the study of the languages of the world in their relations to geography, history, culture and migrations of peoples. The course considers three major classifications of languages—typological, genetic, and areal—and the problems related to them.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Levels II and above
Cross-list: Anthropology 2L03

LINGUIST 2M03 PHONOLOGY
A study of the patterns of distinctive sounds in the world's languages.
Three lectures; one term
Prerequisite: Anthropology 2L03 or Linguistics 2L03
Cross-list: Anthropology 2M03

LINGUIST 2Q03 LINGUISTICS AND THE STUDY OF CULTURE
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
Cross-list: Anthropology 2Q03

LINGUIST 3A03 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: 12 units of Linguistics including Linguistics 1A06
Cross-list: Anthropology 3A03

LINGUIST 3I13 SEMANTICS
The study of patterns of meaning in language; a critical survey of theories and issues.
Three lectures; one term
Prerequisite: Anthropology 3I03 or Linguistics 3I03
Cross-list: Anthropology 3I13

LINGUIST 3M03 MORPHOLOGY
The study of word formation in languages of the world: a critical survey of current theories and issues.
Three lectures; one term
Prerequisite: Anthropology 3I03 or Linguistics 3I03
Cross-list: Anthropology 3M03

LINGUIST 3P03 PRAGMATICS AND DISCOURSE
A discussion of the problems confronting the linguist in the study of text and discourse at the level beyond the sentence. The course will deal with the interaction between grammar and situational factors.
Prerequisite: French 2H03 or Linguistics 1A06
Cross-list: Anthropology 3P03
Offered in alternate years.

LINGUIST 3X03 SOCIO LINGUISTICS
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 ethnic issues (language and sex/gender, language and disadvantage/power) and pragmatics.
Three lectures; one term
Prerequisite: Registration in Level II and above
Antirequisite: Linguistics 3A06
Cross-list: Anthropology 3X03
LINGUIST 3XX3  SOCIO-LINGUISTICS II
An introduction to the sociology of language with particular emphasis on
the social situation of the major European languages. Topics covered
include diversity of languages (typology, language contacts (pidgins, creoles
and lingua francas), language planning (bilingualism and multilingualism)
and language and culture.
Three lectures; one term
Prerequisite: LINGUIST 3X03
Antirequisite: LINGUIST 3A06
Cross-list: ANTHROP 3X03

LINGUIST 4B03  APPLIED LINGUISTICS
The course is designed to acquaint the student with the contributions that
the linguist, psycholinguist, sociolinguist can make to the planning,
organization and implementation of a language-teaching methodology.
CAULALL will be one of the methodologies investigated with particular
emphasis.
Three lectures; one term
Prerequisite: Registration in Level III or IV of an Anthropology or Linguistics
programme; or permission of the Programme Coordinator
Cross-list: ANTHROP 4B03

LINGUIST 4103  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.
Tutorials; one term
Prerequisite: 12 units of Linguistics or Anthropology above Level I
Cross-list: ANTHROP 4103

LINGUIST 4L03  FIELD LINGUISTICS
An advanced course in techniques of linguistic field research. The field
situation is simulated by using an actual target language.
Seminar (three hours); one term
Prerequisite: One of LINGUIST 2L03, 2Q03, or 3I03
Antirequisite: ANTHROP/LINGUIST 2T03
Cross-list: ANTHROP 4L03

LINGUIST 4T03  GENERATIVE GRAMMAR: MIND AND CULTURE
An examination at an advanced level of Chomsky's generative grammar as a
paradigm for the study of minds and cultures.
Seminar (three hours); one term
Prerequisite: One of LINGUIST 2L03, 2Q03, or 3I03
Antirequisite: ANTHROP/LINGUIST 2T03
Cross-list: ANTHROP 4T03

LINGUIST 4X03  TOPICS IN SOCIO-LINGUISTICS
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 4XX3  TOPICS IN THEORETICAL LINGUISTICS
Topics include: Advanced Computational Linguistics; Linguistic Typology;
Advanced Philosophy.
Seminar (two hours); one term
Prerequisite: Registration in Level III or IV of a Linguistics programme; or
permission of the Programme Coordinator
LINGUIST 4XX3 may be repeated, if on a different topic, to a total of six units.

MANUFACTURING ENGINEERING

(SEE MECHANICAL ENGINEERING,
MANUFACTURING ENGINEERING)

MATERIALS SCIENCE AND ENGINEERING

Faculty as of January 15, 1996

Chair
M.B. Ives

Professors Emeriti
Z.S. Basinski/B.Sc., D.Phil., D.Sc. (Oxford), D.H.C. (Krakow), O.C.,
F.R.S., F.R.S.C., F.A.S.M., F.C.I.M.
D. Alan R. Kay/B.Sc., Ph.D. (Glasgow), F.C.I.M.
John S.G. Kirkaldy/M.A.Sc. (British Columbia), Ph.D. (McGill), D.Eng. (Waterloo),

Walter W. Smeltzer/B.Sc. (Queen's), Ph.D. (Toronto), D.H.C. (Dijon), F.R.S.C.,

Professors
Michael J. Graham/B.Sc., Ph.D. (Liverpool)/part-time
NSERC Research Chair in Metal Processing
M. Brian Ives/B.Sc., Ph.D. (Bristol), F.A.S.M., P.Eng.
Gyan P. Johari/B.Sc., M.Sc., Ph.D. (Gorakhpur), D.H.C. (Lyon), F.R.S.C.
Wei-Kuo Lu/B.Sc. (Chen-Kung), Ph.D. (Minneapolis)
S.R. MacEwen/B.A.Sc., Ph.D. (Toronto)/part-time
Patrick S. Nicholson/B.Sc. (Leeds), M.Sc., Ph.D. (California, Berkeley), F.A.C.S.,
P.Eng.
Gary R. Purdy/M.Sc. (Alberta), Ph.D. (McMaster), D.H.C. (Grenoble),
F.R.S.C., P.Eng.
Barry A. Strathdee/B.A.Sc., Ph.D. (Toronto), P.Eng./part-time
S.V. Mani Subramanian/B.Sc. (Bananars), M.Met., Ph.D. (Sheffield)/part-time

Associate Professors
Prasad A. Apte/Ph.D. (McMaster)/part-time
Adrian Kital/B.Sc. (McMaster), Ph.D. (Cornell), P.Eng.

Assistant Professors
Gu Xu/M.Sc., Ph.D. (Pittsburgh), D.E.S. (Columbia)
Shiping Zhu/B.Eng. (Zheilang), Ph.D. (McMaster)

Courses
If no prerequisite is listed, the course is open.

MATLS 1A03  INTRODUCTION TO MATERIALS
Introduction to fundamental concepts of bonding and atomic structure
of condensed materials, with applications to silicate minerals, glasses,
polymeric materials, and metals and alloys.
Two lectures, two tutorials; one term
Prerequisite: Registration in or completion of Natural Sciences I
Antirequisite: Registration in the Faculty of Engineering, or ENGINEER 2003

MATLS 2B06  THERMODYNAMICS OF MATERIALS
The first three Laws of thermodynamics applied to materials processing.
Solution thermodynamics, aqueous electrochemistry, solid electrolytes,
and an introduction to kinetics.
Three lectures, one tutorial, both terms
Prerequisite: CHEM 1A06 or 1E03
Antirequisite: CHEM 2P06

MATLS 2H03  MEASUREMENTS AND COMMUNICATION
Methods of technical communication, involving oral and written practice;
basic experimental methods of acquiring, analyzing and presenting data.
Two labs; three hours; first term: one lab (three hours); second term
Prerequisite: COMP SCI 1M03 or 1MC3 or ENGINEER 1D04, and CHEM 1A06 or 1E03,
and registration in a programme administered by the Department of Materials Science and Engineering
Antirequisite: MATLS 2H02

MATLS 2X02  CRYSTALLINE STRUCTURE OF MATERIALS
Crystal geometry, x-ray diffraction methods for the determination of
crystalline structures and chemical compositions, electron and neutron
diffraction methods, microanalysis, crystalline defects.
One lecture, one lab (two and one half hours); second term
Prerequisite: MATLS 2A02 or ENGINEER 2003

MATLS 3A03  HEAT TRANSFER
Basic concepts in heat transfer and its application to materials processing.
Conduction, convection and radiation. Problem solving techniques.
Two lectures, two tutorials; one term
Prerequisite: MATHS 2M06; or MATH 2003 and one of MATH 2A03, 2G03
Antirequisite: MATLS 3E06

MATLS 3B03  MATERIALS PROCESSING I
Surface science and technology related to the preparation of particles and
surfaces of minerals for metals and ceramics production. Hydrometallurgy
and electrometallurgy.
Two lectures, one lab (three hours); second term
Prerequisite: MATLS 2B06 or MATLS 2C04 and CHEM 2P06
MATLS 3E04  MASS TRANSFER
Phenomenological and mechanistic approaches to diffusion; boundary conditions; diffusion in fluids; point defects in solids.
Three lectures, two tutorials; one term.
Prerequisite: MATH 2M06, or MATH 2003 and one of MATL 2A03, 2G03
Antirequisite: MATLS 3E06

MATLS 3I05  THERMODYNAMICS OF MATERIALS II
Solution thermodynamics and its relationship to binary and ternary equilibrium diagrams. Surface energy; homogeneous and heterogeneous nucleation. Stability or predominance area diagrams; use of computerized thermodynamics data bases.
Two lectures, one laboratory (three hours) term one: two lectures; one tutorial; second term.
Prerequisite: MATLS 3E06
Antirequisite: MATLS 3D06

MATLS 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 materials properties.
Two lectures, one tutorial; one 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, diffusional and martensitic transformations; oxidation. Materialographic examination will be featured in laboratory work.
Three lectures or tutorial, one lab (three hours); one term
Prerequisite: MATLS 2G04 or 2X02 and MATLS 2A02 or ENGINEER 2003
Corequisite: MATLS 3E04 (or 3E06), 3I05 (or 3D06)
Antirequisite: MATLS 4E03

MATLS 4A02  SEMINARS AND PLANT VISITS
Seminars and discussions will be led by technical personnel from industry. Corresponding plant visits will be made by the class and reported both in written and oral form.
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: MATLS 3A03 or 3E04 or 3B03

MATLS 4C04  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; specialty steel making; inclusion engineering.
Two lectures; both terms
Prerequisite: MATLS 2C04 or 3B03; 3E06 or 3E04

MATLS 4D03  CORROSION
The chemistry of metals and alloys; electrochemical principles and methods applied to aqueous corrosion and its control.
Three lectures; one term
Prerequisite: CHEM 2P06 or CHEM ENG 2F04 or MATLS 2B06

MATLS 4E03  PHASE TRANSFORMATIONS
The thermodynamics, kinetic and crystallographic aspects of phase transformations, with applications to the preparation and processing of materials. Solidification, recrystallization and heat treatment of steels, aluminum alloys and non-metallic materials. This course comprises the lecture portion of MATLS 3T04.
Three lectures; second term
Prerequisite: MATLS 3D03 or 3D06; MATLS 3E06 or 3E04; registration in Materials Engineering and Management
Antirequisite: MATLS 3T04
Last offered in 1998-1999

MATLS 4K04  SENIOR THESIS
Individual experimental research problem with a selected supervisor. A preliminary written and oral report is required at the end of the first term. The thesis is defended orally. A minimum of six unscheduled hours each week, both terms.
Prerequisite: A CA of at least 6.0 and registration in the final level of a programme administered by the Department of Material Science and Engineering

MATLS 4L02  METHODS OF CHARACTERIZATION
One lecture, one lab (three hours); first term
Prerequisite: MATLS 3I05 (or 3D06), 3E04 (or 3E06), 3T04 (or 3G03)
Antirequisite: MATLS 4L04

MATLS 4M03  KINETICS AND REACTOR ANALYSIS
IN METALLURGICAL SYSTEMS
Three lectures; first term
Prerequisite: MATLS 3E06, or 3E04, which may be taken concurrently with the permission of the instructor

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 ENG 3Q03 and either ENGINEER 2003 or MATLS 2A02 or 2G04

MATLS 4R04  CERAMIC SCIENCE
Microstructural development and properties of traditional ceramics. Acidic, basic, neutral and nonoxidizing refractories; ferro-electric, piezo-electric and ferromagnetic ceramics; superionic and structural ceramics.
Three lectures; second term
Prerequisite: GEOLOGY 2B06, MATLS 3B03, 3I05, and 4B04 which may be taken concurrently
Antirequisite: CERAMICS 4R03

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; first term
Prerequisite: MATLS 3B03, 3I05 and 4B04 which may be taken concurrently
Antirequisite: CERAMICS 4S03

MATLS 4T03  PROPERTIES AND PROCESSING
OF COMPOSITES
Intrinsic properties of matrix and fibre materials; mechanics and thermodynamics of interfaces; mechanical properties and fabrication of engineering composites.
Two lectures, one tutorial; second term
Prerequisite: MATLS 3E06 or 3E04 and ENGINEER 3P03 or MATLS 3P03

MATLS 4Z04  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, Ceramic Engineering or Metallurgical Engineering

MATHMATICS AND STATISTICS

Faculty as of January 15, 1996

Chair
Eric T. Sawyer
Associate Chair
Ernest R. Mead

Professors Emeriti
Bernhard Banaschewski/Dipl. Math., Dr. rer. nat. (Hamburg), F.R.S.C., McKay Professor of Mathematics
Ernst A. Behrens/D.Phil. nat (Hamburg)
Gunther W.A. Bruns/Dr. rer. nat. (Berlin)
Charles W.Dunnett/M.B.E., B.A. (McMaster), M.A. (Toronto), D.Sc. (Aberdeen)
Gerard Field/B.Sc., Ph.D. (London)
Taqdir Husain/B.A., M.A. (Allahab), Ph.D. (Syracuse)
Norman T. Lane/B.A. (Queen's), M.A., Ph.D. (Toronto)
Rubens R. Lintz/B.Sc., Ph.D. (Sao Paulo)
William J. McCallion/B.A., M.A. (McMaster)
James P. Stewart/B.Sc. (Toronto), M.S. (Stanford), Ph.D. (Toronto)
COURSES  If no prerequisite is listed, the course is open.

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
Antirequisite: MATH 1A06, 1A6E, 1C03, 1C06, 1N03, 1N06, ARTS & SCI 1D06

MATH 1A04  CALCULUS II
The continuation of MATH 1A03. Topics will include applications of the integral, sequences and series, power series, differential equations, partial derivatives.
Three lectures, one tutorial; one term
Prerequisite: MATH 1A03 or 1C03
Antirequisite: MATH 1A06, 1A6E, 1C06, 1N06, 1N3, ARTS & SCI 1D06

MATH 1B03  LINEAR ALGEBRA I
Vectors, matrices, determinants, vector spaces, complex numbers, with applications.
Three lectures, one tutorial; one term
Prerequisite: OAC Mathematics Course
Antirequisite: MATH 1H05

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).

MATH 2A03  CALCULUS III
Differential and integral calculus.
Antirequisite: MATH 2A03, 2A6E.

MATH 2A04  CALCULUS IV
Differential and integral calculus, definite integral, techniques of integration, applications.
Three lectures, one tutorial; one term
Prerequisite: MATH 1A06, 1A6E, 1C03, 1C06, 1N03, 1N06, ARTS & SCI 1D06

MATH 2B03  ENGINEERING MATHEMATICS II
Applications of integration, differential equations, sequence and series, differential calculus of several variables, applications.
Three lectures, one tutorial; one term
Prerequisite: MATH 1A04, 1A6E, 1C04, 1N04, ARTS & SCI 1D06

MATH 2B04  CALCULUS V
Functions of several variables, chain rule, Taylor’s formula, extremal problems, Lagrange multipliers; multiple integrals, change of variables formula, line and surface integrals, Green’s, Gauss’ and Stokes’ theorems.
Three lectures; one term
Prerequisite: One of MATH 1A03, 1A06, 1A6E, 1C06, 1N03, ARTS & SCI 1D06 and credit or registration in one of MATH 1B03, 1H05
Antirequisite: MATH 2A02, 2G03, 2L03, 2N03

MATH 2A05  ADVANCED CALCULUS
Topics will include: Inverse and implicit function theorems, vector fields and their flows, linear systems of differential equations with constant coefficients; exponentiation of matrices, differential forms and Stokes’ theorem with applications to physics and geometry.
Three lectures; one term
Prerequisite: MATH 2A03 and 1B03
Antirequisite: MATH 2A06
This course will investigate the motivation and solution of some of the important problems in mathematics.

Three lectures; one term
Prerequisite: One of MATH 1A03, 1A06, 1A66, 1C06, 1N06, 1NN3 or ARTS & SCI 1D06, and one of MATH 1B03, 1H05
Antirequisite: MATH 2003

MATH 2003* PROSPECTS IN MATHEMATICS
This course will investigate the motivation and solution of some of the important problems in mathematics.

Three lectures; one term
Prerequisite: MATH 1B03 and one of MATH 1A03, 1A06, 1A66, 1C06, 1N06, 1NN3, ARTS & SCI 1D06

MATH 2E03 INTRODUCTION TO MODELLING
General features of modelling. Examples from chemistry, physics, biology and economics are treated by a variety of elementary methods. Computer packages are used when appropriate.

Three lectures, one lab (one hour); one term
Prerequisite: One of MATH 1A03, 1A06, 1A66, 1C06, 1N06, 1NN3 or ARTS & SCI 1D06 and credit or registration in one of MATH 1B03, 1H05
Enrolment is limited. However, all students in programmes requiring this course will be admitted. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar

MATH 2K03 FINANCIAL MATHEMATICS
Nominal and effective rates of interest and discount, forces of interest and discount, compound interest, annuities certain; amortization, sinking funds; bonds, security evaluation, determination of yields.

Three lectures; one term
Prerequisite: One of MATH 1A03, 1A06, 1A66, 1C03, 1C06, 1M03, 1N03, 1NN3, ARTS & SCI 1D06

MATH 2L03 INTERMEDIATE CALCULUS AND DIFFERENTIAL EQUATIONS FOR BUSINESS AND THE SOCIAL SCIENCES
Functions of several variables, partial differentiation, chain rule, and extremal problems. First and second order differential equations, difference equations.

Three lectures; one term
Prerequisite: One of MATH 1A03, 1A06, 1A66, 1C03, 1C06, 1M03, 1N06, 1NN3 or ARTS & SCI 1D06, and one of MATH 1B03, 1L03, STATS 1L03, OAC Finite Mathematics
Antirequisite: MATH 2A03, 2G03, 2N03
Not open to students registered in Science or Engineering programmes or with credit in MATH 2A06.

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 1B05 and one of MATH 1N06 or 1NN3

MATH 2N03 DIFFERENTIAL EQUATIONS
Ordinary differential equations with constant coefficients, series solutions, special methods; Laplace transforms, Fourier series; introduction to partial differential equations.

Three lectures; one term
Prerequisite: One of MATH 1A03, 1A06, 1A66, 1C06, 1N06, 1NN3 or ARTS & SCI 1D06, and one of MATH 1B03, 1H05
Antirequisite: MATH 2C03

MATH 2P04 ADVANCED CALCULUS FOR ENGINEERING

Four lectures or three lectures and one tutorial, every other week; one term
Prerequisite: One of MATH 1B03, 1H05 and either one of MATH 1N06, 1NN3 or registration in Honours Neural Computation

MATH 2P04 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.

Four lectures or three lectures and one tutorial, every other week; one term
Prerequisite: Either MATH 1H05 and one of MATH 1N06, 1NN3; 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, Jordan canonical form.

Three lectures; one term
Prerequisite: One of MATH 1A03, 1A06, 1A66, 1C06, 1N06, 1NN3, ARTS & SCI 1D06 and one of MATH 1B03, 1H05
Antirequisite: MATH 2B06, 2J06

MATH 2S03 LINEAR ALGEBRA II
Canonical forms, determinants, bilinear forms, groups of linear transformations, other topics selected by the Instructor.

Three lectures; one term
Prerequisite: MATH 2R03
Antirequisite: MATH 2B06, 2J06, 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, 2J06, 2S03

MATH 3A03 REAL ANALYSIS I
Equi-continuous functions, functions of several variables, convergence, the inverse function theorem, the implicit function theorem, the rank theorem, Stokes' Theorem, the Lebesgue integral.

Three lectures; one term
Prerequisite: MATH 2A06
Prerequisite: (Beginning in 1997-98) MATH 2A03, 2C03 and credit or registration in MATH 2T03
Antirequisite: MATH 3A05
Students intending to register in MATH 3A03 who have not completed MATH 2B06 should register in MATH 2R03 concurrently with MATH 3A03.

MATH 3AA3 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 and either credit in MATH 2B06 or credit or registration in MATH 2S03 or 2T03
Antirequisite: MATH 3A06

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 or 2G03 and one of MATH 2B06, 2J06, 2S03 or 2T03

MATH 3C03 MATHEMATICAL PHYSICS
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, 2A06, 2G03 or 2Q04 and one of MATH 2C03, 2P04, 2Q04. One of PHYSICS 2B06, 2C03, 2D03, 2G03 is recommended.
Antirequisite: MATH 3V06
Not open to students with credit or registration in MATH 3FF3, 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, 3X03
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 or 2T03

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 I
Systems of linear differential equations using Jordan canonical form, planar autonomous systems, elementary existence and uniqueness. Asymptotic and structural stability and bifurcation theory. Applications are stressed.
Three lectures; one term
Prerequisite: One of MATH 2A06, 2G03 and one of MATH 2C03, 2Z03 and either credit in one of MATH 2B06, 2J06 or registration in MATH 2R03
Prerequisite: (Beginning 1997-98) MATH 2A03; 2C03 and credit or registration in MATH 2R03
Antirequisite: MATH 3F06

MATH 3FF3  ADVANCED DIFFERENTIAL EQUATIONS II
Three lectures; one term
Prerequisite: MATH 3F03
Antirequisite: MATH 3F06

MATH 3G03*  PROBLEM SOLVING
Principles of problem solving and application to solutions of mathematical problems. Practice in developing problem-solving skills on problems from various areas of mathematics.
Three lectures; one term
Prerequisite: Credit in at least 12 units of Level II Mathematics or Statistics, and the permission of the instructor
Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

MATH 3H03*  NUMBER THEORY
Selected topics from: congruences 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, 2J06, 2S03, 2T03

MATH 3N03  MATHEMATICAL BIOLOGY
Three lectures; one term
Prerequisite: MATH 2E03 and 3F03

MATH 3P03  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, 2Z03, 2P04. One of COMP SCI 1MA3, 1MC3, 1SA3, 1ZA3, ENGINEER 1D04 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
Antirequisite: MATH 3T03, 4A06

MATH 3Z03  HISTORY OF MATHEMATICS
An introduction to the history of mathematics, including interaction with other phases of culture, with special emphasis on the past three centuries.
Three lectures; one term
Prerequisite: At least two Level II Mathematics or Statistics courses other than MATH 2K03, 2L03

MATH 4B03*  CALCULUS ON MANIFOLDS
Review of multivariable calculus, basic properties of manifolds, differential forms, Stokes' theorem, de Rham cohomology and applications.
Three hours; one term
Prerequisite: MATH 3C03; or one of MATH 2AA3, 2A06 and one of MATH 2B06, 2S03, 2T03

MATH 4B83*  DIFFERENTIAL GEOMETRY
Riemannian metrics, connections, curvature, topological and analytical properties of Riemannian manifolds.
Three lectures; one term
Prerequisite: MATH 4B03

MATH 4C03*  COMBINATORICS
Inversion formulae, systems of distinct representatives, block designs and other configurations; and other topics.
Three lectures; one term
Prerequisite: One of MATH 2A03, 2A06, 2G03 and one of MATH 2B06, 2J06, 2S03, 2T03

MATH 4D03  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 3EE3

MATH 4E03  ALGEBRA IV
Selected topics in Algebra, such as: representation theory, rings and modules, homological algebra.
Three lectures; one term
Prerequisite: MATH 3EE3

MATH 4F03*  SET THEORY
Ordinal and cardinal arithmetic, equivalents of the axiom of choice, the Zermelo-Fraenkel axiom system, the continuum hypothesis, independence.
Three lectures; one term
Prerequisite: One of MATH 2B06, 2J06, 2S03, 2T03
Alternates with MATH 4S03. Offered in 1997-98

MATH 4J03*  BANACH AND HILBERT SPACES
An introduction to L_p Banach and Hilbert spaces, bounded linear operators, functionals, open mapping and closed graph theorems, duality, Riesz representation theorems; and other topics.
Three lectures; one term
Prerequisite: MATH 4K03

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, 2S03, 2T03

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 3A03, 3A06 or a grade of at least A- in MATH 3D06
MATH 4Q03 NUMERICAL METHODS FOR ORDINARY AND PARTIAL DIFFERENTIAL EQUATIONS
Prerequisite: Credit or registration in MATH 3FF3 or 3D03, or permission of the instructor

MATH 4Q03 NUMERICAL LINEAR ALGEBRA
Matrix norms; decompositions including LU, QR, and SVD; sensitivity analysis. Eigenvalue and least squares problems. Sparse, Vandermonde and Toeplitz systems. Iterative methods, subspace methods. Three lectures; first term
Prerequisite: MATH 3Q03

MATH 4RR3* 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: MATH 3R03 and one of MATH 2A03, 2A06, 2G03, 2L03 or 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 or 2T03
Antirequisite: COMP SCI 4TC3
Alternates with MATH 4F03. Offered in 1996-97.

MATH 4T03 INTRODUCTION TO TOPOLOGY
Topological spaces, connectedness, compactness, metric spaces, separability, fundamental groups and covering spaces, selected topics by the instructor. Three lectures; one term
Prerequisite: MATH 3A03, 3E03
Prerequisite: 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 3D03, 3FF3, 3F06
Prerequisite: MATH 4V06

MATH 4W03 DIRECTED READING
Directed reading in areas of mathematics of interest to the student and the instructor. Three lectures; one term
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
Prerequisite: MATH 4A06

STATISTICS...

Department Note:
Students wishing to enrol in Honours Statistics must take MATH 1AA3 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.

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: OAC Mathematics course or MATH 1K03
Not open to students with credit in STATS 1A03, 1C03 or any Level II or above Statistics course.

See Note above.

STATS 1L03 PROBABILITY AND LINEAR ALGEBRA
The algebra of probability, conditional probability and independence, discrete and continuous random variables, mean and variance, matrices, determinants, Cramer’s rule, solution of linear equations. Three lectures, one tutorial; one term
Prerequisite: Grade 12 Mathematics
Not open to students with credit in OAC Finite Mathematics or STATS 1CC3, 2D03, 2MA3, 2MB3, 2R06
Not open to students registered in Science or Engineering programmes. Students transferring to the Faculty of Science do not retain credit for this course.

STATS 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, 2D03, 2MA3, 2MB3, 2R06
Not open to students registered in the Faculty of Science.

STATS 2003 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, 1A6, 1C03, 1C06, 1M03 and credit or registration in MATH 1B03.
Not open to students with credit or registration in STATS 2A03, 2MA3, 2R06
Students with credit in STATS 1L03 may not retain this credit if STATS 2D03 is taken.

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, 1A6, 1C03, 1C06
Antirequisite: ECON 2B03, PSYCH 2R03
Not open to students with credit or registration in COMMERCE 2Q03, 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 2D03
Antirequisite: ECON 2B03, PSYCH 2R03, 2R06, 2R06, STATS 2R06
Not open to students with credit or registration in COMMERCE 2Q03, STATS 2A03, 2MA3.

STATS 2R06 INTRODUCTORY STATISTICS WITH APPLICATIONS
Descriptive statistics, plotting data, computation of measures for data, probability, random variables, hypothesis testing, parameter estimation, analysis of variance, chi-square tests, distribution-free tests. Three lectures; two terms
Prerequisite: OAC Calculus or MATH 1K03
Antirequisite: PSYCH 2R03, 2R06, 2R06, STATS 2D03, 2MB3
Not open to students with credit or registration in COMMERCE 2Q03, ECON 2B03, 3C06, STATS 1A03, 1CC3, 1L03, 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 4D03 NUMERICAL METHODS FOR STATISTICAL INVERSION
Statistical inverse problems arising in image processing and other areas. Three lectures; one term
Prerequisite: STATS 3D06

STATS 4J03 TOPICS IN APPLIED STATISTICS
Courses in areas of applied statistics as outlined in the list of courses for the year. Three lectures; one term
Prerequisite: Permission of the Chair of the Department

STATS 4K03 ADVANCED TOPICS IN STATISTICS
Courses in areas of advanced statistics as outlined in the list of courses for the year. Three lectures; one term
Prerequisite: Permission of the Chair of the Department

STATS 4R03 INTEGRATION OF STUDY AND EXPERIENCE IN STATISTICS
Students with credit in STATS 1L03 may not retain this credit if STATS 2D03 is taken.

STATS 4S03* TOPICS IN THEORETICAL STATISTICS
Courses in areas of theoretical statistics as outlined in the list of courses for the year. Three lectures; one term
Prerequisite: Permission of the Chair of the Department
STATS 3G03* ACTUARIAL MATHEMATICS I
Survival distributions, life tables, life insurance, life annuities, net premiums and reserves.
Three lectures; one term
Prerequisite: STATS 2D03 and credit in MATH 2K03
Offered in alternate years.

STATS 3H03* ACTUARIAL MATHEMATICS II
Multiple life functions, multiple decrement models, valuation theory for pension plans.
Three lectures; one term
Prerequisite: STATS 3G03

STATS 3N03 STATISTICAL METHODS FOR ENGINEERING
Introduction to statistical methods and applications: data analysis and statistical methods.
Three lectures; one term
Prerequisite: Registration or credit in Level III, IV or V Engineering or registration in Level III or IV of a programme in the Department of Materials Science and Engineering.
Antirequisite: STATS 3Y03

STATS 3P03* SURVEY SAMPLING
Survey design; simple random sampling; stratified sampling; proportional allocation; ratio estimation; cluster sampling; systematic sampling and sample size determination. A project associated with current research is required.
Three lectures; one term
Prerequisite: STATS 2D03 and 2M83

STATS 3U03 STOCHASTIC PROCESSES
Random walk, Markov chains, discrete and continuous parameter Markov processes, branching processes, birth and death processes, queuing processes.
Three lectures; one term
Prerequisite: STATS 2D03 and one of MATH 2A03, 2A06, 2G03 or 2N03

STATS 3X03 ENGINEERING MATHEMATICS IV
Further topics of interest for electrical engineering, emphasizing probability theory.
Three lectures; one term
Prerequisite: MATH 2P04 and 2Q04

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 Department of Materials Science and Engineering or Mechanical Engineering, and credit in either MATH 2M06 or MATH 2P04 and MATH 2Q04; or permission of the instructor.
Antirequisite: STATS 3N03, 4R03

STATS 4D03 INTERMEDIATE PROBABILITY THEORY
Construction of probability spaces and random variables, integration, conditional expectation, law of large numbers, convergence of series, weak convergence, characteristic functions and central limit theorems, martingales.
Three lectures; one term
Prerequisite: STATS 2D03 and one of MATH 3A93, 3A06 or 3Q06

STATS 4H03* OPERATIONS RESEARCH
Network models and algorithms, dynamic models, queuing models and other topics.
Three lectures; one term
Prerequisite: Credit or registration in STATS 3D06

STATS 4M03 MULTIVARIATE ANALYSIS
Multivariate distributions: Normal, Wishart, T² and others; regression, correlation, factor analysis, general linear hypothesis.
Three lectures; first term
Prerequisite: STATS 3D06, and one of MATH 2B06, 2J06, 2S03 or 2T03

STATS 4P03* ORDER STATISTICS
Three lectures; one term
Prerequisite: STATS 3D06

STATS 4P03* ADVANCED STATISTICAL COMPUTING
Practical problems from design of experiments, linear models, regression, sampling, multivariate analysis and industrial statistics, will be considered using statistical software packages.
Three lectures; second term
Prerequisite: STATS 3D06 and 4M03. Credit or registration in STATS 4T03 and one of STATS 3S03, 4H03, 4R03

STATS 4R03* REGRESSION ANALYSIS
Linear and non-linear models; least squares theory; analysis of residuals; stepwise regression; weighted least squares; prediction and calibration; selected topics in regression.
Three lectures; one term
Prerequisite: STATS 3D06
Antirequisite: STATS 3Y03

STATS 4T03 DESIGN OF EXPERIMENTS
Analysis of variance and covariance; linear models; randomized block designs; Latin squares; factorial experiments. Emphasis on applications.
Three lectures; one term
Prerequisite: STATS 3D06

STATS 4U03* NONPARAMETRIC METHODS IN STATISTICS
Rank tests and nonparametric methods; rank correlation; comparisons with parametric methods.
Three lectures; one term
Prerequisite: Credit or registration in STATS 3D06

MECHANICAL ENGINEERING

Faculty as of January 15, 1996

Chair
M.A. Elbestawi

Professors Emeriti

Professors
Mohammed A. Dokainish/B.Sc. (Cairo), M.A.Sc., Ph.D. (Toronto), P.Eng.
Ross L. Judd/B.E.Sc. (Western), M.Eng. (McMaster), Ph.D. (Michigan), P.Eng.
Mamdouh Shokri/B.Sc. (Cairo), M.Eng., Ph.D. (McMaster), P.Eng.
David S. Weaver/M.A.Sc. (Toronto), Ph.D. (Waterloo), P.Eng.

Associate Professors
Albert M.C. Chan/B.Sc. (Alberta), M.Eng., Ph.D. (McMaster)/Part-time
Mateusz P. Sklad/M.Sc., Ph.D. (Wawaw)

Assistant Professors
Gary Bone/B.Sc. App. Sc. (Queens), M.Eng., Ph.D. (McMaster)
Vincent M. Sowa/B.Sc. (Illinois), M.A. (Purdue), Ph.D. (Waterloo)/Part-time

Associate Members
Ali Reza Montazeri/ (Business) H.N.D. (Teeside Polytechnical, U.K.), M.Sc. (Southampton), Ph.D. (Waterloo)
W.F. Skipper Poelman/ (Computer Science and Systems) B.S. (Niagara), B.Sc. (Brock), M.Sc., Ph.D. (McMaster), P.Eng.
Philip E. Wood/ (Chemical Engineering) B.A.Sc. (Waterloo), Ph.D. (California Institute Tech.), P.Eng.
MECHANICAL ENGINEERING

External Member
Professor
Hoda A. ElMaraghy/(Windsor)B.Sc. (Cairo), M.Eng., Ph.D. (McMaster), P.Eng.

Department Note:
Enrolment in Mechanical Engineering courses by students in programmes other than those administered by the Department may be limited.

MANUFACTURING ENGINEERING ...

Courses
If no prerequisite is listed, the course is open.

MANUFACT 2C03 MECHANICAL ENGINEERING DESIGN I
One to three projects in small teams involving modelling, analysis, synthesis and computing, with emphasis on analysis. Individual reports are required with complete assembly and detail drawings.
Two lectures, one lab (three hours) alternating weeks and one lab (three hours) every week; second term
Prerequisite: ENGINEER 1C04, 1D04, 2P04

MANUFACT 3M02 MANUFACTURING LABORATORY I
Laboratory exercises in metalworking practices, measurements and solid mechanics.
Two labs (three hours); both terms
Prerequisite: Registration in Manufacturing Engineering

MANUFACT 4A03 COMPUTER AIDED MANUFACTURING
Two lectures, one lab (three hours); second term
Prerequisite: Registration in Level III or Level IV of a programme administered by the Department of Mechanical Engineering.

MANUFACT 4M04 PROJECT
A major project in the area of manufacturing engineering. It may be of a design or experimental nature.
One lab (three hours), first term, three labs (three hours); second term
Prerequisite: Registration in Level IV of Manufacturing Engineering

MANUFACT 4P02 MANUFACTURING LABORATORY II
Laboratory exercises in metalworking practices, solid mechanics and controls.
One lab (three hours); both terms
Prerequisite: MANUFACT 3M02

MECHANICAL ENGINEERING ...

Courses
If no prerequisite is listed, the course is open.

MECH ENG 2A03 KINEMATICS OF MECHANISMS
Computations and projects in mechanical engineering. Introduction to the design of mechanisms. Analysis and synthesis of cams, gears and planetary mechanisms. Force analysis of machine members.
Two lectures, one lab (three hours); first term
Prerequisite: MATH 1H05, 1N06, PHYSICS 1D03

MECH ENG 2B03 MECHANICAL ENGINEERING MEASUREMENTS
Introduction to the theory and practice of engineering measuring techniques. Theory of measurements, precision shop measurements and laser metrology; measurements of pressure, flow, temperature and power; combustion analysis and gas analysis, measurement of strain and force; elementary statistical analysis.
One lecture, one lab (three hours), first term, one lab (three hours); second term
Prerequisite: MATH 1H05, PHYSICS 1D03

MECH ENG 2C03 MECHANICAL ENGINEERING DESIGN I
One or two projects in small teams involving modelling, analysis, synthesis and computing, with emphasis on analysis. Individual reports are required with complete assembly and detail drawings.
Two lectures, one lab (three hours) alternating weeks and one lab (three hours) every week; second term
Prerequisite: ENGINEER 1C04, 1D04, 2P04

MECH ENG 2W04 ENGINEERING THERMODYNAMICS
Introduction to the principles of thermodynamics, application in engineering. Basic concepts: energy systems, cycles, properties of pure substances, entropy. Laws of thermodynamics, power and refrigeration cycles.
Three lectures, one tutorial; second term
Prerequisite: CHEM 1A06 or 1E03 and credit or registration in MATH 2M06, or MATH 2P04 and 2Q04
Antirequisite: ENGINEER 2W04

MECH ENG 3A03 ENGINEERING MECHANICS
Singularity functions, generalized Hooke's law; shear stress, shear flow in beams; shear centre. Biaxial and unsymmetrical bending, analysis of indeterminate beams and frames using energy methods, impact loads. Buckling of compression members.
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; first term
Prerequisite: Registration in a programme administered by the Department of Mechanical Engineering

MECH ENG 3D03 MECHANICAL ENGINEERING THERMODYNAMICS
The thermodynamic laws, as developed in MECH ENG 2W04, are re-examined. Applied thermodynamics including advanced engineering thermodynamic processes, psychrometry, and an introduction to combustion, compressible flow and environmental problems are considered.
Three lectures; first term
Prerequisite: ENGINEER 2W04 or MECH ENG 2W04

MECH ENG 3E04 MECHANICAL ENGINEERING DESIGN II
Uncertainties, statistical considerations. Design of machine components. The laboratories consist of problems, case studies and the use of computer graphics and CAD packages for machine design problems.
Three lectures, one lab (three hours); second term
Prerequisite: ENGINEER 2P04, 2Q04, MECH ENG 3A03

MECH ENG 3F03 MODELLING AND NUMERICAL SOLUTIONS
An introductory course in numerical analysis covering such topics as: Solution of both differential and non-linear equations, matrices and systems of linear equations. One lecture period, every other week, devoted to the modelling of mechanical systems.
Three lectures; 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 3P03 MECHANICAL ENGINEERING THERMODYNAMICS
Introduction to the principles of thermodynamics, application in engineering. Basic concepts: energy systems, cycles, properties of pure substances, entropy. Laws of thermodynamics, power and refrigeration cycles.
Three lectures, one tutorial; second term
Prerequisite: CHEM 1A06 or 1E03 and credit or registration in MATH 2M06, or MATH 2P04 and 2Q04
Antirequisite: ENGINEER 2W04

MECH ENG 3Q03 MANUFACTURING PROCESSES
Three lectures; second term
Prerequisite: MECH ENG 3D03
MECH ENG 4G03  MECHANICAL ENGINEERING DESIGN III
A course in mechanical design, design optimization, design for manufacturability, computer-aided design, reliability and failure analysis, major design project.
Two lectures, one tutorial (two hours); first term
Prerequisite: MECH ENG 3E04

MECH ENG 4K03  INTRODUCTION TO ROBOTIC MECHANICS
Spatial descriptions and transformations, manipulator kinematics, inverse kinematics, Jacobians, dynamics.
Three lectures; second term
Prerequisite: MECH ENG 2A03, 4Q03, 4R03

MECH ENG 4L03  INDUSTRIAL DESIGN
Introduction for engineering students to the techniques of industrial design, case studies and introduction to illustration techniques.
Three lectures; second term
Prerequisite: MECH ENG 2C03, 3E04

MECH ENG 4M04  PROJECT
A major project related to any option or branch of 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 Mechanical Engineering or in Level V Mechanical Engineering and Management or Mechanical Engineering and Society

MECH ENG 4P02  COMPOSITE LABORATORY
Laboratory exercises in vibrations 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
Two lectures, one tutorial (two hours); first term
Prerequisite: MATH 2M06, 3V06, or MATH 3I03 and STATS 3Y03

MECH ENG 4S03  FLUID MECHANICS II
Introduction to potential flows, internal and external laminar and turbulent incompressible flows. Introduction to compressible flows and hydraulic machines.
Two lectures, one lecture/tutorial; first term
Prerequisite: MECH ENG 3Q04

MECH ENG 4T03  FINE ELEMENT APPLICATIONS
The finite element method and its application to mechanical systems including static and dynamic analysis.
Three lectures; second term
Prerequisite: MECH ENG 4Q03

MECH ENG 4U03  ADVANCED THERMODYNAMICS
Compressible flows: Fanno and Rayleigh flows, normal and oblique shocks. Turbomachines: Axial and radial flow gas and steam turbines, axial and radial flow compressors and fans.
Three lectures; second term
Prerequisite: MECH ENG 3D03

MECH ENG 4V03  THERMO FLUIDS SYSTEMS DESIGN AND ANALYSIS
The analysis and synthesis of thermo-fluid systems. Approaches to modelling including numerical simulation techniques for the design and analysis of the performance of thermo-fluid systems.
Three lectures; second term
Prerequisite: MECH ENG 3R03, 3D03, 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 4Z03  COMPUTER AIDED DESIGN
Project-oriented CAD course, 3-D modelling and graphics, design by features. I-DEAS and mechanical design application packages (kinematics and stress analysis) used on SUN workstations.
Two lectures, one lab (three hours); first term
Prerequisite: Registration in Level IV Manufacturing Engineering or Mechanical Engineering or permission of the department

ENGINEER 4J03  MATERIALS FABRICATION
Offered jointly by the Departments of Mechanical Engineering and Material's Science and Engineering. See Engineering (General) for course description.

MIDWIFERY
Faculty as of January 15, 1996
Chair
Karyn Kaufman
Professor
Karyn Kaufman/B.S.N.  (Michigan), M.S.  (New York), Dr.P.H.  (North Carolina), R.M.
Assistant Professors
Eileen Hutton/B.N.Sc.  (Queens), M.N.Sc.  (Toronto), R.M.
HeLEN McDONALD/M.H.Sc.  (McMaster), R.M.
PAtricia McNiven/B.A.A.N.  (Rayerson), M.Sc.  (Toronto), 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 two-hour small group tutorial.
Two terms
Prerequisite: Registration in the Midwifery Education Programme
Antirequisite: MIDWIF 1A03

MIDWIF 1B03  MIDWIFERY CARE I-CLINICAL SKILLS INTENSIVE
Structured learning experiences are completed to prepare for MIDWIF 1E09. Students will learn fundamental clinical skills and theoretical information.
Four weeks
Prerequisite: MIDWIF 1A06
Antirequisite: MIDWIF 1B12

MIDWIF 1E09  MIDWIFERY CARE I-CLINICAL PRACTICUM
A clinical placement is completed which focuses on assessment skills of prenatal and postnatal clients and observation of births. Included is a weekly tutorial and a small group tutorial which will focus on thorough assessment of situations and integration of basic knowledge with clinical observations.
Eight weeks
Prerequisite: MIDWIF 1B03
Antirequisite: MIDWIF 1B12

MIDWIF 2B12  MIDWIFERY CARE II
Students are provided with an extended period of clinical experience within a midwifery practice. The course begins with a seven to ten day intensive workshop. A weekly tutorial based on case situations and self-study materials will cover topics in preconception, antepartum, intrapartum, postpartum and newborn care.
One term
Prerequisite: MIDWIF 1B03, 1E09

MIDWIF 2C12  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 2B12

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
MODERN LANGUAGES

MODIFICATION 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: MIDWIF 2B12

MODIFICATION 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

MODIFICATION 3C12 MIDWIFERY CARE CLERKSHIP
Clinical judgement and decision-making skills form the basis of this final clinical course. The weekly tutorial problems will focus on all phases of childbirth and will integrate content related to inter-professional relationships, the organization of the health care system, the legal, ethical and professional responsibilities of a midwife, and the critical evaluation of practice.

One term
Prerequisite: MIDWIF 3B12
Co-requisite: HTHSCI 1C08

MODIFICATION 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
Co-requisite: MIDWIF 3A09
Prerequisite: HTHSCI 1C08

MODIFICATION 3E01 FINAL SYNTHESIS PAPER
Each student will submit an academic paper concerning an aspect of midwifery within the wider social context. External readers with relevant expertise will be used to assist in the evaluation of papers.

One term
Prerequisite: HTHSCI 3LL4

MODERN LANGUAGES
Faculty as of January 15, 1996

Chair
George Thomas

Professors Emeriti
Antonio G. Alessio/D.Litt. (Genoa) (Italian)
Kari Denner/M.A. (Kentucky), Ph.D. (Johns Hopkins), (German)

Professors
John D. Browning/B.A., M.Phil. (London), Ph.D. (Essex) (Hispanic Studies)
Samuel D. Cioran/B.A. (McMaster), Ph.D. (Toronto) (Russian)
Stefano Croce en L. (Genoa Aflows), Dott. Ling. e Lett. (Venice) (Italian)
Nina Kolesnikoff/M.A. (Moscow State), Ph.D. (Alberta) (Russian)
Walter Smyrna/B.A. (McMaster), M.A., Ph.D. (Toronto) (Russian)
Gerhard Teuschler/Dip. -Ubersetzer Mainz-Germersheim, M.A. (Toronto), Ph.D. (State University of New York, Buffalo) (German)
George Thomas/B.A., Ph.D. (London) (Russian)

Associate Professors
Joseph Adamson/B.A. (Trent), M.A., Ph.D. (Toronto) (Comparative Literature)
Maria dei C. Cerezo/B.A. (Puerto Rico), M.A. (McGill), Ph.D. (Toronto) (Hispanic Studies)
Gerald Chappelle/B.A. (McMaster), A.M., Ph.D. (Harvard) (German)
Gabriele Erasm/B.A. (Yale), M.A., Ph.D. (Minnesota) (Italian)
Fiorio Minelli/B.A., M.A. (Western), Ph.D. (Brown) (Hispanic Studies)
Hans H. Schulte/Assessor (Munich), Dr. phil. (Augsburg) (German)
Maria M. Stroinski/M.A. (Warsaw), PhD (Edinburgh) (German and Linguistics)
M. Jean Wilson/B.A. (McMaster), B.Ed., M.A., Ph.D. (Toronto) (German and Comparative Literature)

Assistant Professor
Vittorina Cecchetto/B.A., M.A., Ph.D. (Toronto) (Italian)

Senior Language Preceptors
Nobuko Arai/M.A. (Illinois) (Japanese)
Eiko Virgina Ariga/M.A. (Toronto), M.A. (Texas) (Japanese)
Ping-Mei Law/B.A., M.A. (Toronto) (Hispanic Studies)
Anna L. Moro/M.A. (Toronto) (Italian)
Ruth Thomas/Staatseaxemen (Bochum), M.A. (McMaster) (German)

Research Associates
Inga Doinina/M.A., Ph.D. (Leningrad) (Linguistics)
Branka Popovic/M.A., Ph.D. (Belgrade) (German and Linguistics)

Associate Members
Thomas E. Willey/History B.A. (Butler), M.A., Ph.D. (Yale)

Courses
If no prerequisite is listed, the course is open.

MODIFICATION 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 interdisciplinary and cultural aspects of literature.
Three lectures; one term
Prerequisite: Registration in Level II and above

MODIFICATION 2B01-3B03 SURVEY OF ITALIAN LITERATURE (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

MODIFICATION 2C01 MASTERWORKS OF GERMAN 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

MODIFICATION 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, manifestos and littérature engagée.
Three lectures; one term
Prerequisite: Registration in Level II and above

MODIFICATION 3B01-3B03 TERENCE (IN ENGLISH)
This course will study the literature of 14th-century Italy. Three lectures; one term
Prerequisite: Registration in Level II and above

MODIFICATION 3C01-3C03 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

MODIFICATION 3D01-3D03 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

MODIFICATION 3E01-3E03 THE LITERATURE OF THE DELINQUENT (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

MODIFICATION 3F01-3F03 THE LITERATURE OF THE DELINQUENT (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
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 3R03.

MOD LANG 3K03 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 3R03.

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
Alternates with MOD LANG 3RR3.

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 3R03 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: ITALIAN 4R03
Offered in alternate years.

MOD LANG 3S03 THE RENAISSANCE EPIC (IN ENGLISH)
Ariosto's Orlando Furioso and Tasso's Jerusalem Delivered.
Three lectures; one term
Prerequisite: Registration in Level II and above
Antirequisite: ITALIAN 4R03
Offered in alternate years.

MOD LANG 3T03 TOPICS IN NATIONAL CINEMAS I (IN ENGLISH)
Previous topics include: Soviet and East European Cinema. Consult
Department concerning topic to be offered.
Two lectures, plus one weekly film screening; one term
Prerequisite: DRAMA 2X06
MOD LANG 3T03 may be repeated, if on a different topic, to a total of six units.
Cross-list: ART HISTORY 3T03 and DRAMA 3T03

MOD LANG 3W03 GERMAN WOMEN WRITERS (IN ENGLISH)
A study of selected works by German women writers from the eighteenth
century to the present.
Three lectures; one term
Prerequisite: Registration in Level II and above
Offered in alternate years.

MOD LANG 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.
Tutorials; one term
Prerequisite: Registration in Level IV of a programme in Literary Studies or
Modern Languages and permission of the Department

MOD LANG 4L03 SURVEY OF SPANISH THEATRE (IN ENGLISH)
A study of the development of Spanish drama and stage from Lope to Lorca.
Three lectures; one term
Prerequisite: Registration in Level II and above
Offered in alternate years.

MOHAWK
(SEE INDIGENOUS STUDIES)
Courses and programmes in Music are administered within the School of Art, Drama and Music of the Faculty of Humanities.

Notes:

1. All Music courses except 1A06, 1B06, 2A03, 2A3, 2B06, 3T03, 3U03, 3Y03, and 4X03 have limited enrolments. Priority in limited enrolment courses is given to Music students, according to their programme and level.

2. The following courses may be taken by undergraduates not in a Music programme. Those with an asterisk have limited enrolment. Non-music students interested in asterisked courses should consult the School of Art, Drama and Music and take the qualifying tests (if necessary) as early as possible. These are modelled on the Royal Conservatory of Music (Toronto) Grade 2 test in rudiments of music theory and the Grade 9 performance-level ear-training test.

MUSIC 1A06 Introduction to Music
MUSIC 1B06 History of Music (c. 500-1750)
MUSIC 1CC3 Harmony
MUSIC 1D03 General Musicianship
MUSIC 2A03 Topics in Western Music
MUSIC 2A3 Popular Music
MUSIC 2B06 History of Music (c. 1750-1914)
MUSIC 2C03 Modal Counterpoint
MUSIC 2CC3 Harmony
MUSIC 2D03 General Musicianship
MUSIC 2H03 Analysis
MUSIC 3A3 Kodály and Orff Methods
MUSIC 3T03 Canadian Music
MUSIC 3U03 Jazz
MUSIC 3Y03 History of Music (c. 1914 to the Present)
MUSIC 4X03 Music of the World’s Cultures

3. Lesson fees are charged to students taking MUSIC 2E03, 3E03 or 4E03 if the course is not a specific requirement for their programme.

4. Returning students in an Alternative 1 Honours programme requesting a change into an Alternative 2 Honours programme (to include MUSIC 1E06 or 2E06) must do so in writing by March 15. New students requesting an Alternative 2 Honours programme should do so as soon as possible before the beginning of classes in September.

Courses

If no prerequisite is listed, the course is open.

MUSIC 1A06 INTRODUCTION TO MUSIC
An introductory survey of Western art music from ancient times to the present. The historical development of styles and genres within major music periods. Instruction in elementary theory. No previous musical knowledge required.
Three lectures; two terms
Antirequisite: Registration in Honours Music

MUSIC 1B06 HISTORY OF MUSIC (C. 500-1750)
A survey of medieval, renaissance, and baroque music. Includes consideration of performance practices, and influences of the other arts and of socio-political developments.
Three lectures; two terms
Prerequisite: Registration in a Music programme; or MUSIC 1A06 and permission of the School of Art, Drama and Music

MUSIC 1CC3 HARMONY
The analysis and writing of functional harmony. Includes study of music by J.S. Bach and others.
Two lectures; two terms
Prerequisite: Registration in a Music programme, or qualifying tests

MUSIC 1D03 GENERAL MUSICIANSHIP
Sight-seeing and dictation.
Two lectures, one lab; two terms
Prerequisite: Registration in a Music programme, or qualifying tests

MUSIC 1E03 SOLO PERFORMANCE
The technique and repertoire of any orchestral instrument, the piano, organ, harpsichord, voice, recorder, saxophone, or guitar.
One half-hour lesson weekly; two terms
Prerequisite: Registration in a Music programme
Antirequisite: MUSIC 1E06

MUSIC 1E05 SOLO PERFORMANCE
Intensive study of the technique and repertoire of any orchestral instrument, the piano, organ, harpsichord, voice, recorder, saxophone, or guitar.
One hour lesson weekly; two terms
Prerequisite: Registration in Music I, and permission of the School of Art, Drama and Music
Antirequisite: MUSIC 1E03

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. Academic credit available only to students registered in a Music programme.

MUSIC 2A03 TOPICS IN WESTERN MUSIC
A detailed study of one or more composers or aspects of Western music. Topics may include: Bach, Beethoven, Classicism, Romanticism, Opera, Concerto.
Three lectures; one term
Prerequisite: MUSIC 1A06
Antirequisite: Registration in a Music programme
MUSIC 2E03 may be repeated, if on a different topic, to a total of six units.

MUSIC 2A3A POPULAR MUSIC
A study of the 20th-century popular music culture. Topics may include: ragtime (Joplin), Broadway musicals (Gershwin), 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 2B06 HISTORY OF MUSIC (C. 1750-1914)
A survey of classical, romantic, and postromantic music.
Three lectures; two terms
Prerequisite: MUSIC 1B06
Antirequisite: MUSIC 2A06

MUSIC 2C03 MODAL COUNTERPOINT
The analysis and writing 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; two terms
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 GENERAL MUSICIANSHIP
Keyboard Harmony.
Two lectures; two terms
Prerequisite: Registration in a Music programme, or qualifying tests

MUSIC 2E03 SOLO PERFORMANCE
A continuation of MUSIC 1E03.
One half-hour lesson weekly; two terms
Prerequisite: MUSIC 1E03 or 1E06, and registration in Level II of a Music programme
Antirequisite: MUSIC 2E06

MUSIC 2E06 SOLO PERFORMANCE
Intensive study of the technique and repertoire of any orchestral instrument, the piano, organ, harpsichord, voice, recorder, saxophone, or guitar.
One hour lesson weekly; two terms
Prerequisite: A grade of at least A- in MUSIC 1E06 and registration in Level II of a B.A. programme. Under exceptional circumstances, students may use MUSIC 1E03 as a prerequisite in place of 1E06. Students interested in this option, please see Note 4, above.
Antirequisite: MUSIC 2E06

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 1G03 and successful audition. Academic credit available only to students registered in a Music programme.

MUSIC 2H03 ANALYSIS
The traditional forms of music as found in works by composers such as Bach, Mozart, Beethoven, and Brahms.
Three lectures; one term
Prerequisite: MUSIC 1CC3
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 3A03 or 18 units of Music

MUSIC 3B03  TOPICS IN MUSIC HISTORY:
EARLY MUSIC (MEDIEVAL TO BAROQUE)
Previous topics include: Scarlatti's Keyboard Sonatas, Choral Music of Bach
and Handel, The Renaissance Madrigal: Consult the School of Art, Drama
and Music concerning topic to be offered.
Seminar (two hours); one term
Prerequisite: MUSIC 2B06, registration in Honours Music, and 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.

MUSIC 3BB3  TOPICS IN MUSIC HISTORY:
MUSIC OF THE ROMANTIC ERA
Previous topics include: Liszt's Symphonic Poems, Nineteenth-Century
Piano Music. Consult the School of Art, Drama and Music concerning topic
to be offered.
Seminar (two hours); one term
Prerequisite: MUSIC 2B06, registration in Honours Music, and permission of
the School of Art, Drama and Music
Alternates with MUSIC 3B03.
MUSIC 3BB3 may be repeated, if on a different topic, to a total of six units.

MUSIC 3C03  TONAL COUNTERPOINT
Studies in baroque music, leading to analysis and writing of inventions.
Seminar (two hours); one term
Prerequisite: MUSIC 2C03 and 2C3, registration in Honors Music,
and permission of the School of Art, Drama and Music

MUSIC 3CC3  TONAL COUNTERPOINT
A continuation of MUSIC 3C03, emphasizing analysis and writing of
fugues.
Seminar (two hours); one term
Prerequisite: MUSIC 3C03, registration in Honours Music, and permission of
the School of Art, Drama and Music

MUSIC 3E03  SOLO PERFORMANCE
A continuation of MUSIC 2E03.
One half-hour lesson weekly; two terms
Prerequisite: MUSIC 2E03 and registration in Level III of a Music programme
Antirequisite: MUSIC 3E06

MUSIC 3E06  SOLO PERFORMANCE
Intensive study of the technique and repertoire of any orchestral
instrument, the piano, organ, harpsichord, voice, recorder, saxophone,
or guitar.
One hour lesson weekly; two terms
Prerequisite: A grade of at least A- in MUSIC 2E06, and registration in
Level III of a B.Mus. programme
Antirequisite: MUSIC 3E03

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. Academic credit available
only to students registered in a Music programme.

MUSIC 3H03  ANALYSIS
Techniques of analysis applied to selected works of the 20th century.
Seminar (two hours); one term
Prerequisite: MUSIC 2CC3 and 2H03, registration in Honours Music,
and permission of the School of Art, Drama and Music
Offered in alternate years.

MUSIC 3J03  ORCHESTRATION
A study of the orchestral instruments; scoring of music for various
ensembles.
Two lectures; two terms
Prerequisite: MUSIC 2CC3 and 2D03, and registration in a Music programme

MUSIC 3K03  BRASS METHODS
A study of the basic techniques of playing brass instruments. Brass
literature for various educational levels. No previous study of brass required.
The instruments studied differ from those studied in MUSIC 4K03.
Two lectures, one lab; one term
Prerequisite: Registration in Honours Music, and permission of the School of
Art, Drama and Music
Alternates with MUSIC 4K03.

MUSIC 3L03  WOODWIND METHODS
A study of the basic techniques of playing woodwind instruments. Woodwind
literature for various educational levels. No previous study of woodwinds
required. The instruments studied differ from those studied in MUSIC 4L03.
Two lectures, one lab; one term
Prerequisite: Registration in Honours Music, and permission of the School of
Art, Drama and Music
Alternates with MUSIC 4L03.

MUSIC 3M03  STRING METHODS
A study of the basic techniques of playing string instruments. String literature
for various educational levels. No previous study of strings required. The
instruments studied differ from those studied in MUSIC 4M03.
Two lectures; two terms
Prerequisite: Registration in Honours Music, and permission of the School of
Art, Drama and Music
Alternates with MUSIC 4M03.

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, and permission of the School of
Art, Drama and Music

MUSIC 3O03  CONDUCTING
Fundamental conducting techniques applied to works selected from the
standard repertoire.
Two lectures, term one; one lecture, term two
Prerequisite: MUSIC 2D03, registration in Honours Music, and permission of
the School of Art, Drama and Music

MUSIC 3P03  PERSPECTIVES IN MUSIC HISTORY
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, and permission of the School of
Art, Drama and Music

MUSIC 3Q03  MUSICAL EDUCATION MINOR
A historical survey of music in Canada. In the context of social and political
developments, from ca. 1600 to the present.
Two lectures; one tutorial; one term
Prerequisite: MUSIC 1A06 or completion of 18 units of Music including
MUSIC 1B06
Offered in alternate years.

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 2B06, registration in Honours Music, and permission of
the School of Art, Drama and Music

MUSIC 3T03  CANADIAN MUSIC
A historical survey of music in Canada, in the context of social and political
developments, from ca. 1600 to the present.
Two lectures; one tutorial; one term
Prerequisite: MUSIC 1A06 or completion of 18 units of Music including
MUSIC 1B06
Offered in alternate years.

MUSIC 3U03  JAZZ
An historical survey of jazz, focusing on selected performers and
arrangers.
Two lectures, one tutorial; one term
Prerequisite: MUSIC 1A06 or completion of 18 units of Music including
MUSIC 1C03

MUSIC 3V03  MUSICAL EDUCATION SEMINAR
A study of musical aesthetics as it relates to music education and to the
formation of a philosophy of music education.
Seminar (two hours); one term
Prerequisite: Registration in Level III of an Honours Music programme, and
permission of the School of Art, Drama and Music
Offered in alternate years.

MUSIC 3W03  HISTORY OF MUSIC (C. 1914 TO THE PRESENT)
A survey of 20th-century music.
Three lectures; one term
Prerequisite: MUSIC 2B06
MUSIC 4B03

TOPICS IN MUSIC HISTORY:
MUSIC OF THE CLASSICAL ERA

Previous topics include: Beethoven's Piano Sonatas, Mozart and Opera. Consult the School of Art, Drama and Music for topics to be offered. Seminar (two hours); one term
Prerequisite: MUSIC 2B06, registration in Honours Music, and permission of the School of Art, Drama and Music
Alternates with MUSIC 4EB3.
MUSIC 4B03 may be repeated, if on a different topic, to a total of six units.

MUSIC 4BB3

TOPICS IN MUSIC HISTORY:
MUSIC OF THE 20TH CENTURY

Previous topics include: The Evolution of the Avant-garde, Music Since 1945. Consult the School of Art, Drama and Music for topics to be offered. Seminar (two hours); one term
Prerequisite: MUSIC 3Y03, registration in Honours Music, and permission of the School of Art, Drama and Music
Alternates with MUSIC 4BB3.
MUSIC 4BB3 may be repeated, if on a different topic, to a total of six units.

MUSIC 4C03

HARMONY AND COUNTERPOINT

Advanced studies in classical and romantic music. Seminar (two hours); one term
Prerequisite: MUSIC 3C03, registration in Honours Music, and permission of the School of Art, Drama and Music
Offered in alternate years.

MUSIC 4E03

SOLO PERFORMANCE

A continuation of MUSIC 3E03. One half-hour lesson weekly; two terms
Prerequisite: MUSIC 3E03, registration in Level IV of a Music programme
Antirequisite: MUSIC 4E06

MUSIC 4E06

SOLO PERFORMANCE

Intensive study of the technique and repertoire of any orchestral instrument, the piano, organ, harpsichord, voice, recorder, saxophone, or guitar. One hour lesson weekly; two terms
Prerequisite: A grade of A- in MUSIC 3E06, and registration in Level IV of a B.Mus. programme
Antirequisite: MUSIC 4E03

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. Academic credit available only to students registered in a Music programme.

MUSIC 4H03

ANALYSIS

Advanced studies in analysis. Seminar (two hours); one term
Prerequisite: MUSIC 2B06, 2CC3, 2H03, registration in Honours Music, and permission of the School of Art, Drama and Music
Offered in alternate years.

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 3Y03, registration in Honours Music, and permission of the School of Art, Drama and Music
Offered in alternate years.

MUSIC 4J03

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, and permission of the School of Art, Drama and Music
Alternates with MUSIC 4JJ3.

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, and permission of the School of Art, Drama and Music
Alternates with MUSIC 4L03.

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, and permission of the School of Art, Drama and Music
Alternates with MUSIC 4M03.

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, and permission of the School of Art, Drama and Music
Alternates with MUSIC 4N03.

MUSIC 4O03

CONDUCTING

A continuation of MUSIC 3O03. One lecture, term one; two lectures, term two
Prerequisite: MUSIC 3O03, registration in Honours Music, and permission of the School of Art, Drama and Music

MUSIC 4P03

PERCUSSION METHODS

A continuation of MUSIC 3P03. Two lectures; one term
Prerequisite: MUSIC 3P03, registration in Honours Music, and permission of the School of Art, Drama and Music

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, and permission of the School of Art, Drama and Music

MUSIC 4S03

SPECIAL STUDIES

Advanced supervised study in any area offered and approved by the School of Art, Drama and Music.
Times to be arranged between the student and instructor; one term
Prerequisite: Registration in Level IV of an Honours Music programme, and permission of the School of Art, Drama and Music
Students requesting this course must submit a written proposal to the School of Art, Drama and Music by April 15th.

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: MUSIC 1A06, or 18 units of Music including MUSIC 1B06
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 4ZZ3

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 (Computer Science and Systems) and draws on the Departments of Psychology, Mathematics and Statistics and Computer Science.
Courses

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.
Prerequisite: One of MATH 1A03, 1A06, 1A61, 1C03, 1C06, 1N06 or ARTS & SCI 1D06 and one of MATH 1B03 or 1H05 and one of COMP SCI 1MA3 or 1MC3
Cross-list: PSYCH 3W03

NEURCOMP 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 Elementary Biochemistry
BIOLOGY 2E03 Cell Biology
2C03 Genetics
4T03 Neurobiology

CHEM 2D03 Organic Chemistry

COMP SCI 3GA3 Introduction to Computer Graphics
3SD3 Computer Simulation Techniques
3TA3 Introduction to Automata and Formal Language Theory
4IB3 Introduction to Artificial Intelligence
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
3WWW3 Psychophysics
4V03 Selected Topics in Human Learning, Cognition and Perception
4I03 Models in Brain and Cognitive Sciences

STATS 3D06 Mathematical Statistics

NEW MATERIALS AND THEIR IMPACT ON SOCIETY
(SEE THEME SCHOOL ON NEW MATERIALS AND THEIR IMPACT ON SOCIETY)

NURSE PRACTITIONER
(SEE NURSING, NURSE PRACTITIONER (C STREAM))

NURSING

Regular Faculty as of January 15, 1996

Associate Dean of Health Sciences (Nursing) and Director of the School of Nursing
Andrea Bauernharn

Professors Emeritus
E. Mary Buzzell/B.N. (McGill), M.Sc.N., M.Ed. (Boston), R.N.
Alma Reid/B.A. (Toronto), R.N.
Karín von Schillings/B.Sc.N. (Toronto), M.Sc.N. (California), R.N.

Professors
Andrea Bauernharn/B.Sc.N. (Windsor), M.Sc.N. (Western), Ph.D. (Toronto), R.N.
Ann Beckhamharn/M.A., B.Sc.N., Ph.D. (Fielding Institute), Ph.D. (Toronto), R.N.
Gina Browne/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), R.N.
Jo-Anne Fox-Threlkeld/B.N. (New Brunswick), M.Sc., Ph.D. (Queen's), R.N.
Susan French/B.Sc.N. (McGill), M.S. (Boston), Ph.D. (Toronto), R.N.
Leah Paris/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), R.N.
Barbara Brown/B.A., B.Sc.N. (Windsor), M.Sc.N. (Toronto), R.N.
Carolyn Byrne/M.H.Sc. (McMaster), R.N.
Patricia Caddell/B.Sc.N. (Western), M.Sc. (McMaster), R.N.
Donna Ciliska/B.Sc.N., M.Sc.N. (Western), Ph.D. (Toronto), R.N.
Alba D' Cicco/B.Sc.N., M.Sc. (McMaster), Ph.D. (Waterloo), R.N.
Jocelyn Eagle/B.Sc.N. (McMaster), M.N. (Washington), M.Sc. (McMaster), R.N.
Patricia Ellis/B.Sc.N. (Wagner), M.Sc. (Maryland), R.N.
Mary Fawcett/B.Sc.N., M.H.Sc. (McMaster), CN(CN) (CNA), R.N.
Jocelyn Hezekiah/B.Sc.N. (McGill), M.Ed. (Toronto), Ph.D. (Alberta), R.N.
Mabel Hunsberger/B.S. (Goshen), M.Sc.N. (Pennsylvania), R.N.
Basanti Majumder/B.Sc.N. (N), M.Sc.N. (Delhi), M.Ed. (Columbia), R.N.
Ann Mohide/B.Sc.N. (Toronto), M.H.Sc., M.Sc. (McMaster), R.N.
Ruth Pallister/B.S.N. (British Columbia), M.N. (Washington), R.N.
Janet Pinelli/B.S. (Boston), M.Sc.N. (Toronto), R.N.
Elizabeth Rideout/B.Sc.N. (New Brunswick), M.H.Sc. (McMaster), M.Sc. (Toronto), R.N.
Jackie Roberts/B.Sc.N., M.Sc. (McMaster), R.N.
Joan Roy/B.Sc.N. (McMaster), M.Sc.N. (Toronto), R.N.
Joanne Runions/B.Sc.N. (McGill), M.H.Sc. (McMaster), Ph.D. (Toronto), R.N.
Helena Thomas/B.Sc.N. (Queen's), M.Sc. (Waterloo), R.N.
Catherine Tompkins/B.Sc.N. (Western), M.Ed. (Toronto), Ph.D. (California), R.N.
Leslie Van Dover/B.Sc.N. (Western), M.Sc.N. (Western), Ph.D. (Michigan), R.N.
Robin Weir/B.Sc.N. (Western), M.Sc. (Boston), M.Ed., Ph.D. (Toronto), R.N.

Assistant Professors
Gertrude Benson/B.Sc.N. (McGill), M.Sc.N. (Boston), R.N.
Jennifer Blythe/B.A. (Hull), M.A., Ph.D. (McMaster), R.N.
Cheryl Boblin-Cummings/B.Sc.N. (Alberta), M.Ed. (Alberta), R.N.
Denise Bryant-Lukosius/B.Sc.N. (McMaster), H.Sc.N. (D'Youville), R.N.
Barbara Carpino/B.Sc.N. (Alberta), M.Sc.N. (Toronto), R.N.
Dauna Crooks/B.Sc.N. (Toronto), M.Sc.N. (Western), R.N.
Anne Ehrlich/B.Sc.N. (Queen's), M.H.Sc. (Toronto), R.N.
Heather Hoxby/B.Sc.N., M.H.Sc. (McMaster), R.N.
Carolyn Ingram/B.Sc.N. (Pittsburgh), M.Sc.N. (Maryland), R.N.
Michael Ladouceur/B.Sc.N. (Victoria), M.P.H. (Boston), R.N.
Janet Landeen/B.Sc.N. (Connectict), M.Ed. (Victoria), R.N.
Barbara Love/B.Sc.N. (Toronto), M.H.Sc. (McMaster), R.N.
Ola Lunyk-Child/B.Sc.N. (McMaster), M.Sc.N. (Toronto), R.N.
Charlotte Noesgaard/B.Sc.N. (McGill), M.Sc.N. (Western), R.N.
Linda O'Mara/B.Sc.N., M.Sc.N. (McGill), R.N.
Marion Parsons/B.Sc.N. (Queen's), M.H.Sc. (McMaster), R.N.
Chris Patterson/B.Sc. (Waterloo), B.Sc. (McMaster), M.Sc.N. (Western), R.N.
Dyanne Semogas/B.Sc.N. (McGill), M.N. (Washington), R.N.
Jennifer Skelly/M.H.Sc., M.Sc.N. (McMaster), Ph.D. (Toronto), R.N.
Susan E. Smith/B.Sc.N. (Calgary), M.Sc. (Hawaii), R.N.
Wendy Sword/B.Sc.N., M.Sc. (T) (McMaster), R.N.
Ruta Vailes/S.B.A., B.Sc.N. (Waterloo), M.Sc.N. (McMaster), R.N.

Lecturers
Michelle Drummond-Young/B.Sc.N., M.H.Sc. (McMaster), R.N.
Wendy Goodine/B.Sc.N. (McMaster), R.N.
Jeanette LeGriss/B.S. (Manitoba), M.H.Sc. (McMaster), R.N.

The Aga Khan University Based Faculty
Irmajeen Bajnowska/B.Sc.N. (Alberta), M.Sc.N., Ph.D. (Western)
Susan Beaton/B.A. (Nevcasl), M.Ed. (Manchester)
Katherine Doyle/B.A. (McGill), M.A. (British Columbia)
Eleanor Fiorino/B.Sc.N. (Toronto), M.Ed., OISE
Marilyn Lee/B.A., B.Sc.N. (St. Louis), M.N. (Georgia)
Johanna Majoor/B.Sc.N. (Ontario), R.N.
Ruth McMurtry/B.Sc.N. (Saskatchewan), M.Sc. (Calgary)
Grace Stanley/B.Sc.N. (McGill), M.N. (Calgary)
Lorraine Tinevez/B.S. (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).
NURSING

School Notes:
1. This course listing is divided into 8 parts:
   Basic (A) Stream: Those courses taken only by students registered in the B.Sc.N. programme, (A) Stream.
   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.
   Diploma RN/NP (C) Stream: Those courses taken only by students registered in the B.Sc.N. Nurse Practitioner programme, (C) Stream.

Northern Nursing Courses: Those courses taken by students registered in the Northern Nursing programmes.
Nursing Leadership/Management Courses: Those courses taken by students 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 Northern Nursing courses are open to nurses who have been selected by Health Canada, Medical Services Branch and McMaster University as qualified to enrol in the Northern Nursing programmes. A candidate must be currently registered as a nurse in a province or territory in Canada and must be employed by Health Canada, Medical Services Branch or a Band council.

5. 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 and Canadian Hospital Associations. 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.

6. 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
An introduction to definitions of nursing and health. Emphasis is on the relevance of context in determining health and illness and on caring as a focal concept of professional nursing. Understanding of the nursing process and beginning level skills in assessment, communication and nursing care behaviours are stressed.
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
Study of concepts and theories related to specific priority health issues. Introduction to basic principles of population health. Study of skills in health assessment, including physical examination. A clinical practice component comprises one-half of the term. 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 in acute care institutions, including adult medical and surgical, paediatric and maternal newborn 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 through application to a variety of patient situations.
Three hours (lecture/problem-based tutorials); one term
Prerequisite: NURSING 1F04, 1G04
Normally to be taken concurrently with NURSING 2L03.

NURSING 2N03 NURSING CONCEPTS IN HEALTH AND ILLNESS II
Integration of nursing, biological, psychological, and social sciences theory in problem-based tutorials. A continuation of Nursing 2M03.
Three hours (lecture/problem-based tutorials); one term
Prerequisite: NURSING 2M03
Normally to be taken concurrently with NURSING 2P03.

NURSING 2P03 GUIDED NURSING PRACTICE II
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 2P03.

NURSING 2P02 POPULATION HEALTH
An introduction to the major factors that determine the health of populations. Approaches to the assessment of the health status of communities will be considered. This course also provides experience in conducting a community assessment.
Three hour (clinical lab) and one hour (lecture); one term
Prerequisite: NURSING 1G03

NURSING 2U02 INTEGRATIVE NURSING PRACTICE SEMINAR
This course is an in-depth analysis of the scientific basis of nursing practice. Selected scientific mechanisms are studied and inferred to nursing practice. Two hours (lecture/student presentations); one term
Prerequisite: NURSING 2P03; HTH SCI 2B08 (or HTH SCI 2A2A, 2BB2, 2CC2 and 2DD2); registration in Level III of the B.Sc.N. (A) Stream.
Normally to be taken concurrently with NURSING 2U04 or 3Y04.

NURSING 3X03 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.
Antirequisite: NURSING 3X07

NURSING 3X04 GUIDED NURSING PRACTICE IV
A continuation of NURSING 3X03 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.
Antirequisite: NURSING 3Y07

NURSING 3Y04 GUIDED NURSING PRACTICE V
This course focuses on the application of theory and concepts to clinical practice, including the introduction to the leader/manager 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 3E04.

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 ...

Courses

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, 3LL2, 3MM3

Three hours (lecture/problem-based tutorials); one term
Prerequisite: NURSING 1F04, 1G04
Normally to be taken concurrently with NURSING 2L03.

NURSING 2N03 NURSING CONCEPTS IN HEALTH AND ILLNESS II
Integration of nursing, biological, psychological, and social sciences theory in problem-based tutorials. A continuation of Nursing 2M03.
Three hours (lecture/problem-based tutorials); one term
Prerequisite: NURSING 2M03
Normally to be taken concurrently with NURSING 2P03.

NURSING 2P03 GUIDED NURSING PRACTICE II
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 2P03.

NURSING 2P02 POPULATION HEALTH
An introduction to the major factors that determine the health of populations. Approaches to the assessment of the health status of communities will be considered. This course also provides experience in conducting a community assessment.
Three hour (clinical lab) and one hour (lecture); one term
Prerequisite: NURSING 1G03

NURSING 3U02 INTEGRATIVE NURSING PRACTICE SEMINAR
This course is an in-depth analysis of the scientific basis of nursing practice. Selected scientific mechanisms are studied and inferred to nursing practice. Two hours (lecture/student presentations); one term
Prerequisite: NURSING 2P03; HTH SCI 2B08 (or HTH SCI 2A2A, 2BB2, 2CC2 and 2DD2); registration in Level III of the B.Sc.N. (A) Stream.
Normally to be taken concurrently with NURSING 3U04 or 3Y04.

NURSING 3X03 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.
Antirequisite: NURSING 3X07

NURSING 3X04 GUIDED NURSING PRACTICE IV
A continuation of NURSING 3X03 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.
Antirequisite: NURSING 3Y07

NURSING 3Y04 GUIDED NURSING PRACTICE V
This course focuses on the application of theory and concepts to clinical practice, including the introduction to the leader/manager 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 3E04.

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.
NURSING 3L2 ADVANCED CLIENT ASSESSMENT SKILLS
Advanced skills in history-taking and clinical 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 standardization patients. This course is evaluated on a "Pass/Fail" basis.
Two hours (problem-based tutorials); one term
Prerequisite: Registration in Level II 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, client education, client assessment and client treatment and support. This course is evaluated on a "Pass/Fail" basis.
Eight hours (clinical lab), 2 hours (tutorial); one term
Prerequisite: NURSING 3L05, or NURSING 3L2L2 and 3M3M3
Normally to be taken concurrently with NURSING 3T03

NURSING 3M3 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 clinical concepts in the delivery of independent 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 (tutorials); 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 (tutorials); 13 weeks
Prerequisite: NURSING 4G06
Normally to be taken concurrently with NURSING 4F03.

A, (B) and (C) STREAM...

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. (A) Stream students or registration in Level IV of the B.Sc.N. (B) Stream students
Normally to be taken concurrently with NURSING 3X04 (for (A) Stream students) or NURSING 3L05 (for (B) Stream students).
Antirequisite: NURSING 3S04

NURSING 3T03 NURSING CONCEPTS IN HEALTH AND ILLNESS IV
A problem-based course in which students integrate theories from biological, physical, psychological, social and nursing sciences and apply them to health care situations. A continuation of NURSING 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).
Antirequisite: NURSING 4A02

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 to be taken concurrently with NURSING 4J07 for (A) Stream or NURSING 4G06 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 to be taken concurrently with NURSING 4K07 for (A) Stream or NURSING 4T06 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 with the exception of NURSPRAC 4C10. Students must attend McMaster for the clinical laboratory components of the programme.

NURSPRAC 4A05 ADVANCED HEALTH ASSESSMENT AND DIAGNOSIS I
This course assists the students to determine and monitor health status and disease symptomology of individuals and families throughout the age spectrum. Students will conduct a full range of health assessment towards the goals of providing comprehensive primary health care based on advanced clinical decision making and diagnostic reasoning skills.
Three hours (tutorial), three hours (clinical lab); one term
Prerequisite: Registration in Level IV of the B.Sc.N. NP (C) Stream; registration in or completion of NURSING 4A03

NURSPRAC 4A06 ADVANCED HEALTH ASSESSMENT AND DIAGNOSIS II
Continued application of advanced clinical decision making and diagnostic reasoning skills related to the care of individuals across their lifespan, families and the needs of diverse communities.
Three hours (tutorial), three hours (clinical lab); one term
Prerequisite: NURSPRAC 4A05; registration in Level IV of the B.Sc.N. NP (C) Stream

NURSPRAC 4C10 NURSE PRACTITIONER INTEGRATIVE PRACTICUM
This course will build on students' knowledge and experience gained in previous courses and will focus on methods to integrate theory and clinical practice.
29 hours; 13 weeks
Prerequisite: NURSPRAC 4A05, 4A06, 4A05, 4P03, 4R03, 4T05, 4TTS; registration in Level IV of the B.Sc.N. NP (C) Stream
Corequisite: NURSPRAC 4G03

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: HLTH SCI 1C07, 2C07; registration in Level IV of the B.Sc.N. NP (C) Stream

NURSPRAC 4R03 NURSE PRACTITIONER ROLES AND RESPONSIBILITIES
Historical development, legal and ethical considerations, scope of practice, interdisciplinary teams, primary health policy formation are addressed.
Three hours (tutorial); one term
Prerequisite: NURSPRAC 4A02 and registration in Level IV or IV of the B.Sc.N. NP (C) Stream

NURSPRAC 4G03 NURSE PRACTITIONER SEMINAR
This course is taken with NURSPRAC 4C10 and allows the students to discuss and apply theories regarding the management of clients' clinical manifestations, and to critically examine how theory integrates with practice.
Six hours; 13 weeks
Prerequisite: NURSPRAC 4A05, 4A06, 4B03, 4R03, 4T05, 4TTS; registration in Level IV of the B.Sc.N. NP (C) Stream
Corequisite: NURSPRAC 4C10
NURSING 3D05 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 counseling, pharmacology and complementary modalities.

Three hours (tutorial), three hours (clinical lab); one term
Prerequisite: HTH SCI 1C07, 2C07; registration in Level IV of the B.Sc.N. NP (C) Stream; registration in or completion of NURSPRAC 4A05, 4P05

NURSPRAC 4T05 THERAPEUTICS II

This course continues to develop advanced counselling skills and pharmacologic modalities and to examine the effectiveness and efficiency of non-traditional approaches to healing and general well being.

Three hours (tutorial), three hours (clinical lab); one term
Prerequisite: NURSPRAC 4T05; registration in Level IV of B.Sc.N. NP (C) Stream; and registration in or completion of NURSPRAC 4A05

NORTHERN CLINICAL COURSES...

Note:
Students who are admitted to the Post Diploma Stream of the B.Sc.N. programme will be granted credit for the following courses.

NURSING 3A01 PRIMARY HEALTH CARE IN NORTHERN COMMUNITIES

An introductory course to examine principles of primary health care, the concept of health and trans-cultural 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 NURSING 3B07.
When taken with NURSING 3B07, equivalent to NURSING 3T03 and 3L05

NURSING 3B07 ASSESSMENT AND MANAGEMENT OF HEALTH AND ILLNESS ACROSS THE LIFESPAN

A comprehensive approach to nursing practice through advanced clinical assessment skills and history taking will be developed with the focus on the newborn, child, pregnant female, adult and family.

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 NURSING 3A01.
When taken with NURSING 3A01, equivalent to NURSING 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 skills for the management of injury and acute episodic illness 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 practice 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 NURSING 4S06

NORTHERN COMMUNITY NURSING COURSES...

Note:
Students who are admitted to the Post Diploma Stream of the B.Sc.N. programme will be granted credit for these courses.

NURSING 3E03 ASSESSING THE HEALTH OF COMMUNITIES

Conceptual models of community health nursing will be explored, with a focus on the community-based component of the role and the process of community assessment.

60 hours (lecture/problem-based tutorial) in 2 weeks
Pre-requisite: Registration in the Northern Community Nursing programme

NURSING 3F03 HEALTH EDUCATION: A COMMUNITY HEALTH STRATEGY

Health education for the protection and promotion of health will be the focus of this course. The application of health education models within First Nations and Northern Communities will be explored.

60 hours (lecture/problem-based tutorial) in 2 weeks
Pre-requisite: Registration in the Northern Community Nursing programme

NURSING 3G03 PROMOTING HEALTHY COMMUNITIES: THE COMMUNITY DEVELOPMENT PROCESS

This course focuses on the process of community development and the planning and implementation of community based programmes designed to enhance the health of populations.

60 hours (lecture/problem-based tutorial) in 2 weeks
Pre-requisite: NURSING 3F03

NURSING 3H03 EXPLORING SOLUTIONS FOR COMMON ISSUES IN FIRST NATIONS AND NORTHERN COMMUNITIES

The focus of the course will be the role of the community health nurse in the application of primary and tertiary interventions aimed at reducing the problems, preventing recurrence and enhancing community health.

60 hours (lecture/problem-based tutorial) in 2 weeks
Pre-requisite: NURSING 3G03

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 integrated and applied to health care situations through problem-based learning. Concepts and theories will focus on assisting the child, family and community in responding to the oncological process.

Three hours (lecture/problem-based tutorials); one term
Prerequisite: Registration in Paediatric Oncology programme
Antirequisite: NURSING 3S04
Equivalent to Nursing 3S03

NURSING 3Q03 NURSING CONCEPTS IN HEALTH AND ILLNESS IV

A problem-based course in which students integrate theories from biological, physical, psychological, social and nursing sciences and apply them to paediatric haematology-oncology situations. A continuation of Nursing 3P03.

Three hours (lecture/problem-based tutorials); one term
Prerequisite: NURSING 3P03; registration in the Paediatric Oncology programme
Antirequisite: NURSING 3T03

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 (tutorial); 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 integrated 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 3S03
NURSING 3DD3  CONCEPTS AND THEORIES IN ADULT ONCOLOGY NURSING II
A problem-based course where students integrate 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 to education, prevention, early detection and research. This course is a continuation of 3CC3.
Prerequisites: 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 relevant to the role of the nurse in a variety of adult oncology health care situations. This course is evaluated on a “Pass/Fail” basis.
Prerequisites: NURSING 3CC3; registration in the Adult Oncology programme
Equivalent to NURSING 3L05

NURSING 3H55  ADULT ONCOLOGY NURSING PRACTICE II
A continuation of 3GG5, the focus of this course is a theory based nursing practice experience in a primary or tertiary health care setting. The emphasis is on the development of knowledge and expanded role skills related to 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.
Prerequisites: 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 certificate is granted on course completion. Enrolment in tutorial format is limited.
Prerequisites: HTH SCI 4E06 Equivalent to NURSING 4S06, 4T06

NURSING 4C01  NURSING BUDGETING
Introduction to sources of health care funding in Canada and the principles of decentralized financial management. Given in distance education and problem-based tutorial formats. This course is evaluated on a pass/fail basis.
Prerequisites: Registered Nurse or permission of the instructor
Equivalent to NURSING 4S06, 4T06

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.
Prerequisites: Registered Nurse or permission of the instructor

OCCUPATIONAL THERAPY AND PHYSIOTHERAPY

Faculty as of January 15, 1996
Associate Dean (OT/PT)
B. Cooper
Chair, Bachelor of Health Sciences (OT) Programme
P. Salvatori
Chair, Bachelor of Health Sciences (PT) Programme
C. Gowland

Associate Professors
Barbara A. Cooper/Dip. P.&OT (Toronto), B.A. Honours, M.H.Sc. (McMaster), Ph.D. (Wisconsin-Milwaukee)
Carolyn A. Gowland/Dip. P.OT (Toronto), M.H.Sc. (McMaster)
Haille 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)
Mary C. Law/B.Sc. OT (Queen’s), M.Sc. (McMaster)
Mary K. Tremblay/Dip. P.OT (Toronto), M.H.Sc. (McMaster)

Assistant Professors
Susan E. Baptiste/Dip. OT (England), M.H.Sc. (McMaster)
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)
Mary Edwards/B.Sc. OT (Toronto), M.H.Sc. (McMaster)
Elsbeth Finch/B.Sc. P.OT (McGill), M.H.Sc. (McMaster)
Vikki Galea/B.Sc., M.Sc. (Waterloo), Ph.D. (McMaster)
John A. Hay/B.Sc. (Queens’), M.A. (Alberta), Ph.D. (McMaster)
Hélène Latini/B.Sc. PT (Montreal), M.Sc. (North Carolina), M.Ed., Ph.D. (Toronto)
Allison Laver/Dip. COT (Oxford), Ph.D. (Surrey)
Lori Lettre/B.Sc. OT (Western), M.A. (Waterloo)
Julia A. Lockhart/B.Sc. OT (Queens’), M.Ed. (Brock)
Cheryl Misluana/B.Sc. OT (Western), M.Sc. (Calgary), Ph.D. (Toronto)
Ellenore M. Palmer/B.Sc. (Western), B.Sc. PT (Toronto), M.Sc. (Toronto)
Jennifer M. Perkins/Dip. PT (England), B.Sc., M.Sc. (Nova Scotia)
Nancy A. Pollock/B.Sc. OT (Queen’s), M.Sc. (McGill)
Penny S. Salvatori/Dip. P.OT (Toronto), M.H.Sc. (McMaster)
Patricia E. Solomon/Dip. PT (Manitoba), M.H.Sc. (McMaster), Ph.D (Waterloo)
Paul Stratford/Dip. PT, M.Sc. (McMaster)
Laurie R. Swanson/Dip. P.OT (Toronto), B.Sc. (Toronto), M.Sc. (McMaster)
Joyce Tryssenaar/B.Sc. OT (Western), M.Ed. (Brock)
Muriel G. Westmorland/Dip. OT (England), M.Sc. (McMaster)
Seanne Wilkins/Dip. P.OT, B.Sc. OT, M.Sc. (Toronto)
Renée M. Williams/Dip. P.OT (Toronto), M.H.Sc. (McMaster)

Lecturers
Laura Babiski/B.Sc. OT (Toronto), M.H.Sc. (McMaster)
Linda Brett/B.A. (Toronto), B.Ed. (Queen’s), B.HSc. PT (McMaster)
Maryan Danscaul/B.Sc. PT (McGill), M.Sc. PT (Western)
Lynne Geddes/B.Sc. PT (Western), M.R.E. (Toronto)
Bonny F.M. Jung/B.Sc. OT (Toronto), M.Ed. (Brock)
Joan Mylnarczuk/B.A. (York), B.Sc. PT (Toronto), M.A. (Indiana)

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. If further information is requested, please contact the School at (905) 525-9140, ext. 22867...

Note: Occupational Therapy and Physiotherapy courses are open only to students who are registered in the Bachelor of Health Sciences Second Degree Programme in Occupational Therapy or Physiotherapy.

OCCUPATIONAL THERAPY ...

Courses

Unit 1 - 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 analysis, within the framework of current models of OT practice.
Seven hours (lab); 14 weeks

OCCUP TH 1S13  INQUIRY SEMINAR I
Students in both the Occupational Therapy and Physiotherapy Programmes investigate issues of importance to both professions. Themes for exploration include determinants of health, health policy, the history, development, and future directions of the professions.
Three hours (lecture/seminar); 14 weeks
Unit II - Occupation and Health in Childhood and Adolescence

OCCUP TH 1T23 PROBLEM-BASED TUTORIAL II
Students explore various clinical problems encountered in the practice of paediatric occupational therapy.
Five hours (tutorial); eight weeks

OCCUP TH 1L24 SKILLS LAB II
Students develop skills in assessment, program planning, and intervention with children and adolescents.
Seven hours (lab); eight weeks

OCCUP TH 1S23 INQUIRY SEMINAR II
Students investigate various conceptual issues related to child health during infancy, childhood and adolescence, from a developmental perspective.
Five hours (lecture/seminar); eight weeks

OCCUP TH 1C26 FIELDWORK EDUCATION I
Students integrate knowledge and skills into clinical practice in a paediatric setting under supervision of a qualified therapist.
35-40 hours (fieldwork); six weeks

OCCUP TH 1T33 PROBLEM-BASED TUTORIAL III
Students explore clinical problems encountered in the field of adult rehabilitation. Functional, vocational and ethical management issues are discussed.
Five hours (tutorial); eight weeks

OCCUP TH 1L34 SKILLS LAB III
Students develop skills in assessment, program planning and intervention with physically disabled adult populations.
Seven hours (lab); eight weeks

OCCUP TH 1S33 INQUIRY SEMINAR III
Students investigate various conceptual issues related to adult physical health.
Five hours (lecture/seminar); eight weeks

OCCUP TH 1C36 FIELDWORK EDUCATION II
Students integrate knowledge and skills into clinical practice in an adult rehabilitation setting under the supervision of a qualified therapist.
35-40 hours (fieldwork); six weeks

Unit IV - Occupation and Mental Health in Adulthood

OCCUP TH 2T43 PROBLEM-BASED TUTORIAL IV
Student explore various clinical problems encountered in the practice of adult mental health.
Five hours (tutorial); eight weeks

OCCUP TH 2L44 SKILLS LAB IV
Students develop engagement, assessment and treatment skills for mentally ill populations.
Seven hours (lab); eight weeks

OCCUP TH 2S43 INQUIRY SEMINAR IV
Students investigate various conceptual issues related to adult mental health.
Five hours (lecture/seminar); eight weeks

OCCUP TH 2C46 FIELDWORK EDUCATION III
Students integrate knowledge and skills into clinical practice in a mental health setting under the supervision of a qualified therapist.
35-40 hours (fieldwork); six weeks

Unit V - Occupation and Health in Older Adulthood

OCCUP TH 2T53 PROBLEM-BASED TUTORIAL V
Students explore and develop understanding of various health and social problems encountered in the practice area of aging and health.
Five hours (tutorial); eight weeks

OCCUP TH 2L54 SKILLS LAB V
Students implement the CAOT client centred guidelines for occupational therapy practice with older persons, and develop clinical competence in specific assessment, treatment, and care management processes and techniques.
Seven hours (lab); eight weeks

OCCUP TH 2S53 INQUIRY SEMINAR V
Students explore and develop understanding of various theoretical, methodological, and substantive issues in the area of aging and health.
Five hours (lecture/seminar); eight weeks

OCCUP TH 2C56 FIELDWORK EDUCATION IV
Under the supervision of a qualified occupational therapist, students integrate and apply their knowledge and skills in clinical practice with older persons.
35-40 hours (fieldwork); six weeks

Unit VI - Integration

OCCUP TH 2T64 PROBLEM-BASED TUTORIAL VI
Priority health problems are explored in-depth through contact with resource people and clients in the community, using a population health/community health perspective. Issues involving quality assurance and economics are also included.
Six hours (tutorial); ten weeks

OCCUP TH 2L63 SKILLS LAB VI
Within the broad framework of the Management Sciences, students study management theory and organizational behaviour, and develop management and organizational analysis skills.
Fourteen hours (seminar); three weeks

OCCUP TH 2I65 INDEPENDENT STUDY I
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 INQUIRY SEMINAR VI
Students focus on population health/community health issues. Students identify their own learning needs, arrange resource sessions accordingly, and select a community health problem for in-depth study.
Four hours (lecture/seminar); 10 weeks

Unit VII

OCCUP TH 2C76 FIELDWORK ELECTIVE
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 Fieldwork Education Co-ordinator.
35-40 hours (fieldwork); six weeks

PHYSIOTHERAPY...

Unit I Musculoskeletal I

PHYSIOTH 1T15 PROBLEM-BASED TUTORIAL
The problem-based tutorials in Unit I are designed to introduce the student to the anatomy, physiology, pathology, and assessment and treatment of peripheral musculoskeletal systems. In addition, students begin to acquire a basic level of knowledge of psychological and sociological determinants of health. The problems will provide an opportunity to gain knowledge of the roles and functions of physiotherapy as related to specific conditions.
Five hours (tutorial); 14 weeks

PHYSIOTH 1L17 CLINICAL SKILLS LAB I
The clinical skills labs focus on the clinical assessment, diagnosis and introduction to treatment of peripheral joints. The labs integrate relevant human biology, biomechanics, clinical skills and measurement concepts. Students are responsible for completing modules in the clinical setting.
Seven hours (lab); 14 weeks

PHYSIOTH 1S13 INQUIRY SEMINAR I
Students in the Occupational Therapy and Physiotherapy Programmes investigate issues of importance to both professions; history, determinants of health, health policy, and profession-specific concepts.
Three hours (lecture/seminar); 14 weeks

Unit II Musculoskeletal II

PHYSIOTH 1T23 PROBLEM-BASED TUTORIAL
Students continue studying the musculoskeletal system in the problem-based tutorials by focusing on the anatomy, pathology, assessment and treatment of peripheral musculoskeletal systems. In addition, students begin to acquire a basic level of knowledge of psychological and sociological determinants of health. The problems will provide an opportunity to gain knowledge of the roles and functions of physiotherapy as related to specific conditions.
Five hours (tutorial); eight weeks

PHYSIOTH 1L24 CLINICAL SKILLS LAB II
Students acquire basic level competencies in the assessment and treatment of spinal conditions. Students are responsible for completing further electrotherapy modules. Effectiveness of physiotherapy interventions in spinal and musculoskeletal conditions are considered.
Seven hours (lab); eight weeks

PHYSIOTH 1S23 INQUIRY SEMINAR II
Seminars focus on ergonomics, the physiology, evaluation and management of pain, and considerations re: differential diagnosis of pain in the spine.
Five hours (seminar); eight weeks

PHYSIOTH 1C26 CLINICAL EDUCATION I
Students practice in a variety of clinical facilities to integrate knowledge and skills in providing care for episodic musculoskeletal problems.
35-40 hours (fieldwork); six weeks
Unit III Musculoskeletal III

PHYSIOTH 1T33 PROBLEM-BASED TUTORIAL
Students study complex and/or chronic disorders of the musculoskeletal system and resulting disabilities and handicaps in all age groups, with an emphasis on older adults. This unit explores the natural history of a condition.
Five hours (tutorial); eight weeks

PHYSIOTH 1L34 CLINICAL SKILLS LAB II
Students acquire advanced interviewing, assessment and treatment skills which are required to manage clients of all ages, with an emphasis on older adults, with complex and chronic musculoskeletal problems.
Seven hours (lab); eight weeks

PHYSIOTH 1S33 INQUIRY SEMINAR III
Seminars focus on issues related to determinants of health and chronicity. Themes to be explored include cultural, ethnic and racial factors in health, biopsychosocial aspects of chronic illness and its management.
Five hours (seminar); eight weeks

PHYSIOTH 1C36 CLINICAL EDUCATION II
Students practice in selected clinical facilities to integrate knowledge and skills into clinical practice with appropriate clients with chronic or complex musculoskeletal problems.
35-40 hours (fieldwork); six weeks

Unit IV Cardiopulmonary

PHYSIOTH 2T43 PROBLEM-BASED TUTORIAL
Students study the pathology, etiology, assessment and physiotherapeutic management of cardiac and pulmonary conditions. Criteria for establishing causation are also addressed.
Five hours (tutorial); eight weeks

PHYSIOTH 2L44 CLINICAL SKILLS LAB IV
Students acquire the assessment and treatment skills which are required for the physiotherapeutic management of clients with cardiac and/or pulmonary conditions.
Seven hours (lab); eight weeks

PHYSIOTH 2S43 INQUIRY SEMINAR IV
Seminars focus on issues important to the practice of physiotherapy with cardiopulmonary patients. Themes include exercise physiology, exercise testing and prescription, and compliance with exercise.
Five hours (seminar); eight weeks

PHYSIOTH 2C46 CLINICAL EDUCATION III
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 treatment of patients with neurological problems.
Five hours (tutorial); eight weeks

PHYSIOTH 2L54 CLINICAL SKILLS LAB V
Students acquire basic level skills to assess and treat clients with neurological conditions.
Seven hours (lab); eight weeks

PHYSIOTH 2S53 INQUIRY SEMINAR V
Seminars focus on issues important to the practice of physiotherapy with clients who manifest neurological problems. Themes include functioning from cell to society, and incorporate the impairment, disability and handicap paradigm.
Five hours (lecture/seminar); eight weeks

PHYSIOTH 2C58 CLINICAL EDUCATION IV
Students practice in a variety of clinical settings to integrate learning and clinical skills for the management of neurological problems in all age groups.
35-40 hours (fieldwork); six weeks

Unit VI Integration

PHYSIOTH 2T64 PROBLEM-BASED TUTORIAL
Students study pathology, etiology, assessment and management of clients of all ages through the integration of complex multi-system priority health problems using a population health/community perspective. Issues involving quality management, health economics, and professional practice are also included.
Six hours (tutorial); ten weeks

PHYSIOTH 2L63 CLINICAL SKILLS LAB VI
Within the broad framework of the Management Sciences, students study management theory and organizational behaviour, and develop management and organizational analysis skills.
Fourteen hours (seminar); three weeks

PHYSIOTH 2T65 INDEPENDENT STUDY
Students focus 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 2S63 INQUIRY SEMINAR VI
Seminars focus on population health/community health issues. Students identify their own learning needs, arrange resource sessions accordingly, and select a community health problem for in-depth study.
Four hours (lecture/seminar); ten weeks

Unit VII Clinical Elective

PHYSIOTH 2C76 CLINICAL EDUCATION V
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

OJIBWA
(SEE INDIGENOUS STUDIES)

ONCOLOGY
(SEE NURSING)

PEACE STUDIES
(SEE MINORS AND THEMATIC AREAS OF STUDY)

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 analyses of pharmacological data.
One lab (nine hours); two terms
Prerequisite: Credit or registration in PHARMAC 3A06

PHARMAC 4A03 DRUG AND SIGNAL TRANSMISSION I
Introduction to the effects of drugs on communication by chemical signals in biological systems.
One tutorial (one hour), one tutorial (two hours); one term
Prerequisite: PHARMAC 3A06

PHARMAC 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 physiochemical mechanisms in normal and abnormal behaviour.
One tutorial (three hours); one term
Prerequisite: PHARMAC 3A06 or BIOLOGY 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, toxicological effects on 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

PHILOSOPHY
Faculty as of January 15, 1996

Chair
Wilfrid Waluchow

Professors Emeriti
Horace A. Dulmage/B.A., B.D. (McMaster), Ph.D. (Chicago)
James H. Noxon/B.A., M.A. (Queen's), Ph.D. (Edinburgh)
John E. Thomas/B.A.; B.D. (McMaster), M.A., Ph.D. (Duke)

Professors
Nicholas Griffin/B.A. (Leicester), Ph.D. (Australian National)
Gary B. Madison/B.A. (St. Joseph's College), M.A. (Marquette), Ph.D. (Paris)
Evan Simpson/A.B. (Amherst), Ph.D. (Duke)

Associate Professors
Samuel Ajzenstat/B.A., M.A. (Toronto), Ph.D. (Pennsylvania)
Catherine Beattie/B.A. (McMaster), M.A. (Guelph), Ph.D. (London)
David L. Hitchcock/B.A. (McMaster), Ph.D. (Claremont)
Samil M. Najm/A.A. (Beirut), B.A. (Wesleyan), M.A., Ph.D. (Yale)
Spirio Panagiotoulou/B.Sc., M.A. (Guelph), Ph.D. (St. Andrews)
Michael Radner/B.A. (Carleton College, Minn.), M.A., Ph.D. (Minnesota)
Mark Vorobej/B.A. (Carleton), M.A., Ph.D. (Toronto)
Wilfrid Waluchow/B.A., M.A. (Western), D.Phil. (Oxford)

Assistant Professors
Elisabeth Boetzkes/B.A., M.A. (Alberta), Ph.D. (Calgary), MTh. (Newman Theological College, Edmonton)
Jill LeBlanc/B.A. (McMaster), M.A., Ph.D. (Toronto)
Marina Vitkin/B.A. (Manitoba), M.A., Ph.D. (Toronto)

Associate Members
Caroline Bayard (French), L. L. M., L. L. (Toulouse), M.A., Ph.D. (Toronto)
Kenneth M. Blackwell/Russell Archivist, Mills Library, B.A., (Victoria), M.L.S. (Western), M.A. (McMaster), Ph.D. (Guelph)

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.

Courses

PHILOS 1B06 PHILOSOPHY AND SOCIETY
An introduction to philosophy, through the social-political thought of two or more of Plato, Hobbes, 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
Antirequisite: 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
Antirequisite: PHILOS 1B06

PHILOS 2A06 ANCIENT GREEK PHILOSOPHY
A study of Western philosophical thought from its earliest beginnings to the triumph of Christianity in the Roman Empire, 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 study of 17th- and 18th-Century European and British philosophy, dealing with the major philosophical issues raised by the 17th-Century scientific revolution.
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

PHILOS 2E03 SOCIAL AND POLITICAL ISSUES
A philosophical examination of some contemporary issues in public policy, such as social issues, such as abortion, human experimentation, euthanasia, and genetic screening.
Two lectures, one tutorial; one term
Prerequisite: Registration in Level II and above

PHILOS 2F03 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 2G03 SCIENTIFIC METHOD
Theory structure and justification in the sciences compared to reasoning in pseudosciences (e.g. theories of paranormal or 'psi' phenomena).
Three lectures; one term
Prerequisite: Registration in Level II and above

PHILOS 2H03 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 2R03 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
Anti-requisite: HUMANITIES 2C03 or ARTS & SCI 1B06
Other students who want a Reasoning course are advised to take HUMANITIES 2C03.

PHILOS 3A06 FROM KANT TO Hegel
The philosophies of Kant and Hegel viewed in relation to each other and to other philosophies of the period, such as those of Rousseau or Schelling.
Three lectures; two terms
Prerequisite: PHILOS 2C06

PHILOS 3B03 PHILOSOPHIES OF EXISTENCE
An examination of the 19th-century forerunners of contemporary existential philosophy, concentrating principally on the thought of Kierkegaard and Nietzsche.
Three lectures; one term
Prerequisite: At least six units of Philosophy; and registration in Level III or IV of any programme
Offered in alternate years.

PHILOS 3C03 ADVANCED BIOETHICS
An advanced study of the application of ethical theory to selected problems in health care, such as our reproductive practices, care of the dying, the therapeutic relationship.
Three lectures; one term
Prerequisite: PHILOS 2D03 or RELIG ST 2C03 with a grade of at least B, and at least three additional units of Philosophy; or registration in Level III or IV of an Honours programme in Philosophy
Offered in alternate years.

PHILOS 3D03 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.
Three lectures; one term
Prerequisite: Six units of Philosophy and registration in Level III or IV of any programme
Offered in alternate years.

PHILOS 3F03 INTERMEDIATE LOGIC
Selected topics in the study of formal languages and their interpretations, metalogic, and the philosophy of logic.
Three lectures; one term
Prerequisite: PHILOS 2B03
Offered in alternate years.

PHILOS 3G03 ETHICS
An introduction to the major types of ethical theory and the problem of their justification.
Three lectures; one term
Prerequisite: At least six units of Philosophy, and registration in Level III or IV of any programme

PHILOS 3H03 PHILOSOPHY OF RELIGION
An analysis of the concept of religion in light of the philosophical claims of religious experience, practice, and belief.
Three lectures; one term
Prerequisite: At least six units of Philosophy, and registration in Level III or IV of any programme
Offered in alternate years.

PHILOS 3I03 PHILOSOPHY AND FEMINISM
A study of philosophical issues in feminist thought.
Three lectures; one term
Prerequisite: At least six units of Philosophy, and registration in Level III or IV of any programme
Offered in alternate years.

PHILOS 3K03 PHILOSOPHY OF EDUCATION
A systematic account of education through a critical analysis of the concepts of teaching, learning, and subject matter.
Two lectures; one tutorial; one term
Prerequisite: At least six units of Philosophy
Offered in alternate years.

PHILOS 3N03 POLITICAL PHILOSOPHY
A study of major political concepts and issues, such as social contract, ideology, justice, freedom vs. equality, reform vs. revolution, state vs. individual.
Three lectures; one term
Prerequisite: At least six units of Philosophy, and registration in Level III or IV of any programme
Offered in alternate years.

PHILOS 3P03 THEORY OF KNOWLEDGE
A study of scepticism and certainty, knowledge and belief, perception, memory, and truth.
Three lectures; one term
Prerequisite: PHILOS 2C06

PHILOS 3Q03 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 3R03 PHILOSOPHY OF LAW
An investigation of the nature of law and of issues arising within legal systems. These issues include legal reasoning, equality, legal insanity, punishment; and the Charter of Rights and Freedoms.
Three lectures; one term
Prerequisite: At least six units of Philosophy and registration in Level III or IV of any programme

PHILOS 3S03 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 a programme in Philosophy, with a Cumulative Average of at least 6.0 and permission of the Department
Offered in alternate years.

PHILOS 4A03 THE RATIONALISTS
A critical study of selected texts of one or more Rationalist philosophers.
Seminar (Two and one half 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 and one half hours); one term
Prerequisite: PHILOS 3G03, and registration in Level III or IV of any programme
Offered in alternate years.

PHILOS 4C03 PLATO
A critical examination of Plato's writings with reference to selected central philosophical issues.
One lecture, one seminar (two hours); one term
Prerequisite: PHILOS 2A06 and registration in Level III or IV of any programme
Cross-list: CLASSICS 4C03
Offered in alternate years.

PHILOS 4D03 20TH CENTURY ANALYTIC PHILOSOPHY
A study of some main currents of 20th-century philosophy, including the work of such figures as Wittgenstein, Quine, and Davidson.
Seminar (two and one half hours); one term
Prerequisite: PHILOS 2B03, and registration in Level III or IV of a programme in Philosophy
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, and Sartre.
Seminar (two and one half hours); one term
Prerequisite: At least six units of Philosophy, and registration in Level III or IV of any programme

PHILOS 4F03 RECENT EUROPEAN PHILOSOPHY
Contemporary trends in European Philosophy as represented by such writers as Derrida, Foucault, and Habermas.
Seminar (two and one half hours); one term
Prerequisite: At least six units of Philosophy, and registration in Level III or IV of any programme
Offered in alternate years.

PHILOS 4G03 BERTRAND RUSSELL
An introduction to various aspects of Russell's philosophical thought. Each year two or three topics in his theory of knowledge, metaphysics, philosophy of language and social philosophy will be selected for special attention.
One lecture (two hours), one seminar (one hour); one term
Prerequisite: PHILOS 2B03, and registration in Level III or IV of any programme
Offered in alternate years.
PHILOS 4W03  METAPHYSICS
An investigation of metaphysical concepts, such as substance, individuation, identity, essence, quality, process, mind, time and causality. Some contemporary criticisms of metaphysics will be discussed.
Seminar (two and one half 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 and one half hours); one term.
Prerequisite: One of PHILOS 2A06, 2C06
Offered in alternate years.

PHILOS 4J03  ARISTOTLE
A systematic study of Aristotle’s major doctrines.
Seminar (two and one half hours); one term.
Prerequisite: PHILOS 2A06 and registration in Level III or IV of any programme
Cross-list: CLASSICS 4J03
Offered in alternate years.

PHILOS 4W03  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 an Honours programme in Philosophy and permission of the Department.
Antirequisite: PHILOS 4J06

PHILOS 4Z05  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 programme in Philosophy, with a Cumulative Average of at least 8.5 and permission of the Department.
Antirequisite: PHILOS 4W03

PHYSICS AND ASTRONOMY
Faculty as of January 15, 1996

Chair
D.W.L. Sprung

Associate Chair
B.D. Gaulin

Professors Emeriti
Bertram N. Brockhouse/B.A. (British Columbia), M.A., Ph.D. (Toronto), D.Sc. (Waterloo), M.R.C., F.R.S., F.R.S., Nobel Laureate
Dennis G. Burke/B.E., M.Sc. (Saskatchewan), Ph.D. (McMaster)
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. Kuehn/B.Sc. (Bishop’s), M.A. (Queen’s), Ph.D. (Liverpool), F.R.S.C.
Carman C. McMullen/M.Sc., Ph.D. (McMaster)
Yukihisa Nomogi/B.Sc., M.Sc. (Kyoto)
Melvin A. Preston/B.A., M.A. (Toronto), Ph.D. (Birmingham), D.Sc. (McMaster), C.D., F.R.S.C.
Robert G. Summers-Gill/M.A. (Saskatchewan), Ph.D. (California)
Anatole B. Volkov/B.Sc. (North Carolina), M.S., Ph.D. (Wisconsin)
Derek Walton/B.Sc. (Toronto), Ph.D. (Harvard)

Professors
Edward A. Ballik/B.Sc. (Queen’s), D.Phil. (Oxford)
A. John Berlinsky/B.Sc. (Fordham), M.Sc., Ph.D. (Pennsylvania)
Rajat K. Bhaduri/M.Sc. (Calcutta), Ph.D. (McMaster)
John A. Cameron/B.A. (Toronto), Ph.D. (McMaster)
Jules P. Carbotte/B.Sc. (Manitoba), M.Sc., Ph.D. (McGill), D.Sc. (Waterloo), F.R.S.C.
David R. Chettle/B.Sc., M.Sc., Ph.D. (Birmingham)
W. Brian Clarke/B.A. (Dublin), Ph.D. (McMaster)
Malcolm F. Collins/M.A., Ph.D. (Cambridge)
W. Ross Dattani/M.Sc. (McMaster), Ph.D. (Wisconsin), F.R.S.C.
David A. Goodings/B.A. (Toronto), Ph.D. (Cambridge)

PhD. (Washington), P.Eng.
William E. Harris/B.Sc. (Alberta), M.Sc., Ph.D. (Toronto)
Harold K. Haugen/B.Sc. (Acadia), M.Eng. (McMaster), Ph.D. (Aarhus)
William V. Prestwich/B.Sc., Ph.D. (McMaster)
Ralph E. Pudritz/B.Sc. (British Columbia), M.Sc. (Toronto), Ph.D. (British Columbia)
Donald W.L. Sprung/B.A. (Toronto), Ph.D., D. Sc. (Birmingham), F.R.S.C.
Carl V. Stager/B.Sc., M.Sc., Ph.D. (M.I.T.)
Peter G. Sutherland/B.Sc. (McGill), M.S., 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)

Associate Professors
Bruce D. Gaulin/B.Sc. (McGill), Ph.D. (McMaster)
Catherine Kalling/B.Sc. (British Columbia), A.M., Ph.D. (Harvard)
David E. Venus/B.Sc. (Queen’s), Ph.D. (Toronto)
Douglas L. Welch/B.Sc., Ph.D. (Toronto)
Francoise M. Winnik/Dipl. d’ing. Chimpé (Mulhouse), M.Sc., Ph.D. (Toronto)

Assistant Professors
Stéphane Filibotte/B.Sc., M.Sc., Ph.D. (Montreal)
Neil McKay/B.Sc. (Queen’s), M.Sc., Ph.D. (McMaster)/part-time
Christine D. Wilson/B.Sc. (Toronto), Ph.D. (California Institute of Technology)

Associate Members
Thomas J. Farrell/Radiology/B.Sc., B.Ed. (Toronto), M.Sc. (Western), Ph.D. (McMaster)
Michael S. Patterson/Radiology/B.Sc. (Queen’s), M.Sc., Ph.D. (McMaster)
Andrew J. Rainbow/Radiology/B.Sc. (Manchester), M.Sc. (London), Ph.D. (McMaster)
David A. Thompson/Engineering Physics/B.Sc., Ph.D. (Reading)
Douglas R. Wyman/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 Department of 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 1F03, 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 1A06, 1B06, 1C06 and one of MATH 1A3, 1A06, 1A46, 1C06 or ARTS & SCIENCE 1D06
Antirequisite: PHYSICS 2E03
Offered in alternate years. Offered in 1997-98.

ASTRON 3X03  STARS AND STELLAR SYSTEMS
Observational properties of stars. Structure of our Galaxy; 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 and one of PHYSICS 2A03, 2B06, and one of PHYSICS 2H03, CHEM 2P06, 2R03. COMP SCI 1MA3 or 1MC3 is strongly recommended.
Antirequisite: PHYSICS 3X03
Alternates with ASTRON 3Y03. Offered in 1997-98.
PHYSICS AND ASTRONOMY

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 and one of PHYSICS 2A03, 2B06, and one of PHYSICS 2H03, CHEM 2P06, 2R03, COMP SCI 1MA3 or 1MC3 is strongly recommended.
Alternates with ASTRON 3X03.
Offered in 1996-97.

Courses
If no prerequisite is listed, the course is open.

PHYSICS 1A06 MECHANICS, ELECTRICITY, AND MODERN PHYSICS
Lectures and laboratory work on mechanics, electricity, atomic and nuclear physics. Primarily intended for students proceeding in the physical sciences.
Three lectures, one lab (three hours) every other week; two terms
Prerequisite: At least 50% in OAC Physics
Corequisite: MATH 1A03, 1AA3, SCIENCE 1A00.
Antirequisite: PHYSICS 1B06, 1C06

PHYSICS 1B06 GENERAL PHYSICS I
Lectures, demonstrations, and laboratory work in general physics. This course places less stress on the use of mathematics, and covers a wider range of topics, than PHYSICS 1A06. Intended primarily for students proceeding in the life sciences.
Three lectures, one lab (three hours) every other week; two terms
Prerequisite: At least 50% in OAC Physics
Corequisite: MATH 1A03, SCIENCE 1A00
Antirequisite: PHYSICS 1A06, 1C06

PHYSICS 1C06 INTRODUCTORY PHYSICS
Lectures, demonstrations and laboratory work in physics, with particular stress on topics in mechanics, wave motion, optics and electricity, for students with less than 60% in, or without OAC Physics.
Three lectures, one tutorial, one lab (three hours) every other week; two terms
Corequisite: MATH 1A03; SCIENCE 1A00
Antirequisite: PHYSICS 1A06, 1C06

PHYSICS 1E03 WAVES, ELECTRICITY AND MAGNETIC FIELDS
A course for engineering students. Statics, kinematics, Newtonian dynamics, energy.
Three lectures; one lab (three hours) every other week; one term
Prerequisite: Registration in Engineering I

PHYSICS 2A03 GENERAL PHYSICS II
A sequel to Physics 1B06. Electricity and magnetism with an emphasis on applications to chemistry.
Three lectures; one term
Prerequisite: One of PHYSICS 1A06, 1B06, 1C06, and one of MATH 1A03, 1A06, 1AA6, 1C06, ARTS & SCI 1D06
Antirequisite: PHYSICS 2B06

PHYSICS 2B06 ELECTRICITY AND MAGNETISM
Electrodynamics, D.C. and A.C. circuits, the magnetic field; Faraday’s law of induction; Maxwell’s equations.
Three lectures, first term; two lectures, second term; one lab (three hours) every other week; two terms
Prerequisite: One of PHYSICS 1A06, 1B06, 1C06
Corequisite: MATH 2A03 and either 2C03 or 2D03
Antirequisite: PHYSICS 2A03

PHYSICS 2C03 SPECIAL RELATIVITY AND PARTICLE PHYSICS
Lorentz transformations, relativistic kinematics, collisions; an introduction to ideas of modern particle physics, fundamental interactions and the building blocks of matter.
Three lectures, first term
Prerequisite: Registration in an Honours programme in Physics or a programme in Engineering Physics or Honours Mathematics

PHYSICS 2D03 MECHANICS
Dynamics of a particle, central field problem, many-particle systems, the mechanics of rigid bodies, Lagrange’s equations.
Three lectures, second term
Prerequisite: Registration in an Honours programme in Physics or a programme in Engineering Physics or Honours Mathematics
Antirequisite: PHYSICS 2G03

PHYSICS 2G03 MECHANICS OF A PARTICLE
Vectorial treatment of the mechanics of a particle in three dimensions. Special Relativity.
Two lectures, one tutorial; one term
Prerequisite: One of PHYSICS 1A06, 1B06, 1C06 and credit or registration in one of MATH 2C03, 2D03, 2N03
Antirequisite: PHYSICS 2D03

PHYSICS 2H03 THERMAL PHYSICS
Introduction to heat and the kinetic theory of gases.
Three lectures, one lab (three hours); one term
Prerequisite: One of PHYSICS 1A06, 1B06, 1C06 and one of MATH 1AA3, 1A06, 1AA6, 1C06, ARTS & SCI 1D06
Antirequisite: CHEM 2P06, 2R03

PHYSICS 2J03 PHYSICS OF MUSICAL SOUND
Sound waves, production of sound by musical instruments; properties of the ear, mucosal scales and intervals; auditorium acoustics.
Three lectures with demonstrations; one term
Prerequisite: Registration in Level II, III or IV of a non-science programme.
Knowledge of Grade 12 Mathematics would be helpful.

PHYSICS 2M03 MECHANICS
An introduction to mechanics including kinematics, dynamics, and rotational dynamics.
Three lectures, one tutorial; one term
Prerequisite: One of PHYSICS 1A06, 1B06, 1C06
Cross list: GEOLOGY 2103

PHYSICS 2N03 RELATIVITY
An introduction to general relativity.
Three lectures; one term
Prerequisite: PHYSICS 2C03 and registration in any Honours programme in Science or any programme in the Faculty of Engineering
Offered in alternate years.
Offered in 1996-97.

PHYSICS 2P06 ELECTRONICS
Network theory and filters, semiconductor devices, amplifier circuits, D.C. power supplies, integrated circuits, operational amplifier circuits and digital circuits.
Two lectures, both terms; one lab (two hours); two terms
Prerequisite: PHYSICS 2B06 or both ENG PHYS 2A03 and 2E04

PHYSICS 3A03 ANALYTICAL MECHANICS
Stability theory; Lagrange’s equations, conservative Hamiltonian systems; transformation theory and action angle variables; perturbation theory, resonances; non-integrable systems and chaos.
Three lectures; one term
Prerequisite: Credit or registration in, MATH 3C03 and registration in any Honours programme in Science or any programme in the Faculty of Engineering; or registration in Honours Mathematics and Physics; or permission of the instructor
Offered in alternate years.
Offered in 1997-98.

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 3003.

PHYSICS 3H02 INTERMEDIATE LABORATORY (CO-OP I)
A continuation of PHYSICS 3H02.
One lab (three hours); one term
Prerequisite: PHYSICS 3H02.
PHYSICS 3I01  SEMINAR I
Preparation and presentation of report on first work term.
One seminar (one hour); first term
Prerequisite: Registration in Level IV of Honours Medical and Health
Physics Co-op

PHYSICS 3K04  THERMODYNAMICS AND STATISTICAL
MECHANICS
The laws of thermodynamics, with emphasis on the mathematical structure
of the theory; classical and quantum statistical mechanics.
Two lectures; two terms
Prerequisite: PHYSICS 2H03 and one of MATH 2A03, 2A06, 2G03 and one
of MATH 2C03, 2C03, or registration in Honours Chemistry and Physics
Antirequisite: CHEM 4Y03

PHYSICS 3M03  QUANTUM MECHANICS AND ITS APPLICATIONS I
An introductory course in quantum mechanics with applications to natural
phenomena.
Three lectures; one term
Prerequisite: PHYSICS 2B06 or ENG PHYS 2A03 and 2E04 or ENGINEER
2M04, and MATH 3C03 or 3l03; or registration in Honours Mathematics and
Physics. MATH 3C03 or 3D03 may be taken concurrently.

PHYSICS 3M03  QUANTUM MECHANICS AND ITS APPLICATIONS II
A continuation of PHYSICS 3M03.
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,
2Q03, 2P04; and either PHYSICS 2B06 or both ENG PHYS 2A03 and 2E04

PHYSICS 3O03  MODERN PHYSICS
Phenomenological basis for quantum physics, topics from atomic and
photon physics; wave phenomena; Schrödinger equation for one dimen­sional
systems.
Three lectures; one term
Prerequisite: PHYSICS 2A03 or 2B06
Not open to students with credit or registration in PHYSICS 3M03.

PHYSICS 3P03  INTRODUCTORY QUANTUM MECHANICS
Operator algebra. The Schrödinger equation. The square well, harmonic
oscillator, barriers, perturbations, transition matrix elements, and selected
three dimensional problems.
Three lectures; one term
Prerequisite: PHYSICS 3C03 and MATH 3C03
Not open to students with credit or registration in PHYSICS 3M03.

PHYSICS 3Q03  COMPUTATIONAL MEDICAL PHYSICS
A problem-introductory course in computational methods in medical physics.
Three lectures; one term
Prerequisite: Registration in Level III of Honours Medical and Health Physics
or Level III or IV of Honours Medical and Health Co-op

PHYSICS 3T03  RADIOACTIVITY AND RADIATION INTERACTIONS
Radioactivity and radiation 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, 1C06 or permission of the instructor.
Cross-list: BIOLOGY 3L03

PHYSICS 4A02  SPECIAL TOPICS
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
Antirequisite: PHYSICS 4A02

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 4D06  DIGITAL LOGIC AND COMPUTER SYSTEMS
The design and use of digital logic systems and their application to data
acquisition and control techniques. The project-oriented laboratory involves
both hardware and software.
Two lectures, one lab (three hours); two terms
Prerequisite: PHYSICS 2B06, or ENG PHYS 2A03 and 2E04
Antirequisite: COMP ENG 3H03, PHYSICS 4D03, 4D03

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 IV 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, and MATH 3D03; or registration in Honours
Mathematics and Physics

PHYSICS 4I01  SEMINAR II
Preparation and presentation of report on second work term.
One seminar (one hour); second term
Prerequisite: Registration in Level IV of Honours Medical and Health Physics
Co-op

PHYSICS 4J04  ADVANCED LABORATORY
Projects in atomic, nuclear and solid state physics. Three or four projects are
required, one of which may be associated with a faculty research programme.
One lab (three hours); two terms
Prerequisite: Registration in a programme in which PHYSICS 4J04 is
required or is a specified option; or permission of the Chair of the Department

PHYSICS 4K03  SOLID STATE PHYSICS
Crystal structure and bonding; 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 4L04  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 8.0 and permission of the Chair of the Department

PHYSICS 4M01  RADIATION AND RADIOISOTOPE METHODOLOGY
Lectures and laboratory work in the techniques and theory of the
measurement of radiation. Topics include radioactivity and radioactive
decay, solid state dosimetry, principles of radioactive detectors, counting
statistics and data reduction, advanced multidetector systems.
One lecture, one lab (three hours) every other week; two terms
Prerequisite: Registration in Level IV of an Honours Medical and Health
Physics programme or permission of the instructor
Antirequisite: PHYSICS 4R03, 4R04

PHYSICS 4N03  INTRODUCTION TO MEDICAL PHYSICS
Basic concepts in radiology, nuclear medicine, radiotherapy, physiological
measurements and laser applications.
Three lectures; one term
Prerequisite: One of MATH 2A03, 2A06, 2G03, 2Q04 and one of MATH
2C03, 2C03, 2P04; and either PHYSICS 3T03 or ENG PHYS 3D03

PHYSICS 4P03  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, 2A06, 2G03, 2Q04 and one of MATH
2C03, 2C03, 2P04; and either PHYSICS 3T03 or ENG PHYS 3D03

PHYSICS 4Q03  MATHEMATICAL PHYSICS II
Functions of a complex variable, probability and statistics, boundary value
problems, Bessel functions.
Three lectures; one term
Prerequisite: Mathematics 3C03
Antirequisite: MATH 3J04, 3K03, 3V06
Not open to students with registration in Honours Mathematics and Physics.
POLITICAL SCIENCE

Faculty as of January 15, 1996

Chair
Kim Richard Nossal

Professors Emeriti
Adam Bromke/M.A. (St. Andrews), Ph.D. (Montreal and McGill)
Marshall N. Goldstein/B.A. (Florida), Ph.D. (North Carolina)
Gordon P. Means/B.A. (Reed College), M.A., Ph.D. (Washington)
Derry Novak/B.A. (Toronto)
Peter J. Potichnyj/B.A. (Temple), M.A., Ph.D. (Columbia)
Klaus H. Pringsheim/B.A. (California, Los Angeles), M.A. (Columbia)

Professors
Michael M. Atkinson/B.A. (Alberta), M.A., Ph.D. (Carleton)
William M. Chandler/B.A. (Cornell), Ph.D. (North Carolina)
William D. Coleman/B.A. (Carleton), A.M., Ph.D. (Chicago)
Henry J. Jacek/B.S.S. (Fairfield), M.A., Ph.D. (Georgetown)
Thomas J. Lewis/B.A. (Carleton), M.A., Ph.D. (SUNY, Buffalo)
Kim Richard Nossal/B.A., M.A., Ph.D. (Toronto)
Mark Sproule-Jones/B.Sc. (London), M.A., Ph.D. (Indiana)/V.K. Copps Chair in Urban Studies
Michael B. Stein/B.A. (McGill), M.A., Ph.D. (Princeton)
Richard W. Stubbs/B.Sc. (Wales), M.A. (Lancaster), Ph.D. (Alberta)

Associate Professors
Janet Azenstat/B.A. (Toronto), M.A. (McMaster), Ph.D. (Toronto)
Howard Acker/B.A. (McGill), M.A. (Yale), Ph.D. (London)
George B. Breckenridge/M.A. (Glasgow and Duke), Ph.D. (Duke)
Barbara A. Carroll/B.A. (Manitoba), M.A. (Carleton), Ph.D. (American)
Stefania Szek Miller/M.A. (McMaster), Ph.D. (Toronto)
John W. Seaman/B.A. (Mount Allison), M.A. (Dalhousie), Ph.D. (Toronto)
Charlotte A. B. Yates/B.A. (Winnipeg), M.A. (Queen's), Ph.D. (Carleton)

Assistant Professors
Niall B. Galleguillo/B.A. (Chile), M.A., Ph.D. (Toronto)
Tony Porter/B.A. (McGill), M.A., Ph.D. (Carleton)
Donald M. Wells/B.A. (Western), M.A. (British Columbia), Ph.D. (Toronto)

Lecturer
Karen Bird/B.A. (Wilfrid Laurier)

Department Notes:
1. Political Science 1A06 is divided into a number of sections taught by different instructors. Course descriptions for the different sections of Political Science 1A06 are available from the Department of Political Science (Kenneth Taylor Hall, Room 527)
2. The Department of Political Science offers courses in four main areas: Canadian Politics, Comparative Politics, Political Theory, and International Politics. The courses are grouped as follows:
   - Canadian Politics:
     - POL SCI 2G06, 3C03, 3D06, 3EE3, 3F03, 3FF3, 3GG3, 3HH3, 3II3, 3JJ3, 3NN6, 3Z06, 4CC3, 4K06, 4006, 4P03, 4S06, 4W06
   - Comparative Politics:
     - POL SCI 2B06, 2K06, 2M06, 2P06, 3D06, 3F03, 3GG3, 3II3, 3JJ3, 3K06, 3L03, 3M06, 3P06, 3PP3, 3QQ3, 3RR3, 3SV3, 3VV3, 3W03, 3WW3, 3XX3, 3Y06, 3YY3, 4AA6, 4C06, 4F06, 4G06, 4I06, 4P03, 4Q06
   - Political Theory:
     - POL SCI 2006, 3A06, 3I06, 3O06, 3R03, 4BB6, 4DD6, 4E06, 4S06, 4U06
   - International Politics:
     - POL SCI 2E06, 3AA3, 3BB3, 3EE3, 3E03, 3FF3, 3F06, 4F06, 4MM6
   - The remaining courses are grouped as follows:
     - Canadian Politics: POL SCI 3N06, 4H03
     - Other: POL SCI 1A06, 3U03, 4Z06
3. Not every Political Science course listed in this Calendar is offered every year. Students should consult the Department after April 1st for the list of courses that will be offered in the following academic year.
4. All students are encouraged to seek advice from members of the Department in developing a programme of study. All Honours students are strongly advised to discuss their programme with an Undergraduate Advisor to ensure that it meets Departmental requirements.
5. Students should be alerted to those Level II courses that are required to qualify for a number of Level III and Level IV courses. Students who wish to enter courses but who lack the necessary prerequisites must obtain the permission of the instructor.
6. POL SCI 2F06 or 3N06 and 2006 are required for students enrolled in Honours Political Science programmes, and recommended for students in B.A. programmes.
7. Level III courses identified as Enrolment is limited have a limit of 50 students; priority will be given to Political Science students. With the exception of 4Z06, enrolment in all Level IV courses is limited. In courses cross-listed in the Graduate Calendar (4BB6, 4E06, 4Q06), 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 in order to students in the following categories: Level IV Honours and Combined Honours Political Science; Continuing Students who are in Level IV; Level III Honours Political Science programmes; B.A. in Political Science; Others. All students including part-time degree students, are urged to consult the Department Office (Kenneth Taylor Hall, Room 527) no later than May 1, regarding balloting for the following academic year. Permission from the Department will be required to complete registration in Level IV limited-enrolment courses.

Courses

POL SCI 1A06 INTRODUCTION TO POLITICAL SCIENCE
An introduction to various areas of political science, including theories and systems.
Antirequisite: POL SCI 1B03 and 1C03
See Department Note 1.

POL SCI 2B06 POLITICS IN THE U.S.A.
A study of the development, nature, and functioning of the political system of the U.S.A.
Three hours (lectures); two terms

POL SCI 2E06 INTERNATIONAL POLITICS
A study of the institutions and processes of the international political system.
Three hours (lectures and tutorials); two terms

POL SCI 2G06 POLITICS IN CANADA
A study of the development, nature and functioning of the political system of Canada.
Three hours (lectures and tutorials); two terms
POL SCI 2006  POLITICAL THEORY
An introduction to modes of thinking theoretically about politics, expressed in political philosophy, ethical theory, history of political thought, political science, and structuralism.
Three hours (lectures); two terms

POL SCI 3A06  HISTORY OF POLITICAL IDEAS
A study of the political ideas of some eminent thinkers from classical times to the 19th century.
Three lectures; two terms
Prerequisite: POL SCI 2006; or permission of the instructor
Enrolment is limited. Priority is given to students in a Political Science programme.

POL SCI 3A03  INTERNATIONAL POLITICS IN THE POSTWAR PERIOD
A survey of international relations from 1945 focusing on the various approaches to international politics.
Three hours (lectures and seminars); one term

POL SCI 3C03  GOVERNMENT AND POLITICS OF INDIGENOUS PEOPLES
An historical examination of the leadership and politics in Canada's indigenous communities, with a particular focus on pre-contact political structures, the Indian Act and its consequences, and contemporary social questions.
Three hours (lectures and discussion); one term
Prerequisite: POL SCI 2G06
Enrolment is limited. Priority is given to students in a Political Science programme.

POL SCI 3D03  POLITICS OF Restructuring: THE STATE AND THE ECONOMY
An examination of the politics of economic restructuring in selected industrialized countries during the past decade; major issues include privatization, labour policies, and trade agreements.
Three hours (lectures and discussion); one term
Prerequisite: A course in Political Science above Level I
Enrolment is limited. Priority is given to students in a Political Science programme.

POL SCI 3D06  POLITICAL PARTICIPATION AND ELITIST POLITICS IN CANADA
An analysis of the impact of social structure, ideology, and political culture on structures of political participation and elitist politics in Canada.
Three hours (lectures and seminars); two terms
Prerequisite: POL SCI 2G06
Enrolment is limited. Priority is given to students in a Political Science programme.

POL SCI 3E03  THE POLITICS OF INTERNATIONAL ECONOMIC ORGANIZATIONS
An analysis of the structure, function and politics of the principal multilateral organizations governing the postwar international economy.
Three lectures; one term
Prerequisite: POL SCI 2E06
Enrolment is limited. Priority is given to students in a Political Science programme.

POL SCI 3E03  INTERNATIONAL RELATIONS: NORTH-SOUTH
An examination of recent North-South relations concentrating on such issues as commodity trade, protectionism, the debt crisis and negotiations over a new international economic order.
Three hours (lectures and seminars); one term
Prerequisite: POL SCI 2E06
Enrolment is limited. Priority is given to students in a Political Science programme.

POL SCI 3F03  CONTEMPORARY SOCIAL MOVEMENTS
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 (lectures and seminars); one term
Prerequisite: A course in Political Science above Level I
Enrolment is limited. Priority is given to students in a Political Science programme.

POL SCI 3F03  CANADIAN FOREIGN POLICY
An analysis of recent issues in Canada's external relations designed to indicate themes, problems and constraints in the making and execution of foreign policy in Canada.
Three hours (lectures and seminars); one term
Prerequisite: A Political Science course above Level I
Enrolment is limited. Priority is given to students in a Political Science programme.

POL SCI 3G03  POLITICS OF FEDERALISM
An analysis of the constitutional framework, evolution, and structure of the federal system in Canada and/or other Western countries.
Three hours (lectures and seminars); one term
Prerequisite: A course in Political Science above Level I
Enrolment is limited. Priority is given to students in a Political Science programme.

POL SCI 3I03  TOPICS IN AMERICAN POLITICS
The study of a central component of the U.S. political system.
Three hours (lectures and seminars); one term
Prerequisite: A previous course in political science. Priority will be given to students who have completed POL SCI 2G06.
Enrolment is limited. Priority is given to students in a Political Science programme.

POL SCI 3I03  ELECTIONS AND ELECTORAL BEHAVIOUR IN CANADA
A study of the development, nature and functioning of the electoral process in Canada and the basis of voters' decisions.
Three hours (lectures and seminars); one term
Prerequisite: POL SCI 2G06
Enrolment is limited. Priority is given to students in a Political Science programme.

POL SCI 3J06  COMMUNICATIONS AND POLITICS
An examination of the impact of the media and culture on contemporary politics.
Three hours (lectures and seminars); two terms
Prerequisite: A previous course in Political Science
Enrolment is limited. Priority is given to students in a Political Science programme.

POL SCI 3J33  PROVINCIAL POLITICS IN CANADA
A study of the development, nature and functioning of the political systems of the Canadian provinces.
Three hours (lectures and seminars); one term
Prerequisite: POL SCI 2G06
Enrolment is limited. Priority is given to students in a Political Science programme.

POL SCI 3K06  POLITICS OF THE SOVIET UNION AND ITS SUCCESSOR STATES
The study of the development and functions of the Soviet political system and its successor states, with concentration on Belarus, Russia and Ukraine, and a comparison with the Baltic states, Central Asia, and Transcaucasia.
Three lectures; two terms
Antirequisite: POL SCI 2K06
Enrolment is limited. Priority is given to students in a Political Science programme.

POL SCI 3L03  THE AMERICAN PRESIDENCY
An examination of the office of the American presidency and the ideological and institutional environment within which it functions.
Three hours (lectures and seminars); one term
Prerequisite: A previous course in political science. Priority will be given to students who have completed POL SCI 2G06.
Not open to students with credit in POL SCI 3I03 if the topic was The American Presidency.
Enrolment is limited. Priority is given to students in a Political Science programme.

POL SCI 3M06  POLITICS OF EASTERN EUROPE
An analysis of the political structures, institutions and processes of East European political systems, with emphasis on Poland, the Czech Republic and Slovakia.
Three hours (lectures and seminars); two terms
Prerequisite: A course in Political Science above Level I
Enrolment is limited. Priority is given to students in a Political Science programme.
POL SCI 3N06 RESEARCH METHODS, STATISTICS AND POLITICAL ANALYSIS
An introduction to the study of concept and theory formation, and an overview of the scope, research methods and statistical techniques of political science.
Three hours (lectures and tutorials); two terms
Prerequisite: POL SCI 1A06 or POL SCI 1B03 and 1C03
Antirequisite: POL SCI 2P06
See Department Note 6.

POL SCI 3N06 PUBLIC LAW
A study of the nature and function of public law, with special reference to constitutional law and judicial behaviour.
Three hours (lectures and seminars); two terms
Prerequisite: POL SCI 2G06
Enrolment is limited. Priority is given to students in a Political Science programme.

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 lectures; two terms
Prerequisite: POL SCI 1C06 or PHILOS 1B06; or permission of the instructor
Enrolment is limited. Priority is given to students in a Political Science programme.

POL SCI 3P33 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 (lectures and seminars); one term
Prerequisite: A course in Political Science above Level I
Enrolment is limited. Priority is given to students in programmes in Political Science and/or German Studies.

POL SCI 3Q33 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 (lectures and seminars); one term
Prerequisite: A course in Political Science above Level I
Enrolment is limited. Priority is given to students in a Political Science programme.

POL SCI 3R33 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 (lectures and seminars); one term
Prerequisite: A course in Political Science above Level I
Enrolment is limited. Priority is given to students in a Political Science programme.

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 (lectures and discussion); one term
Prerequisite: A course in Political Science above Level I
Enrolment is limited. Priority is given to students in a Political Science programme.

POL SCI 3U33 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 (lectures and seminars); one term
Prerequisite: A course in Political Science above Level I or HISTORY 2N06 Offered in alternate years.
Enrolment is limited. Priority is given to students in a Political Science programme.

POL SCI 3W33 ISSUES IN COMPARATIVE POLITICS
An examination of emerging theoretical and substantive issues in a comparative context.
Three hours (lectures and seminars); one term
Prerequisite: A course in Political Science above Level I
Enrolment is limited. Priority is given to students in a Political Science programme.

POL SCI 3X03 POLITICS AND SOCIETY IN AFRICA
An examination of the problems of democratic institutions in Sub-Saharan Africa.
Three hours (lectures and discussion); one term
Prerequisite: A course in Political Science above Level I
Enrolment is limited. Priority is given to students in a Political Science programme.

POL SCI 3X33 POLITICS OF THE THIRD WORLD
An examination of major theoretical approaches to the study of development and underdevelopment, such as modernization, politics of order, dependency and modes of production.
Three hours (lectures and discussion); one term
Prerequisite: A course in Political Science above Level I
Enrolment is limited. Priority is given to students in a Political Science programme.

POL SCI 3Y33 ISSUES IN PUBLIC POLICY
An examination of emerging theoretical and substantive issues in the field of public policy studies.
Three hours (lectures and seminars); one term
Prerequisite: A course in Political Science above Level I
Enrolment is limited. Priority is given to students in a Political Science programme.

POL SCI 3Z06 PUBLIC ADMINISTRATION
An examination of the role of public administration in seeking collective solutions to common problems at all levels of government in Canada.
Three hours (lectures and seminars); two terms
Prerequisite: POL SCI 2G06, and one other Political Science course above Level I
Enrolment is limited. Priority is given to students in a Political Science programme.

POL SCI 4AA6 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: POL SCI 2B06 or 3103 and registration in Level IV of any programme.
Students wishing to register in this course must seek the permission of the Department.
Enrolment is limited.

POL SCI 4BB6 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, and a course in Political Theory. Students wishing to register in this course must seek the permission of the Department.
Enrolment 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
Prerequisite: Registration in Level IV of any programme, and a course in Political Theory. Students wishing to register in this course must seek permission of the Department.
Enrolment is limited.

POL SCI 4E06 ISSUES IN LIBERAL-DEMOCRATIC THEORY
An analysis of liberal and liberal-democratic approaches to a select issue, such as justice, religion, education, political authority or community.
Three hours (seminar); two terms
Prerequisite: Registration in Level IV of any programme, and a course in Political Theory. Students wishing to register in this course must seek the permission of the Department.
Not open to students with credit in POL SCI 4U06 in 1995/96.
Enrolment is limited.

POL SCI 4F08 HUMAN RIGHTS: INTERNATIONAL AND NATIONAL
An examination of the concept of human rights as reflected in international and national declarations and practices.
Three hours (seminar); two terms
Prerequisite: Six units of International Relations, and six units of Comparative Politics. Students wishing to register in this course must seek the permission of the Department.
Enrolment is limited.

POL SCI 4G06 COMPARATIVE PUBLIC POLICY
A critical analysis of the formation, content and impact of public policy within advanced industrial societies.
Three hours (seminar); two terms
Prerequisite: Six units of Comparative Politics. Students wishing to register in this course must seek the permission of the Department.
Enrolment is limited.
POL SCI 4H03 ADVANCED STATISTICAL ANALYSIS
An outline of advanced levels of measurement and descriptive statistics, and a study of the logic of statistical inference and its applications.
Three hours (lectures and labs); one term.
Prerequisite: POL SCI 3N06. Open only to Level IV students. Students wishing to register in this course must seek the permission of the Department.
Antirequisite: SOCIOL 4203
Enrolment is limited.

POL SCI 4J06 COMPARATIVE POLITICS: EVOLUTION OF SOVIET TYPE SYSTEMS
A comparative analysis of the political ideologies, institutions and practices of former communist political systems.
Three hours (seminar); two terms
Prerequisite: Six units of Comparative Politics. Students wishing to register in this course must seek the permission of the Department.
Enrolment is limited.

POL SCI 4K06 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 3206; open only to Level IV students. Students wishing to register in this course must seek the permission of the Department.
Offered in alternate years.
Enrolment 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: Registration in Level IV of any programme, and a course in International Relations. Students wishing to register in this course must seek the permission of the Department.
Enrolment is limited.

POL SCI 4N06 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: POL SCI 2G06. Open only to Level IV students. Students wishing to register in this course must seek the 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: POL SCI 2G06. Open only to Level IV students. Students wishing to register in this course must seek the permission of the Department.
Enrolment is limited.

POL SCI 4Q06 POLITICS AND SOCIETY IN LATIN AMERICA
An examination of Latin America's longstanding hegemonic crisis and corresponding ideologies such as populism, corporatism, and authoritarianism.
Three hours (seminar); two terms
Prerequisite: POL SCI 3XX3. Students wishing to register in this course must seek the permission of the Department.
Enrolment is limited.

POL SCI 4R06 CANADIAN POLITICAL THEORY
An investigation into the character of Canadian liberalism and the various ideologies such as populism, corporatism, and authoritarianism.
Three hours (seminar); two terms
Prerequisite: Two courses from Political Theory, Canadian Politics, or Philosophy. Students wishing to register in this course must seek the permission of the Department.
Enrolment is limited.

POL SCI 4S06 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. Students wishing to register in this course must seek the permission of the Department.
Enrolment is limited.

POL SCI 4W06 QUEBEC POLITICS
The political ideology of Quebec-based parties and movements, the impact of industrialization upon Quebec culture, and the economic implications of separatism.
Three hours (seminar); two terms
Prerequisite: POL SCI 2G06. Students wishing to register in this course must seek the 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.
Three hours (seminar); two terms
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.

PORTUGUESE

Courses in Portuguese are administered within the Department of Modern Languages, Faculty of Humanities.

Courses If no prerequisite is listed, the course is open.

PORTUGUESE 1206 BEGINNER'S INTENSIVE PORTUGUESE
A course designed to cover the rudiments of the language as used in Portugal and Brazil in both written and oral forms.
Four hours (including lab practice); two terms
Students with prior knowledge of the language as determined by a placement test may be required to take an appropriate alternative.

PORTUGUESE 1207 INTERMEDIATE PORTUGUESE
A course designed to further a student’s command of the language in its oral and written forms. There will be some review of basic grammar, but emphasis will be on composition, expansion of vocabulary and more advanced aspects of the language.
Three hours; two terms
Prerequisite: PORTUGUESE 1206 or OAC Portuguese or permission of the Department

PSYCHOLOGY

Faculty as of January 15, 1996

Chair
Grant K. Smith

Professors Emeriti
D. William Carment/B.A., (Saskatchewan), M.A., Ph.D. (Toronto)
Herbert M. Jenkins/A.B., (Oberlin), Ph.D. (Harvard)
Alfred B. Kristofferson/B.S., M.A., Ph.D. (Michigan)

Professors
Lorraine G. Allan/B.A., M.A., Ph.D. (McMaster)
Ian M. Beeg/B.A., M.A., Ph.D. (Western)
Lee R. Brooks/A.B., (Columbia), M.S., Ph.D. (Brown)
Martice M. Clark/B.A., Ph.D. (McMaster)/part-time
Martin Dall/B.A., (Toronto), M.A., (McGill), Ph.D. (Toronto)
Denys de Catalano/B.A., M.A., (Carleton), Ph.D. (British Columbia)
Bennett G. Gace/A.B., (Princeton), M.A., Ph.D. (Pennsylvania)
Larry L. Jacoby/B.A., (Washington), M.A., Ph.D. (Southern Illinois)
Betty A. Levy/B.A., (Dalhousie), M.A., Ph.D. (Toronto)
Terry L. Lewis/B.A., (Toronto), Ph.D. (McMaster)/part-time
Stephen W. Link/B.A., Ph.D. (Columbia), M.S., Ph.D. (Stanford
Daphne M. Maurer/B.A., (Swanmore), M.A. (Pennsylvania), Ph.D. (Minnesota)
G. Rolfe Morrison/B.Sc., M.Sc. (McGill), Ph.D. (Brown)
John R. Platt/B.A., (Kansas), Ph.D. (Texas)
Roy M. Pritchard/B.Sc., Ph.D. (Reading)
Ronald J. Racine/B.Sc., (Oregen), M.Sc., Ph.D. (McGill)
Larry E. Roberts/B.A., Ph.D. (Minnesota)
Shepard Siegel/A.B., (New York), M.S., Ph.D. (Yale)
Grant K. Smith/B.Sc., Ph.D. (McGill)
Harvey Weingarten/B.Sc., (McGill), M.S., M.Phil., Ph.D. (Yale)

Associate Professors
Richard B. Day/B.A., (Massachusetts), M.A. (Iowa), Ph.D. (McMaster)
Bruce Millennium/B.A., Ph.D. (Waterloo)
Kathryn M. Murphy/B.A., (Western), M.A., Ph.D. (Dalhousie)

Assistant Professors
Sue Becker/B.A., M.Sc. (Queens), Ph.D. (Toronto)
James R. Blackburn/B.Sc., (McGill), M.A., Ph.D. (British Columbia)
Judith M. Shadlen/B.Sc. (Alberta), M.S., Ph.D. (Pittsburgh)
Laurel J. Trainer/ARCT (Royal Conservatory of Toronto), B.Mus., M.A., Ph.D. (Toronto)

230 PSYCHOLOGY
PSYCHOLOGY 231

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 1A06

PSYCH 2C03 NEUROPSYCHOLOGY I
Neural organization and the relationship between human brain function and behaviour.
Three lectures; one term
Prerequisite: PSYCH 1A06
Antirequisite: PSYCH 2W06, 3F03
Not open to students with credit or registration in PSYCH 2F03.

PSYCH 2R03 RESEARCH DESIGN AND STATISTICS FOR PSYCHOLOGISTS I
Statistical principles in the design and analysis of experiments in psychology. Parametric and non-parametric techniques for single sample and multi sample designs.
Three lectures; one term
Prerequisite: One of MATH 1A03, 1A06, 1A08, 1C03, 1C06 or MATH 1M03; a grade of at least C+ in PSYCH 1A06 and registration in a Psychology programme, B.Sc. Life Science or the Honours Science (Complementary Studies Option) programme
Antirequisite: PSYCH 2R06, STATS 2MA3, 2MB3 or 2R06
Not open to students with credit or registration in STATS 2D03.

PSYCH 2R3 RESEARCH DESIGN AND STATISTICS FOR PSYCHOLOGISTS II
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: PSYCH 2R03 and registration in a Psychology programme, B.Sc. Life Science, or the Honours Science (Complementary Studies Option) programme
Antirequisite: PSYCH 2R06, STATS 2MB3, 2R06
Not open to students with credit or registration in STATS 2D03.

PSYCH 2T03 PRINCIPLES OF CONDITIONING
An experimental survey of conditioning processes based on the study of animal behaviour.
Three lectures; one term
Prerequisite: PSYCH 1A06

PSYCH 2V03 CONTEMPORARY ISSUES IN EXPERIMENTAL PSYCHOLOGY
This course discusses selected topics chosen from cognitive psychology, perception, learning and animal behaviour, and neurobiology. We consider how our current understanding has evolved, and why viewpoints have changed.
Three lectures; one term
Prerequisite: Registration in Level II of an Honours Psychology programme, and a CA of 9.5 or greater

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 and registration in a Psychology programme, B.Sc. Life Science, or the Honours Science (Complementary Studies Option) programme

PSYCH 3B03 SPECIAL POPULATIONS
Selected topics in developmental disability, perceptual or cognitive handicap, or behavioural disorder.
Three lectures; one term
Prerequisite: PSYCH 2A03 or 3N03

PSYCH 3C06 SOCIAL PSYCHOLOGY LABORATORY
Students collect, analyse and interpret data, and in the second term carry out a research project of their own design.
Two lectures, one lab (three hours); two terms
Prerequisite: Registration in an Honours Psychology programme and PSYCH 2C03 and one of PSYCH 2R06, 2R33, STATS 2R06
Enrolment is limited. See heading Limited Enrolment Courses in the Faculty of Science section of the Calendar. Not offered in 1996-97.
PSYCH 3D03  SELECTED TOPICS IN SOCIAL PSYCHOLOGY
Study of research on attitudes and attitude change, or social influence, or dyadic relations.
Three lectures; one term
Prerequisite: PSYCH 2C03
Not offered in 1996-97.

PSYCH 3D3  PSYCHOLOGICAL ASPECTS OF AGING
An examination of the aspects of aging: sensation, perception, attention, memory, intelligence, communication, personality, attitudes and mental health.
Three hours (lectures and seminar); one term
Prerequisite: PSYCH 1A06, GERONTOLOGY 1A06 and registration in a Gerontology programme or a Psychology programme.
Cross-list: GERONTOLOGY 3D03.
-Students in a Psychology programme (except those in Gerontology and Psychology) must register for this course as PSYCH 3D3.

PSYCH 3E03  AUDITION LABORATORY
Experimental investigation of the role of auditory processes in the perception of music. The emphasis is on all phases of experimentation including 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 2R06, 2R3, 2R6.
Enrolment is limited. See 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 3F3.

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: 12 units of Level II Psychology including 2G03 or 2R03 and at least six units from PSYCH 2E03, 2F03, 2H03, 2T03 or 2V03.

PSYCH 3H03  INTELLECTUAL DEVELOPMENT AFTER INFANCY
The development of perception, memory, language and concepts after infancy.
Three lectures; one term
Prerequisite: PSYCH 3G03, and PSYCH 2G03, 2R06 or 2R03.

PSYCH 3I03  PRACTICA IN PSYCHOLOGY
Supervised laboratory and field placements will be arranged for a maximum of 16 students each year. The placements may vary from year to year, but will include cognitive, language, perceptual, memory, neuropsychological and 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 2R3; 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.
Enrolment is limited. See heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

PSYCH 3J03  NEUROPHYSIOLOGY OF VISION
Neuropsychological 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 statistical bases and assumptions of measurement, test validity and reliability and the measurement of human characteristics.
Three lectures; one term
Prerequisite: PSYCH 1A06, and one of PSYCH 2G03, 2R06, 2R03, Statistics 2R06. Students with grades less than B- in PSYCH 2G03 are advised not to enrol in this course.

PSYCH 3L03  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 2R3 and registration in an Honours Psychology programme.

PSYCH 3M03  MOTIVATION AND EMOTION
Theory and data concerning human and nonhuman motivation and emotion, drawn on perspectives from evolution, physiology, learning, and culture.
Three lectures; one term
Prerequisite: PSYCH 2F03, 2T03 or 2V03.

PSYCH 3N03  ABNORMAL PSYCHOLOGY I (FUNDAMENTALS)
Fundamentals of clinical psychology, including viewpoints on the nature of behavioral disorder, diagnostic systems, clinical judgement, and treatment approaches.
Three lectures; one term
Prerequisite: Six units from PSYCH 2E03, 2F03, 2H03, 2R03, 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 adaptation.
Three lectures; one term
Prerequisite: PSYCH 3N03.
Antirequisite: PSYCH 3N06.

PSYCH 3003  NEUROPSYCHOLOGY II
Three lectures; one term
Prerequisite: PSYCH 2003 or 2F03.
Antirequisite: PSYCH 2W06.

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: PSYCH 2H03 or 2V03 and PSYCH 2G03 or 2R03 (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 3Q02.

PSYCH 3Q03**  INDIVIDUAL LAB STUDY I
A laboratory project that may extend over both terms. Students intending to register must first consult a faculty member and the course coordinator.
Prerequisite: Permission of the course coordinator.
Antirequisite: PSYCH 3Q03.

PSYCH 3R03  INTRODUCTION TO ANIMAL BEHAVIOUR
The development, stimulus control, and function of behaviour as seen in evolutionary perspective, instinctive behaviour, learned behaviour, and their interactions.
Three lectures; one term
Prerequisite: Registration in a Psychology programme, B.Sc. Life Science, the Honours Science (Complementary Studies Option) programme, or in a four-year programme in Biochemistry or Biology.

PSYCH 3S03  ANIMAL BEHAVIOUR LABORATORY
Experiments involving a wide variety of animal species, both vertebrate and invertebrate.
One lab (three hours); one term
Prerequisite: Permission of the instructor which must be obtained by the end of March, and PSYCH 3R03, and registration in an Honours programme in Psychology or Biology.
Enrolment is limited. See heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

PSYCH 3T03  SOCIOBIOLOGY
Social behaviour of people and other animals from the perspective of evolutionary theory. Topics include aggression, altruism, kinship, parent-offspring interaction, sex and reproduction.
Three lectures; one term
Prerequisite: One of ANTHROP 2003, 2E03; BIOLOGY 2C03, 3J03, PSYCH 3R03.
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) programme

PSYCH 3U03 CHILDHOOD LANGUAGE DISORDERS
Research on disabilities in reading, writing, spelling, and speech during childhood will be discussed. A focus will be on the training implications for educational settings.
Three lectures; one term
Prerequisite: PSYCH 3U03

PSYCH 3V03 LABORATORY IN HUMAN MEMORY AND COGNITION
Experiments illustrating important issues in human memory and cognition. Problems in the design, analysis, and reporting of experiments will be emphasized. Individual projects required.
One lab (three hours); one term
Prerequisite: PSYCH 3V3, and PSYCH 2R06 or STATS 2R06, or credit or registration in PSYCH 2RR3 and registration in Level III or IV of an Honours Psychology programme.
Enrolment is limited. See heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

PSYCH 3V3 HUMAN MEMORY
Cognitive processes involved in encoding, storage and retrieval will be discussed in terms of current theories of memory and information processing.
Three lectures; one term
Prerequisite: PSYCH 2H03 or 2V03 and registration in Level III or IV of a Psychology programme, B.Sc. Life Science, or the Honours Science (Complementary Studies Option) 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.
Prerequisite: One of MATH 1A03, 1A06, 1AA6, 1C03, 1C06, 1N06 or ARTSASC 1DD6 and one of MATH 1B03 or 1H05 and one of COMP SCI 1MA3 or 1MC3
Cross-list: NEURCOMP 3W03

PSYCH 3W33 PSYCHOPHYSICS
The course reviews, discusses, and illustrates how psychological theories and experiments about discrimination, preference and choice, are crucial to the development of modern experimental psychology.
Three lectures; one term
Prerequisite: PSYCH 2E03 or 2V03 and PSYCH 2R06 or 2RR3

PSYCH 3Y03 SELECTED TOPICS IN BEHAVIOUR THEORY
Issues of contemporary interest in animal learning and behaviour will be examined in depth.
Three lectures; one term
Prerequisite: PSYCH 2T03 or 2V03 and registration in a Psychology programme, B.Sc. Life Science or the Honours Science (Complementary Studies Option) programme
PSYCH 3Y03 may be repeated, for a total of six units credit, if on a different topic and with permission of the instructor.
Not offered in 1998-97.

PSYCH 4A03 CONTEMPORARY TOPICS IN HISTORICAL PERSPECTIVE
Discussion of the background and current status of several issues of contemporary interest.
Three hours (lectures and seminar); one term
Prerequisite: Registration in Level IV Honours Psychology or Level IV Major Psychology with a CA of at least 6.0 and permission of the instructor.
See heading Courses Requiring Permission in the Faculty of Science section of the Calendar.

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 4D06 PSYCHOLOGY THESIS
Students conduct research projects with individual faculty members. Three copies of a completed thesis must be submitted 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 in March. If PSYCH 3Q03, 3Q03, 4Q03, or 4Q3 is taken concurrently with PSYCH 4D06, a different faculty member must supervise each course. (See Department Note 4.)
See heading Courses Requiring Permission in the Faculty of Science section of the Calendar.

PSYCH 4G03 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 IV of an Honours programme.
Enrolment is limited. See heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

PSYCH 4I03 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 (seminar); one term
Prerequisite: Registration in an Honours Psychology programme or an Honours B.Sc. programme

PSYCH 4Q03** INDIVIDUAL STUDY II
A library project that may extend over both terms. Students intending to register must first consult a faculty member and the course coordinator.
Prerequisite: Registration in Level IV of an Honours Psychology programme or Level IV Major Psychology with a CA of at least 6.0 and permission of the course coordinator.
Antirequisite: PSYCH 4Q03
See 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.
Antirequisite: PSYCH 4Q03
See 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.
Three hours (lecture and tutorial); one term
Prerequisite: BIOLOGY 3P03; or permission of the instructor. BIOLOGY 3H3 and one of BIOLOGY 3U03, PSYCH 2F03, 3FA3, 3FB3 and strongly recommended.
Offered in alternate years. Offered in 1996-97.

Note:
Two or more of the following seminars (PSYCH 4U03, 4U3, 4V03, 4V3) will be offered each year. Interested students should consult the department advisors in March of the preceding year.

PSYCH 4U03 SELECTED TOPICS IN BEHAVIOURAL NEUROSCIENCE
An advanced self-directed learning seminar on a selected topic in behavioural neuroscience, e.g., biological controls of eating, affect or learning.
Students may consult the Psychology Department in March to determine the specific content.
Three hours (seminar); one term
Prerequisite: Registration in Level IV Honours Psychology, Biology or Biology/Psychology
Antirequisite: PSYCH 4F03
Enrolment is limited. See heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.
PSYCH 4U03
SELECTION TOPICS IN COMPUTATIONAL NEUROSCIENCE
Contemporary literature on theoretical models of behaviour from the perspective of artificial life and computational neuroscience. Topics selected from collective intelligence, evolutionary computation, formal theory of computation, emergent computation.
Three hours (seminar); one term
Prerequisite: Registration in Level IV of an Honours Psychology programme Antirequisite: COMP SCI 3T3A
Not open to students with credit or registration in COMP SCI 4T3C
Enrolment is limited. See heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

PSYCH 4V03
SELECTED TOPICS IN HUMAN LEARNING, COGNITION AND PERCEPTION
A seminar on topics of current interest in human learning and cognition. Students should consult the Department concerning the topics to be examined.
Three hours (seminar); one term
Prerequisite: Registration in Level IV of an Honours Psychology programme Enrolment is limited. See heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

PSYCH 4V03
SELECTED TOPICS IN ANIMAL BEHAVIOUR
An advanced seminar focusing on one or a few contemporary research topics, such as hormonal influences on behavioural development; the role of parasites in behavioural evolution; game theoretical analyses of social phenomena; etc.
Three hours (seminar); one term
Prerequisite: Registration in Level IV of an Honours Psychology programme Enrolment is limited. See heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

RELIGIOUS STUDIES
Faculty as of January 15, 1996
Chair
Stephen R. Westerholm

Professors Emeriti
John G. Arapura/B.A. (Serampore College, and Bishop's College, Calcutta), S.T.M. (Union Theological Seminary), M.A., Ph.D. (Columbia)
A. Eugene Combs/B.A. (Trinity, San Antonio), M.Div. (Union Theological Seminary), Ph.D. (Columbia)
Yun-hwa Juan/M.A., Ph.D. (Viva-Bharati)
John G. Arapural/B.A. (Serampore), B.D. (Serampore College), S.T.M. (Union Theological Seminary), Ph.D. (Chicago), M.A., M.Div. (Union Theological Seminary)
Gérard Vallée/B.A. (Laval), M.A. (Montréal), Ph.D. (Münster)

Phyllis Granoff/B.A. (Radcliffe College), Ph.D. (Harvard)
Louis I. Greenspan/A.M. (Dalhousie), Ph.D. (Brandeis)
David R. Kinley/B.A., M.A. (Drew), B.D. (Union Theological Seminary), M.A., Ph.D. (Chicago)
Alan Mendelso/B.A. (Kenyon College), M.A. (Brandeis), Ph.D. (Chicago)
John C. Robertson/B.A. (Texas Wesleyan College), B.D. (Southern Methodist University), S.T.M., M.A., Ph.D. (Yale)
Koltchi Shinohara/B.L., M.L. (Tokyo), Ph.D. (Columbia)
Paul Younger/A.B. (LaFayette), M.A. (Banaras), B.D. (Serampore), Th.M., M.A., Ph.D. (Princeton)

Associate Professors
Ellen Badone/B.A., M.A. (Toronto), Ph.D. (California, Berkeley)
F. Travis Kroeker/B.A. (Winnipeg), M.A. (Manitoba), Ph.D. (Chicago)
Rosalind Lefebre/Ph.D. (Harvard), Ph.D. (Toronto) part-time
Adile Reinhartz/B.A. (Toronto), M.A., Ph.D. (McMaster)
Eileen Schuller/University of Alberta, M.A. (Toronto), Ph.D. (Harvard)
S.R. Westerholm/B.A., M.A. (Toronto), Th.L. (Lund)
Wayne K. Whillier/B.A. (Sir George Williams), Ph.D. (McMaster)

Assistant Professor
Peter Widdicombe/B.A. (Manitoba), M.Phil. (Oxford), M.Div. (Toronto), D.Phil. (Oxford)

Associate Member
Virginia Aksan/History B.A.(Allegheny College), MLS (Berkeley), M.A., Ph.D. (Toronto)

Department Notes:
Students are advised to consult both the Department Handbook and the Undergraduate Timetable for a list of the courses offered in the current year.

Fields of Study
The Department offers courses in four fields of study. Students are encouraged to specialize in any one of these fields. Level II, III and IV courses are allocated to the fields as follows:

I. ASIAN RELIGIONS
RELIG ST 2A03, 2J06, 2L03, 2P06, 2R03, 2T03, 2TT3, 3AA3, 3E03, 3H03, 3I03, 3L03, 3P03, 3S03, 3U03, 3UU3, 4F03, 4G03,
SANSKRIT 3A06, 4B06

II. BIBLICAL STUDIES
RELIG ST 2B03, 2D06, 2D33, 2E33, 2GG3, 2HH3, 2NN3, 2VV3, 2Y33, 2Z03, 3M03, 3N03, 3R03, 3T03, 4B03, 4C03;

III. WESTERN RELIGIOUS THOUGHT
RELIG ST 2C03, 2CC3, 2H03, 2I03, 2J33, 2KK3, 2K06, 2S06, 2U03, 2UL3, 2X03, 2XX3, 2Y03, 2ZZ3, 3D03, 3J13, 3K3, 3J33, 3L33, 3D33, 3N33, 3FY3, 3Z03, 3Z33, 4D03, 4E03

IV. CONTEMPORARY AND COMPARATIVE RELIGIONS
RELIG ST 2AA3, 2BB3, 2K03, 2M03, 2N03, 2O06, 2Q03, 2QQ3, 2SS3, 2V03, 2W03, 2W03, 3AA3, 3B03, 3J06, 3J33

Students wishing to specialize in Asian Religions should consider beginning language training in Sanskrit and/or Japanese early in their programme (see the calendar offerings listed under these headings). Students wishing to specialize in Biblical Studies should consider work in Greek (see offerings under Classics, Greek) and/or Hebrew.

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 1I06 RELIGIOUS THEMES IN MODERN LITERATURE
An introduction to religious themes, imagery and issues through a study of selected modern literature.
Two lectures, one tutorial; two terms

RELIG ST 2A03 THE CONFUCIAN TRADITION
A study of selected passages from early Confucian writings on education, government, family and human civilization (The Analects, Mencius, Xunzi); some attention will be given to the "new" reading of Confucian classics that "Neo-Confucian" scholars proposed to meet the challenge of Buddhism.
Two lectures, one tutorial; one term

RELIG ST 2A03 MYSTICISM IN HINDU AND CHRISTIAN TRADITIONS
An exploration of the unique and common characteristics of mysticism in the Hindu and Christian traditions, both in its philosophical and popular expression through the study of selected texts.
Two lectures, one tutorial; one term

RELIG ST 2B03 WOMEN IN THE BIBLICAL TRADITION
This course will focus on the portrayal of women in the Hebrew Scriptures and the New Testament. Among the texts to be dealt with are examples of biblical narrative and legal material, the gospels, the letters of Paul and extra-biblical material.
Two lectures, one tutorial; one term

RELIG ST 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 MORAL ISSUES
An introduction to moral philosophy accounting biomedical ethics. Issues such as abortion, human experimentation, euthanasia, and genetic screening will be investigated in cooperation with members of the Faculty of Health Sciences.
Two lectures, one tutorial; one term
Prerequisite: Registration in Level II and above
Cross-list: PHILOS 2D03
Enrollment is limited to 500 students.

RELIG ST 2CC3 SPIRITUAL AUTOBIOGRAPHIES
A study of the interplay of self and circumstance in the quest for personal identity in selected modern autobiographies: Rousseau, Goethe, Tolstoy, Merton and Well.
Two lectures, one tutorial; one term

RELIG ST 2DD3 THE FIVE BOOKS OF MOSES
An examination of selected texts from the Pentateuch and their significance for Ancient Israelite religion and modern thought.
Two lectures, one tutorial; one term
For a study of the whole Hebrew Bible, RELIG ST 2006, 2003, 2EE3, 3MO3 are recommended.

RELIG ST 2EE3 THE PROPHETS
The role and teaching of biblical prophets in their ancient setting and their impact on modern religious life and thought.
Two lectures, one tutorial; one term

RELIG ST 2FG3 EARLIEST PORTRAITS OF JESUS
Two lectures, one tutorial; one term

RELIG ST 2HH3 RELIGIOUS NON-VIOLENCE
An introduction to the history, theory and practice of non-violence, with attention to the relations between religious representations 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 2II3 CHRISTIANITY IN THE PATRIARCHIC PERIOD (100-800)
The development of Christianity in the first centuries C.E. in relation to competing alternatives such as Judaism, Graeco-Roman cults and philosophies.
Two lectures, one tutorial; one term

RELIG ST 2I66 INDIA: ITS CULTURE, SOCIAL HISTORY, RELIGION AND PHILOSOPHY
A systematic study of the intellectual and spiritual traditions of India. The course will include political, economic and social thought, as well as religion and philosophy.
Two lectures, one tutorial; two terms

RELIG ST 2J33 CHRISTIANITY IN THE MIDDLE AGES (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

RELIG ST 2K33 CHRISTIANITY IN THE REFORMATION PERIOD
The place of the Reformation in the development of Christian thought and practice -its background, context and sequences. Attention is given to such figures and movements as Martin Luther, John Calvin, the Anabaptists, the reformation in England, the Catholic Reformation.
Two lectures, one tutorial; one term

RELIG ST 2L03 LIFE, WORK AND TEACHINGS OF MAHATMA GANDHI
A study of the central religious and ethical ideas of Gandhi in the context of his life; in particular: his doctrines of Non-violent Struggle and Truth-act; his place in contemporary consciousness, particularly in the struggle for human harmony and preservation of the earth and its living species; and his revolutionary view of Truth itself as God.
Two lectures, one tutorial; one term

RELIG ST 2M03 DEATH AND DYING: COMPARATIVE VIEWS
A comparative survey of the diversity of social and ritual practices, religious beliefs, and emotional responses surrounding death in a variety of non-Western cultural contexts.
Two lectures, one tutorial; one term
Prerequisite: Registration in Level II and above

RELIG ST 2N3 DEATH AND DYING: THE WESTERN EXPERIENCE
Drawing on theoretical perspectives and evidence from anthropology and sociology, this course examines death and dying in Western contexts, focussing on biomedical, social and cultural themes.
Two lectures, one tutorial; one term
Prerequisite: Registration in Level II and above

RELIG ST 2P06 JAPANESE CIVILIZATION
Introduction to Japanese history, society, and culture through a study of the religious traditions, literature, and art of Japan.
Two lectures, one tutorial; two terms
Cross-list: JAPAN ST 2P06

RELIG ST 2P33 INTRODUCTION TO ISLAM
The origins and early history of Islam with an emphasis on the Koran and the early Muslim community.
Two lectures, one tutorial; one term

RELIG ST 2RR3 INTRODUCTION TO HINDU PHILOSOPHY
An introduction to the vast field of Hindu philosophy from the poetic writings of the Vedas to the development of speculative inquiry in the Upanisads. Primary emphasis is on Indian modes of inquiry and the typical answers bearing upon reality, life and the world.
Two lectures, one tutorial; one term

RELIG 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

RELIG ST 2T03 TOPICS IN INDIAN PHILOSOPHY
This course explores select themes in Indian philosophy through a reading of primary texts in English translation. Possible topics include: an examination of Indian concepts of the soul, free will and determinism, origins of the universe and Indian debates concerning the existence and function of an omnipotent god.
Two lectures, one tutorial; one term

RELIG ST 2TT3 TAOISM 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

RELIG ST 7U03 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

RELIG ST 7U3 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
RELIG ST 2V03 ISLAM AND THE MODERN WORLD
The spread of Islam, Isam as a minority community, the role of women in Islam and fundamentalism.
Two lectures, one tutorial; one term

RELIG ST 2V03 BIBLE AS STORY
An examination of narratives from the Hebrew Bible, Intertestamental literature, and New Testament, from a literary perspective. Attention is paid to narrative features such as character, plot, irony and symbolism, as well as to the dynamics of the reading experience.
Two lectures, one tutorial; one term
Cross-list: COMP LIT 2G03

RELIG ST 2W03 RELIGION AND ECOLOGY
Attitudes toward nature or the environment in Native, Asian and Western Religious Traditions; the underlying assumptions of our contemporary view of the natural world.
Two lectures, one tutorial; one term

RELIG ST 2W03 HEALTH, HEALING AND RELIGION
An examination of the different ways in which religion and health are related. Ideas of sickness and techniques of healing will be studied in a variety of traditional and modern religious contexts.
Two lectures, one tutorial; one term

RELIG ST 2Y03 RELIGION AND THE CULTURE OF THE TWENTIETH CENTURY
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

RELIG ST 2Y03 THE BIBLE AND POPULAR CULTURE
An examination of the impact of the Bible on popular culture in films, novels and songs. Among the issues to be discussed are the transformation of biblical images in popular media, and film as a vehicle for conveying religious values.
Two lectures, one tutorial; one term

RELIG ST 2Z03 GREEK AND ROMAN RELIGION
A study of the role of religion in Greek and Roman public and private life.
Three lectures; one term
Prerequisite: Registration in Level II and above
Cross-list: CLASSICS 2203

RELIG ST 2Z03 RELIGIOUS THEMES IN SHAKESPEARE
This course will study the presentation of religious controversies and the use of religious reference and symbolism in several of Shakespeare's plays.
Two lectures, one tutorial; one term

RELIG ST 3A03 SACRAL POETRY IN RELIGIOUS TRADITIONS
This course provides an in depth critical study in English translation of sacred poetry, from ancient, middle and modern sources, including scriptural texts, mystical writings and secular authors.
Two lectures, one tutorial; one term

RELIG 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

RELIG ST 3E03 JAPANESE RELIGION
Two lectures, one tutorial; one term
Cross-list: JAPANESE 3E03

RELIG ST 3F03 APPROACHES TO THE STUDY OF RELIGION
A study of the various ways religious phenomena can be studied, e.g. psychologically, sociologically, philosophically, theologically, comparatively, etc. Attention is also given to the history of the discipline of religious studies.
Two lectures, one tutorial; one term
Prerequisite: Six units of Religious Studies courses above Level I

RELIG ST 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

RELIG 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

RELIG 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 2U09 or permission of the instructor.
Antirequisite: RELIG ST 2I03

RELIG ST 3J06 RELIGION AND MODERN SOCIETY
An introduction to the thoughts and theories of scholars who have studied the relation between religion and society. In the first term, the emphasis will be on pre-World War II writings. In the second term, the empirical materials of the sociology of religion since World War II will be surveyed.
Two lectures, one tutorial; two terms
Prerequisite: Any course in Anthropology, Philosophy, Religious Studies or Sociology
Cross-list: SOCIOLO 3M06
Enrolment is limited.

RELIG ST 3K03 CHRISTIANITY IN THE MODERN PERIOD
Topics in Christianity (Catholic and Protestant) from the 17th to the 20th centuries. Attention is given to the interaction between secular and religious thought.
Two lectures, one tutorial; one term

RELIG ST 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 selflessness.
Two lectures, one tutorial; one term
Prerequisite: Registration in Level III and above
Cross-list: ART & SOCIETY 3L03

RELIG ST 3L03 RELIGION AND HUMAN NATURE
Concerning the uses of power, the desire for self-realization and happiness, mortality and varieties of spiritual transcendence. Readings in Hobbes, Marcel, Fromm, Frankl, William James and Elaide.
Two lectures, one tutorial; one term

RELIG ST 3M03 SONGS OF DAVID: POETRY IN THE HEBREW BIBLE
A study of poetry in the Hebrew Bible (in translation). The course will give primary attention to the study of the psalms. Some examples of early epic poetry and wisdom poetry will also be included.
Two lectures, one tutorial; one term

RELIG ST 3M03 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

RELIG ST 3N03 JOHN'S PORTRAIT OF JESUS
An examination of the Gospel of John, with emphasis on its historical background, its literary character and its distinctive theology. The history of the Johannine community will also be considered.
Two lectures, one tutorial; one term
Antirequisite: RELIG ST 2003

RELIG ST 3N03 THE ENCOUNTER OF SCIENCE AND RELIGION
A study of contemporary discussions of: (a) methods of inquiry in science and religion, (b) the human being's relation to nature and (c) God's relation to nature.
Two lectures, one tutorial; one term

RELIG ST 3P03 ESOTERIC BUDDHISM IN EAST ASIA
An examination of the doctrine, ritual, and art of Esoteric (Tantric) Buddhism in China and Japan. Emphasis will be on the teachings of Kukai (774-835) and the Japanese Shingon tradition.
Two lectures, one tutorial; one term
Prerequisite: Open; some prior study of Buddhism is recommended.
Cross-list: JAPANESE 3P03

RELIG ST 3P03 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 pre-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

RELIG ST 3Q03 PHILOLOGICAL PROBLEMS IN RELIGIOUS STUDIES
An examination of several aspects of the study of religious language, including (a) language and thought, (b) the role of language in religious thought and (c) the nature of religious language.
Two lectures, one tutorial; one term

RELIG ST 3R03 THE RANGE OF RELIGIOUS IDEAS
An examination of the nature of religious ideas and the diversity of religious thought, comparing and contrasting the religious traditions of the world, and examining the nature of religious diversity.
Two lectures, one tutorial; one term

RELIG ST 3S03 RELIGION AND SOCIETY
A study of the relationship between religion and society, with attention to the effects of religion on the structure and development of society.
Two lectures, one tutorial; one term

RELIG ST 3T03 RELIGION AND THE NATURE OF KNOWLEDGE
An examination of the nature of religious knowledge, including questions of the nature of religious beliefs, the role of reason in religious thought, and the nature of religious certainty.
Two lectures, one tutorial; one term

RELIG ST 3U03 RELIGIOUS IDEAS IN HISTORY
A study of the development of religious ideas and beliefs over time, examining the ways in which religious ideas have changed and have been transmitted from one generation to the next.
Two lectures, one tutorial; one term

RELIG ST 3V03 RELIGION AND LANGUAGE
An examination of the relationship between religion and language, including the role of language in religious thought and the nature of religious language.
Two lectures, one tutorial; one term

RELIG ST 3W03 RELIGION AND PHILOSOPHY
A study of the relationship between religion and philosophy, examining the ways in which religious ideas have been integrated with philosophical thought.
Two lectures, one tutorial; one term

RELIG ST 3X03 RELIGION AND SCIENCE
An examination of the relationship between religion and science, including questions of the nature of religious beliefs, the role of reason in religious thought, and the nature of religious certainty.
Two lectures, one tutorial; one term

RELIG ST 3Y03 RELIGION AND ART
A study of the relationship between religion and art, examining the ways in which religious ideas have been expressed through art.
Two lectures, one tutorial; one term

RELIG ST 3Z03 RELIGION AND MUSIC
An examination of the relationship between religion and music, including the role of music in religious thought and the nature of religious musical performance.
Two lectures, one tutorial; one term

RELIG ST 3A04 RELIGION AND THE NATURE OF THE SACRED
A study of the nature of the sacred, including questions of the nature of religious beliefs, the role of reason in religious thought, and the nature of religious certainty.
Two lectures, one tutorial; one term

RELIG ST 3B04 RELIGION AND THE NATURE OF THE GOOD
A study of the nature of the good, including questions of the nature of religious beliefs, the role of reason in religious thought, and the nature of religious certainty.
Two lectures, one tutorial; one term
RELIG ST 3503 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 3503

RELIG ST 3703 THE QUEST FOR THE HISTORICAL JESUS
A look at the continuing scholarly effort to reconstruct the career and teaching of the historical Jesus.
Two lectures, one tutorial; one term

RELIG ST 3U03 THE BUDDHIST TRADITION IN INDIA
A study of the origins and early development of Indian Buddhism, largely through readings in Buddhist scripture (pre-Mahayana and Mahayana) in translation.
Two lectures, one tutorial; one term

RELIG ST 3U3 CH'AN AND ZEN BUDDHISM
An examination of Ch'an and Zen Buddhist myth, history, doctrine, monastic culture, and ritual practice.
Two lectures, one tutorial; one term
Cross-list: JAPAN ST 3U3

RELIG 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

RELIG ST 3203 JUDAISM, THE JEWISH PEOPLE AND THE BIRTH OF THE MODERN WORLD
On the lures and threats of the modern world from the early eighteenth to the early twentieth 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 3203

RELIG ST 3223 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 2X03
Cross-list: HISTORY 3223

RELIG ST 4A06 HONOURS SEMINAR
A seminar in selected topics in the study of religion, including a presentation and discussion of research conducted by students in the Honours Research Course (4J06).
Seminar (three hours); two terms
Prerequisite: Registration in Level IV Honours Religious Studies

RELIG ST 4B03 ADVANCED SEMINARS IN EARLY JUDAISM
This seminar will concentrate on the study of special topics in Early Judaism.
One term
Prerequisite: Registration in Level IV Honors programme in Religious Studies and written permission of the instructor

RELIG ST 4C03 ADVANCED SEMINAR IN EARLY CHRISTIANITY
This seminar will concentrate on the study of special topics in Christianity.
One term
Prerequisite: Registration in Level IV of an honours programme in Religious Studies and written permission of the instructor

RELIG ST 4D03 ADVANCED SEMINAR IN WESTERN RELIGIOUS THOUGHT
This seminar will concentrate on the study of special topics in Western Religious Thought.
One term
Prerequisite: Registration in Level IV of an honours programme in Religious Studies and written permission of the instructor

RELIG ST 4E03 ADVANCED SEMINAR IN RELIGION AND POLITICS
This seminar will concentrate on the study of special topics in Religion and Politics.
One term
Prerequisite: Registration in Level IV of an honours programme in Religious Studies and written permission of the instructor

RELIG ST 4F03 ADVANCED SEMINAR IN EAST ASIAN RELIGIONS
This seminar will concentrate on the study of special topics in East Asian Religions.
One term
Prerequisite: Registration in Level IV of an honours programme in Religious Studies and written permission of the instructor

RELIG ST 4G03 ADVANCED SEMINAR IN SOUTH ASIAN RELIGIONS
This seminar will concentrate on the study of special topics in South Asian religions.
One term
Prerequisite: Registration in Level IV of an honours programme in Religious Studies and written permission of the instructor

RELIG ST 4J06 HONOURS RESEARCH COURSE
Students in this course will work closely with faculty members who specialize in the fields in which they plan to write their honours essay.
Two terms
Prerequisite: Registration in Level IV Honours Religious Studies

RELIG ST 4W06 GUIDED READING IN RELIGIOUS STUDIES
Independent study on a topic approved by the instructor.
Two terms
Prerequisite: Registration in Level IV Honours programme in Religious Studies and permission of the instructor

Judaism, the Jewish People and the Birth of the Modern World
On the lures and threats of the modern world from the early eighteenth to the early twentieth 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 3203

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. 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
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
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
Antirequisite: HEBREW 3B03, 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

Japanese...

See separate listing in the Calendar.
RUSSIAN

Courses and programmes in Russian are administered within the Department of Modern Languages of the Faculty of Humanities.

Department Note:
Students should note that the Department has classified its Russian language courses under the following categories:

- Introductory Level Language Course
  - RUSSIAN 1206
- Intermediate Level Language Course
  - RUSSIAN 2C06
- Advanced Level Language Courses
  - RUSSIAN 3C06, 4C06

Courses

RUSSIAN 1206 BEGINNER'S INTENSIVE RUSSIAN
An intensive beginner's course designed for students with no prior knowledge of the language. This course gives the student a basic knowledge of Russian grammar, while emphasizing spoken Russian. The course is enhanced by a CALL (Computer-Aided Language Learning) module. Four hours (including lab practice); two terms
Enrolment is limited.
Prerequisite: RUSSIAN 1Z06

RUSSIAN 2C06 INTERMEDIATE LANGUAGE STUDY
Intermediate Russian will continue the study of Russian grammar for both the conversational and written language. Emphasis will be on extending skills for conversation, reading and writing. Video film and interactive computer software will be used to supplement traditional printed materials.
Four hours; two terms
Prerequisite: RUSSIAN 1206

RUSSIAN 3C06 ADVANCED LANGUAGE STUDY
This course is designed to enhance the student's oral and written proficiency through the study of Russian idioms, exercises in syntax, and conversational classes based on selected texts and films.
Four hours; two terms
Prerequisite: RUSSIAN 2C06

RUSSIAN 4C06 CONVERSATION AND ADVANCED COMPOSITION
An advanced language course focusing on the structure of compound and complex sentences, and on the development of writing and oral skills.
Three lectures; two terms
Prerequisite: RUSSIAN 3C06

RUSSIAN 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.
Tutorials; one term
Prerequisite: 18 units of Russian above Level I and permission of the Department

RUSSIAN 4T03 TOPICS IN RUSSIAN LITERATURE I
Previous topics include: 19th-Century Lyric Poetry, 20th-Century Short Story, 19th-Century Drama. Consult the Department concerning topic to be offered.
Seminar (two hours); one term
Prerequisite: RUSSIAN 2C06

RUSSIAN 4T03 may be repeated, if on a different topic, to a total of six units. Offered in alternate years.

RUSSIAN 4T33 TOPICS IN RUSSIAN LITERATURE II
Previous topics include: Soviet Plays of the 1920's. Consult the Department concerning topic to be offered.
Seminar (two hours); one term
Prerequisite: RUSSIAN 2C06

RUSSIAN 4T33 may be repeated, if on a different topic, to a total of six units. Offered in alternate years.

SANSKRIT

(SEE RELIGIOUS STUDIES, SANSKRIT)

SCIENCE

With the exception of SCIENCE 1A03, 4A03 and 4I03, 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 offered by Department. They are:

- BIOLOGY 1J03 Human Physiology
- CHEM 1C03 General Chemistry
- COMP SCI 1S1A3 Computing Fundamentals
- GEOLOGY 1C03 Earth Processes
- PHYSICS 2J03 Mechanics
- PHYSICS 2M03 Physics of Musical Sound
- STATS 1A03 Statistical Reasoning
- STATS 1L03 Probability and Linear Algebra
- STATS 2A03 Advanced Statistical Reasoning

Courses

SCIENCE 1A03 WHMIS, HEALTH AND SAFETY
Introduction to safety guidelines at McMaster University, acceptable safety conduct and positive safety attitudes and practices in laboratories and Workplace Hazardous Materials Information System (WHMIS). Evaluation: one multiple choice examination graded Pass or Fail; students who fail will be required to attend the course again during the same academic year.

SCIENCE 1A10 ANTIREQUISITE: ENVI R SC 1A06, GEOG 3C03

SCIENCE 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 any non-science programme.

SCIENCE 2A03 THE NATURE OF MATTER
A survey of the molecular basis of life; the current revolution in biology caused by recombinant DNA technology and its implications for the future.

SCIENCE 2H03 THE MOLECULAR BASIS OF LIFE
An introduction to the principles of human genetics and evolutionary biology, the adaptation of organisms to their environment, biological diversity and integrated ecosystems.

SCIENCE 2K03 HEREDITY, EVOLUTION AND THE ENVIRONMENT
An introduction to human genetics and evolutionary biology, the adaptation of organisms to their environment, biological diversity and integrated ecosystems.

SCIENCE 2L03 ENVIRONMENTAL GEOLOGY
Geological methods applied to the study of environmental problems. A case study of: pollution of water resources, nuclear waste disposal, indoor radon, acid mine drainage, leakage from garbage dumps.

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SCIENCE 2L03 ENVIRONMENTAL GEOLOGY
Geological methods applied to the study of environmental problems. A case study of: pollution of water resources, nuclear waste disposal, indoor radon, acid mine drainage, leakage from garbage dumps.
SCIENCE 3A03 SCIENCE AND LAW
How science has affected, and been influenced by the law: science of memory and abuse cases; new scientific technologies (e.g. forensic anthropology, DNA profiling) in the courts; legal issues and the conduct of scientific research.
Lectures and seminars (three hours); one term
Prerequisite: Permission of the instructor.
Not open to students registered in Level I or II.
Not open to students registered in a Science or Engineering programme.
Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.
Offered in 1996-97.

SCIENCE 3B03 THE NATURAL SCIENCE AND SOCIAL SCIENCE OF FOOD
Scientific and social scientific approaches to food and nutrition: Biological functions and control of eating; the food habits of our human ancestors; the relationship between social change and nutritional advice.
Lectures and seminars (three hours); one term
Prerequisite: Permission of the instructor.
Not open to students registered in Level I or II.
Not open to students registered in a Science or Engineering programme.
Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.
Offered in 1996-97.

SCIENCE 4I03 INQUIRY: 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: Enrolment in an Honours (Complementary Studies Option) programme in the Faculty of Science. One of Physics 1A06, 1B06, 1C06 is recommended.
Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

SCIENCE 4J03 INQUIRY: 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: Registration in an Honours (Complementary Studies Option) programme in the Faculty of Science.
Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

SOCIAL SCIENCE

Courses
If no prerequisite is listed, the course is open.

SOC SCI 2B06 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) ethnic genocide (Armenians, Jews, Gypsies), (2) politicide (the Ukraine, Cambodia), (3) ethnicicide 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
Topic for 1996-97: 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
May be repeated if on a different topic for a total of six units.

SOC SCI 2F03 SELECTED TOPICS IN INTERDISCIPLINARY STUDIES II
Topic for 1996-97: 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
May be repeated if on a different topic for a total of six units.

SOCIAL WORK
Faculty as of January 15, 1996

Director.
J. McEwan Macintyre

Professors Emeriti
Cyril Greensand/M.Sc. (North Wales), Ph.D. (Birmingham)
Harry L. Penny/Dip. Theol. (Union College, British Columbia), B.A., M.S.W. (British Columbia)

Professors
Michael J. MacLean/B.A. (St. Thomas), M.A. (Sussex), 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 Cain/B.S.W., M.S.W., Ph.D. (McGill)
James W. Gladstone/B.A. (McGill), M.S.W. (British Columbia), Ph.D. (Toronto)
Nora Gordon/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)

Social Work 239

SOC SCI 2E03 SELECTED TOPICS IN INTERDISCIPLINARY STUDIES I
Topic for 1996-97: Canadian Children
This course deals with a spectrum of issues related to Canadian children 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
May be repeated if on a different topic for a total of six units.

SOC SCI 3A03 SCIENCE AND LAW
How science has affected, and been influenced by the law: science of memory and abuse cases; new scientific technologies (e.g. forensic anthropology, DNA profiling) in the courts; legal issues and the conduct of scientific research.
Lectures and seminars (three hours); one term
Prerequisite: Permission of the instructor.
Not open to students registered in Level I or II.
Not open to students registered in a Science or Engineering programme.
Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.
Offered in 1996-97.

SCIENCE 3B03 THE NATURAL SCIENCE AND SOCIAL SCIENCE OF FOOD
Scientific and social scientific approaches to food and nutrition: Biological functions and control of eating; the food habits of our human ancestors; the relationship between social change and nutritional advice.
Lectures and seminars (three hours); one term
Prerequisite: Permission of the instructor.
Not open to students registered in Level I or II.
Not open to students registered in a Science or Engineering programme.
Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.
Offered in 1996-97.

SCIENCE 4I03 INQUIRY: 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: Enrolment in an Honours (Complementary Studies Option) programme in the Faculty of Science. One of Physics 1A06, 1B06, 1C06 is recommended.
Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

SCIENCE 4J03 INQUIRY: 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: Registration in an Honours (Complementary Studies Option) programme in the Faculty of Science.
Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.
Department Notes:

1. The following courses may be taken for elective credit by qualified students registered in any university programme; however, enrolment in these courses is limited and permission of the department is required. 
   - SOC WORK 3C03 Social Aspects of Health & Disease
   - SOC WORK 3G03 Social Welfare Policy and Process
   - SOC WORK 3H03 Justice and Social Welfare
   - SOC WORK 4B03 Adult Family Violence
   - SOC WORK 4C03 Racism & Social Marginalization in Canadian Society
   - SOC WORK 4E03 Women and Social Welfare
   - SOC WORK 4F03 Social Change and Social Welfare Policy
   - SOC WORK 4K03 Concentrated Studies in Social Welfare Policy
   - SOC WORK 4M03 International and Comparative Social Welfare
   - SOC WORK 4R03 Special Topics in Social Welfare Policy

2. Registration in all courses marked * listed as selected topics, independent research, individual readings and honours essays requires written permission of the Department. Registration with appropriate permission must be completed by all students, including those registered in the combined B.A./B.S.W. or B.S.W. programmes, no later than the last day for registration as stated in the Calendar under Sessional Dates.

Courses

SOC WORK 1A06 INTRODUCTION TO SOCIAL WORK
General introduction to the values, perspectives, ideologies, settings and methods of social work within the broad field of social welfare. This course combines a practical and theoretical orientation to the field.
Lectures and discussions; two terms
Prerequisite: Open

SOC WORK 2B06 SOCIAL WELFARE: GENERAL INTRODUCTION
Purposes and values of social welfare programmes and services. Social welfare policy and the social security system in Canada in historical perspective.
Lectures and discussions; two terms
Term 1 of this course is the same as LABR ST 2B03 and Term 2 is the same as LABR ST 2B03. Students in a Social Work programme must register for this course as SOC WORK 2B06.

SOC WORK 2C03 INTRODUCTION TO SOCIAL WORK PRACTICE
Knowledge base; social work values, fields of practice and types of intervention.
Lectures, films, discussions, small task-groups; one term
Antirequisite: SOC WORK 2C06

SOC WORK 2D03 INTERPERSONAL COMMUNICATION AND INTERVIEWING
Theories of interpersonal communication. Basic skills in interpersonal communication and interviewing.
Lectures, discussions, exercises; one term
Prerequisite: Permission of the School of Social Work is required.
Antirequisite: SOC WORK 2C06
Enrolment is limited.

SOC WORK 2E03 SOCIAL ASPECTS OF HEALTH AND DISEASE
Exploration of the meaning of health and sickness in our society. Organization and delivery of health care. Consideration of ethical and other issues.
Lectures, discussion and selective use of community resources; one term
Prerequisite: Permission of the School of Social Work is required by all students.
This course may be taken as elective credit by undergraduates not in Social Work.
Enrolment is limited.

SOC WORK 3D06 GENERAL SOCIAL WORK I
Social work intervention processes; interviewing; development of basic skills in formation of relationships with individuals, families, groups and communities.
Seminars, workshops; two terms
Option of equivalent summer block in combination with SOC WORK 3D06 (summer). Priority for summer block given to B.S.W. students.
Prerequisite: SOC WORK 2B06, 2C03, 2D03, PSYCH 2A03, and registration in SOC WORK 2D06
Antirequisite: SOC WORK 3D09
Credit in this course is dependent on achieving a minimum grade of C+ in SOC WORK 2D06 and a "Pass" in SOC WORK 3D06
Enrolment is limited.

SOC WORK 3D06 FIELD PRACTICUM I
Field practicum to develop basic intervention and interviewing skills, particularly in the formation of relationships with individuals, families, groups and communities. Students participate in defining learning goals and experiences.
Field experience equivalent to 10 hours per week; two terms
Option of equivalent summer block placement in combination with SOC WORK 3D06 taken in the summer. Priority for summer block given to B.S.W. students.
Prerequisite: Registration in SOC WORK 3D06. This course is evaluated on a “Pass/Fail” basis.
Credit in this course is dependent on receiving a “Pass” in SOC WORK 3D06 and a minimum grade of C+ in SOC WORK 3D06.
Enrolment is limited.

SOC WORK 3G03 SOCIAL WELFARE POLICY AND PROCESS
Role of values and assumptions in the development of welfare policies. Analysis of key concepts in policy planning. Study of policy and programmes in selected areas.
Lectures and seminars; one term
Prerequisite: Permission of the School of Social Work is required by all students.
This course may be taken as elective credit by undergraduates not in Social Work.
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 social change. Study of selected issues and review of administrative discretion.
Seminars; one term
Prerequisite: Permission of the School of Social Work is required by all students.
This course may be taken as elective credit by undergraduates not in Social Work.
Enrolment is limited.

SOC WORK 3P03 CONCENTRATED STUDIES IN SOCIAL WORK PRACTICE
Completion of a major project focusing on a selected social work problem or issue.
Tutorials; two terms
Prerequisite: Permission of the supervising instructor and course coordinator

SOC WORK 3R03 SOCIAL WORK WITH GROUPS
This course will provide a theoretical knowledge of group practice models for social work within an historical and didactic social work framework.
Lectures, discussions and tutorials; one term
Enrolment is limited.

SOC WORK 4A03 SOCIAL POLICY AND THE AGING POPULATION
Critical examination of the social and economic implications of the aging population and the nature of social welfare policy with respect to elderly people.
Three hours (seminar); one term
Prerequisite: Enrollment in the B.A./B.S.W. or B.S.W. programme and permission of the School of Social Work.
Cross-list: GERONTOL 4S03
Enrolment is limited.

SOC WORK 4B03 ADULT FAMILY VIOLENCE
To assist students in acquiring knowledge and perspectives concerning social policy issues pertaining to adult violence with emphasis on violence against women.
Prerequisite: Permission of the School of Social Work is required by all students.
This course may be taken as elective credit by undergraduates not in Social Work.
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
Prerequisite: Permission of the School of Social Work is required by all students. This course may be taken as elective credit by undergraduates not in Social Work.
Not open to students with credit or registration in SOC WORK 4Z03, SELECTED ISSUES IN SOCIAL WELFARE POLICY, if the issue was Racial and Cultural Issues in Canadian Welfare.
Enrolment is limited.

SOC WORK 4D06 GENERAL SOCIAL WORK II
Seminar to deepen understanding and further develop practice skills.
Two terms
Option of equivalent block placement in combination with SOC WORK 4D06
Prerequisite: SOC WORK 3D06, 3D06 and registration in SOC WORK 4D06
Antirequisite: SOC WORK 4D12
Credit in this course is dependent on achieving a minimum grade of C+ in SOC WORK 4D06 and a “Pass” in SOC WORK 4D06. 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” in SOC WORK 4D06 and a minimum grade of C+ in SOC WORK 4D06. Enrolment is limited.

SOC WORK 4E03+ WOMEN AND SOCIAL WELFARE
Critical examination of the responses of the welfare state to women, in particular its support of women’s dependency within families and positioning as unpaid and paid providers of care.
Seminars; one term
Prerequisite: Permission of the School of Social Work is required by all students. This course may be taken as elective credit by undergraduates not in Social Work.
Not open to students with credit in SOC WORK 4Z03, SELECTED ISSUES in Social Welfare Policy, if the issue was Women and Social Welfare. Enrolment is limited.

SOC WORK 4G03+ SELECTED SOCIAL ISSUES AND SOCIAL WORK PRACTICE
Critical examination of social work practice in respect to selected social issues. Topics will vary from year to year and the School should be consulted for details for any particular year.
Seminars; one term
Prerequisite: Permission of the School of Social Work is required by all students. This course may be taken as elective credit by undergraduates not in Social Work.
Enrolment is limited.

SOC WORK 4J03+ SOCIAL CHANGE AND SOCIAL WELFARE
Critical examination of the meaning of social change as a concept and event. Review of strategies of social change and of attempts to effect social change.
Seminars; one term
Prerequisite: Permission of the School of Social Work is required by all students. This course may be taken as elective credit by undergraduates not in Social Work.
Enrolment is limited.

SOC WORK 4K03+ CONCENTRATED STUDIES IN SOCIAL WELFARE POLICY
Independent study of a particular issue of interest in social welfare, and completion of a major essay or project.
Discussion and tutorials; two terms
Prerequisite: Permission of the School of Social Work is required by all students. This course may be taken as elective credit by undergraduates not in Social Work.
Enrolment is limited.

SOC WORK 4M03+ INTERNATIONAL AND COMPARATIVE SOCIAL WELFARE
Comparative perspective on problems of social structures in shaping social welfare institutions. Scope and limits of international collaboration.
Seminars; one term
Prerequisite: Permission of the School of Social Work is required by all students. This course may be taken as elective credit by undergraduates not in Social Work.
Enrolment is limited.

SOC WORK 4N03 COMMUNITY WORK
Analysis of major community work strategies, historical antecedents, current developments and future potential in Canada. Student participation in the analysis of a community project is expected.
Seminars; one term
Prerequisite: Registration or credit in SOC WORK 3D06 and 3D06, or 3D09; or permission of the instructor

SOC WORK 4P03 PROFESSIONAL ISSUES
A seminar focusing on the status, roles and values of the professional social worker in contemporary society.
Seminars; one term
Prerequisite: Registration or credit in SOC WORK 3D06 and 3D06, or 3D09

SOC WORK 4T03 SOCIAL WORK PRACTICE WITH WOMEN
Study of feminist and non-sexist social work practice (with individuals, groups and the community) and implications for women of selected social policies.
Seminars; one term

SOC WORK 4W03 CHILD WELFARE
This course analyzes the Canadian child welfare system, its policies and programmes and teaches skills for working with children, families and substitute caregivers.
Lectures, discussions, skills development; one term
Prerequisite: SOC WORK 241 or permission of the School of Social Work

SOC WORK 4Y03 METHODS OF APPLIED SOCIAL RESEARCH
Examination of the conceptual framework of scientific inquiry relating to social work research and practice. Survey of selected research from other disciplines relevant to social work.
Seminars; one term
Antirequisite: SOC WORK 3K03

SOC WORK 4Z03 SPECIAL TOPICS IN SOCIAL WELFARE POLICY
Critical examination of social welfare policy in respect to selected social issues.
Topics will vary from year to year and the School should be consulted for details for any year.
Seminars; one term
Prerequisite: Permission of the School of Social Work is required by all students. This course may be taken as elective credit by undergraduates not in Social Work.
This course may be repeated if on a different topic. Enrolment is limited.

SOCIOLOGY
Faculty as of January 15, 1996
Chair
Cyril Levitt
Professors Emeriti
Peter C. Pineo/B.A. (University of British Columbia), M.A. (McGill), Ph.D. (Chicago)

Professors
W. Peter Archibald/B.A. (Mt. Allison), M.A. (University of British Columbia), Ph.D. (University of Michigan)
Carl J. Cuneo/B.A., M.A., Ph.D. (Waterloo)
John Fox/B.A., M.A., Ph.D. (Michigan)
Jack W. Haas/B.S. (SUNY, Brockport), Ph.D. (Syracuse)
Rhoda E. Howard/B.A., M.A., Ph.D. (McGill) F.R.S.C.
Cyril H. Levitt/B.A., M.A. (Waterloo), Ph.D. (Freie Universität, Berlin)
D. Ralph L. Matthews/B.A. (Memorial), M.A., Ph.D. (Minnesota)
Carolyn Rosenthal/B.A. (Toronto), M.A., Ph.D. (McMaster)
William B. Shaffir/B.A., M.A., Ph.D. (McGill)
Vivienne Walters/B.A., M.A. (Sheffield), Ph.D. (McGill)
SOCIOL2013 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: SOCIOL1A06

SOCIOL2P06 THE SOCIOLOGY OF EDUCATION
A comprehensive analysis of educational institutions in modern society.
Three hours (lectures and discussion); two terms
Prerequisite: SOCIOL1A06

SOCIOL2R03 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 approaches.
Three hours (lectures and discussion); one term
Prerequisite: SOCIOL1A06
Antirequisite: SOCIOL2P06

SOCIOL2R03 EMPIRICAL STUDIES OF CLASS AND STRATIFICATION
This course will introduce the student to empirical studies of social inequality. Depending on the year, the focus will be on class, status, power and elites, income, education, region, age, gender, and race/ethnicity.
Three hours (lectures and discussion); two terms
Prerequisite: SOCIOL1A06

SOCIOL2U05 INTRODUCTION TO SOCIOLOGICAL THEORY
An introduction to the foundations, rise and development of sociological theory.
Three hours (lectures and discussion); two terms
Prerequisite: SOCIOL1A06 and registration in any programme in Sociology
Antirequisites: SOCIOL1A06, SOCIOL2R03 or 3A06

SOCIOL2U06 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: SOCIOL1A06
Enrollment is limited.

SOCIOL2V05 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: SOCIOL1A06

SOCIOL2X03 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.
One term
Prerequisite: Registration in Level II and above
Cross-list: ENGLISH 3803

SOCIOL2Y03 INTRODUCTION TO QUANTITATIVE STUDIES
The course is designed to develop those skills necessary to understand and evaluate research studies in sociology using quantitative methods. Descriptive statistics and basic inferential techniques will be examined.
Three hours (lectures and discussion); one term
Prerequisite: Registration in any programme in Sociology; or Honours Anthropology; or Labour Studies; or Social Work
Not open to students with credit or registration in a Statistics course.
Enrollment is limited.
SOCIOL 2203 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
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 2906
Antirequisite: SOCIOL 3A03
Enrolment is limited.

SOCIOL 3A04 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.

SOCIOL 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.

SOCIOL 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: SOCIOL 2U06 or registration in a Combined Honours in Sociology and Gerontology
Alternates with SOCIOL 3D03.
Offered in 1996-97
Enrolment is limited.

SOCIOL 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: SOCIOL 2U06
Alternates with SOCIOL 3CC3.
Not offered in 1996-97.
Enrolment is limited.

SOCIOL 3D03 SPORT AND SOCIAL DEVELOPMENT
Macro-analysis of sport and culture, considering the place of sport and leisure in cultural transmission and change.
Three hours (lectures and discussion); one term
Prerequisite: Permission of the instructor
Cross-list: KINESIOL 3P03

SOCIOL 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: SOCIOL 1A06 and SOCIOL 2Q06
Enrolment is limited.

SOCIOL 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 (lectures and discussion); one term
Prerequisite: Permission of the instructor
Cross-list: KINESIOL 3Q03

SOCIOL 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: SOCIOL 1A06
Enrolment is limited.

SOCIOL 3G03 SOCIOLOGY OF HEALTH CARE
Selected issues concerning forms of providing health care.
Three hours (lectures and discussion); one term
Prerequisite: SOCIOL 1A06
Enrolment is limited.

SOCIOL 3G03 SPECIAL TOPICS IN THE SOCIOLOGY OF DEVIANCE
An advanced course allowing detailed study of selected topics in the Sociology of Deviance. Topics will vary from year to year.
Three hours (lectures and discussion); one term
Prerequisite: SOCIOL 2C06
Enrolment is limited.

SOCIOL 3H06 RESEARCH TECHNIQUES AND DATA ANALYSIS
A comprehensive introduction to the principles of research methods 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; SOCIOL 2Y03; all STATS courses except 1903, 2903, 3S03, 3U03, 4H03
Enrolment is limited.

SOCIOL 3H03 SOCIOLOGY OF HEALTH
Sociological approaches to the study of health and illness.
Three hours (lectures and discussion); one term
Prerequisite: SOCIOL 1A06
Antirequisite: SOCIOL 3G03, 1986/87 or 1987/88
Enrolment is limited.

SOCIOL 3I03 SURVEY METHODS
Examination of methods for incorporating survey data into sociological argument and research.
Three hours (seminar and discussion); one term
Prerequisite: 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, SOCIOL 3003 or SOCIOL 3W03.

SOCIOL 3J03 SPECIAL TOPICS IN SOCIOLOGICAL ANALYSIS I
An examination of selected topics of contemporary interest to sociologists. Students should consult the Department concerning the topics to be examined.
Three hours (lectures and discussion); one term
Prerequisite: SOCIOL 1A06
May be repeated, if on a different topic.
Enrolment is limited.

SOCIOL 3J03 SPECIAL TOPICS IN SOCIOLOGICAL ANALYSIS II
Same as SOCIOL 3J03.
Three hours (lectures and discussion); one term
Prerequisite: SOCIOL 1A06
May be repeated, if on a different topic.
Enrolment is limited.

SOCIOL 3L03 SELECTED TOPICS IN OCCUPATIONAL SOCIOLOGY
An advanced course allowing detailed study of one or more topics of special interest.
Three hours (lectures and discussion); one term
Prerequisite: SOCIOL 1A06
Enrolment is limited.

SOCIOL 3L03 SOCIOLOGY OF WORK AND LABOUR MARKETS
A consideration of the manner in which labour markets are structured and how they influence the access that people have to employment.
Three hours (lectures and discussion); one term
Prerequisite: SOCIOL 1A06
Enrolment is limited.

SOCIOL 3M06 RELIGION AND MODERN SOCIETY
An introduction to the thoughts and theories of scholars who have studied the relationship between religion and society. In the first term, the emphasis will be on pre-World War II writings. In the second term, the empirical materials of the sociology of religion since World War II will be surveyed.
Three hours (lecture and discussion); two terms
Prerequisite: Any course in Anthropology, Philosophy, Religious Studies or Sociology
Cross-list: RELIG ST 3J06
Enrolment is limited.
SOCIOLOGY

SOCIO 3N03 THE SOCIOLOGY OF KNOWLEDGE AND CULTURE
An analysis of the origins, development and functions of ideas, images, and other cultural representations through which knowledge about society, its institutions and practices is formed, distributed and used.
Three hours (lectures and discussion); one term
Prerequisite: SOCIO 1A06
Enrolment is limited.

SOCIO 3Q03 ADVANCED SOCIOLOGICAL RESEARCH
This course will provide a detailed study of selected qualitative methods in Sociology.
Three hours (lectures and discussion); one term
Prerequisite: Registration is restricted to 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 SOCIO 3W03.

SOCIO 3P03 AMERICAN SOCIOLOGICAL THEORY
An advanced examination of classical and contemporary American sociological theory.
Three hours (lectures and discussion); one term
Prerequisite: SOCIO 2S06
Alternates with SOCIO 3PP3.
Not offered in 1996-97.

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 progeny and critics.
Three hours (lectures and discussion); one term
Prerequisite: SOCIO 2S06
Alternates with SOCIO 3P03.
Offered in 1996-97.

SOCIO 3S03 CREATIVITY AND HUMAN INTERACTION
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: ENGL 3F03

SOCIO 3T03 THE SOCIOLOGY OF URBAN AREAS
Sociological analysis of urban structure and development, and the social consequences of urbanization.
Three hours (lectures and discussion); one term
Prerequisite: SOCIO 1A06
Enrolment is limited.

SOCIO 3W03 HISTORICAL METHODS IN SOCIOLOGY
An examination of methods for incorporating historical data and archival sources into sociological argument.
Three hours (seminar); one term
Prerequisite: Registration is restricted to Honours Sociology
Enrolment is limited. However, the Department of Sociology guarantees that all Third- and Fourth-year Honours Sociology students will have access to either this course, SOCIO 3I03 or SOCIO 3W03.

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: SOCIO 1A06
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 SOCIO 2I03.
Three hours (lecture and discussion); one term
Prerequisite: SOCIO 1A06, SOCIO 2I03 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: SOCIO 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 4B06 FIELD STUDY METHODOLOGY
This course provides students 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 4D03 CRITIQUES OF SOCIOLOGICAL THEORY
A discussion of various sociological and non-sociological critiques of sociological theory.
Three hours (seminar); one term
Prerequisite: SOCIO 2S06; 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: SOCIO 2C06; registration in Level IV Honours Sociology. Students wishing to register in this course must seek the permission of the Department.
Enrolment is limited.

SOCIO 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: SOCIO 2I03; registration in Level IV Honours Sociology. Students wishing to register in this course must seek the permission of the Department.
Enrolment is limited.

SOCIO 4I03 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. May be repeated, if on a different topic.
Enrolment is limited.
SOCIO 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. Enrolment is limited.

SOCIO 4L03  SPECIAL TOPICS IN THE SOCIOLOGY OF RELIGION
This course will focus on the central concerns of the sociology of religion: secularization, sectarianism, new religions and secular ideologies among others; which are central to an understanding of the fragmentation of modern societies. However, specific emphases may vary from year to year.
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 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.

SOCIO 4M06  DIRECTED RESEARCH FOR HONOURS STUDENTS
Directed study of a research problem through published material and/or field inquiry and/or data analysis. Students will be required to write up the results of their inquiry in scholarly form.
Two terms
Prerequisite: Registration in Level IV Honours Sociology. Students wishing to register in this course must seek the permission of the Department.

SOCIO 4N03  DIRECTED RESEARCH II FOR HONOURS STUDENTS
Same as SOCIO 4M03.
One term
Prerequisite: Registration in Level IV Honours Sociology

SOCIO 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.

SOCIO 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.

SOCIO 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.

SOCIO 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.

SOCIO 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.

SOCIO 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.

SOCIO 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.

SOCIO 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.

SOCIO 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.

SOCIO 4Y03  THE SOCIOLOGY OF CORPORATIONS
This course will analyze the modern corporation as a vehicle through which economic, social and political power is wielded.
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 4Z03  QUANTITATIVE METHODS IN SOCIOLOGY
This is a course in social statistics. Topics covered include univariate distributions, estimation, hypothesis testing, bivariate and multivariate analysis with nominal, ordinal and ratio data, and the use of SPSS.
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.

SPANISH
(SEE HISPANIC STUDIES)

STATISTICS
(SEE MATHEMATICS AND STATISTICS)
THEME SCHOOL ON INTERNATIONAL JUSTICE AND HUMAN RIGHTS

Faculty as of January 15, 1996

Director
Rhoda E. Howard (Sociology) (on leave 1996-97)

Acting Director
Stefania Miller (Political Science)
Roy Adams (Business)
SAMuel Aljanzet (Philosophy)
Alex Berezin (Engineering Physics)
Ken Chan (Economics)
Howard Jones (Classics)
Gary Madison (Philosophy)
Evert Nieboer (Biochemistry)
George Sorger (Biology)
Mary Tremblay (Occupational/Physiotherapy)
Gary Warner (French)
Wayne Wary (Anthropology)

Note: For regulations on admission to the Theme School on International Justice and Human Rights, see Theme Schools in the programme section of this calendar.

Courses

TSIJHR 2A06 INTRODUCTORY SEMINAR
Introduction to the concepts of human rights and international justice, focusing on philosophical, legal and policy aspects. Empirical examples from both Canadian and international contexts.
Prerequisite: Registration in the Theme School or permission of the Director

TSIJHR 3C03 CIVIL SOCIETY
Explores social and governmental arrangements necessary for the existence of a Civil Society organized on the basis of the principles of democracy and human rights.
Prerequisite: Registration in the Theme School; TSIJHR 2A06 and one three unit Level II International Justice and Human Rights course
Not open to students with credit in TSIJHR 3B03 if the topic was Civil Society. Enrollment is limited.
Not offered in 1996-97.

TSIJHR 3D03 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: Registration in the Theme School; TSIJHR 2A06 and one three unit Level II International Justice and Human Rights course
Preference given to Level III Theme School students.
Not open to students with credit in TSIJHR 3B03 if the topic was Ecosystem Health, Human Health and Human Rights (1994-95, Section 02). Enrollment is limited.

TSIJHR 3E03 INDIGENOUS HUMAN RIGHTS
This course will explore First Nations human rights and self-determination in North America from an Indigenous perspective.
Prerequisite: Registration in the Theme School; TSIJHR 2A06 and one three unit Level II International Justice and Human Rights course
Preference given to Level III Theme School students.
Not open to students with credit in TSIJHR 3B03 if the topic was Indigenous Human Rights (1994-95, Section 03). Enrollment is limited.

TSIJHR 3F03 INTERNATIONAL ECONOMIC COOPERATION AND HUMAN RIGHTS
Focus on human rights issues pertinent to trade and investments; including conduct of multinational corporations, the rights of trading nations and unequal exchange.
Prerequisite: Registration in the Theme School; TSIJHR 2A06 and one three unit Level II International Justice and Human Rights course
Preference given to Level III Theme School students. Enrollment is limited.

TSIJHR 3G03 THE RIGHTS AND CONDITION OF CHILDREN IN THE INTERNATIONAL COMMUNITY
Study of international documents; comparative case studies; topics such as children and war; children and famine; labour, education and health.
Prerequisite: Registration in the Theme School; TSIJHR 2A06 and one three unit Level II International Justice and Human Rights course
Preference given to Level III Theme School students.
Not offered in 1996-97. Enrollment is limited.

TSIJHR 3H03 RIGHTS OF LABOUR
Examines key collective labour rights such as the rights to association, to strike and to dignified treatment at work, in Canada and in comparative perspective.
Prerequisite: Registration in the Theme School; TSIJHR 2A06 and one three unit Level II International Justice and Human Rights course
Preference given to Level III Theme School students.
Not open to students with credit in TSIJHR 3A06, if the topic was Rights of Labour (1994-95, Section 02). Enrollment is limited.

TSIJHR 3I03 SPECIAL TOPICS IN INTERNATIONAL JUSTICE AND HUMAN RIGHTS
The topic for 1996-97 will be Human Rights and Disability. A case study approach is used to examine the development, use and impact of human rights on the life experiences of individuals with disabilities in both a Canadian and international context.
Prerequisite: Registration in the Theme School; TSIJHR 2A06 and one three unit Level II International Justice and Human Rights course
Not open to students with credit in TSIJHR 3A06, if the topic was Human Rights and Disability. Enrollment is limited.

TSIJHR 3J03 GENOCIDE AND INTERNATIONAL HUMANITARIAN LAW
The course will focus on genocide and other extreme forms of group violence, and the problems of international regulation and intervention.
Prerequisite: Registration in the Theme School; TSIJHR 2A06 and one three unit Level II International Justice and Human Rights course
Preference given to Level IV Theme School students.
Not open in 1996-97. Enrollment is limited.

TSIJHR 4A03 INTERNATIONAL WOMEN'S RIGHTS
Key theoretical and empirical questions on women's rights, such as cultural relativism, refugee women and development. Group and individual research.
Prerequisite: Registration in the Theme School; TSIJHR 2A06 and one three unit Level II International Justice and Human Rights course
Preference given to Level IV Theme School students.
Not offered in 1996-97. Enrollment is limited.

TSIJHR 4B03 HUMAN RIGHTS IN TECHNOLOGICAL SOCIETY
Group and individual projects on the issues related to social justice, human development and individual freedom in the context of modern science and technology.
Prerequisite: Registration in the Theme School; TSIJHR 2A06 and one three unit Level II International Justice and Human Rights course
Preference given to Level IV Theme School students.
Not offered in 1996-97. Enrollment is limited.

TSIJHR 4C03 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: Registration in any other regular University programme; TSIJHR 2A06 and one three unit Level II International Justice and Human Rights course
Preference given to Level IV Theme School students.
Enrollment is limited.

TSIJHR 4D03 INDEPENDENT RESEARCH
In consultation with the Director, students may choose a topic for independent research and recruit a supervisor from among the McMaster faculty.
Prerequisite: Registration in the Theme School; TSIJHR 2A06 and one three unit Level II International Justice and Human Rights course
Preference given to Level IV Theme School students.
Enrollment is limited.

TSIJHR 4E03 THEOSES OPTION
In consultation with the Director, students may choose a thesis topic and recruit a supervisor from among the McMaster faculty.
Prerequisite: Registration in the Theme School; TSIJHR 2A06 and one three unit Level II International Justice and Human Rights course
Preference given to Level IV Theme School students.
Open only to Theme School students not writing a thesis in any other programme. Enrollment is limited.
A. John Berlinsky (Institute for Materials Research) (on leave 1996-97)

John L. Brash (Chemical Engineering and Pathology)
Michael A. Brook (Chemistry)
Malcolm Collins (Physics)
David Embury (Materials Science and Engineering)
Richard M. Epand (Biochemistry)
John E. Greedan (Physics)
Andrew N. Hrymak (Chemical Engineering)
Catherine Kallin (Physics)
Pavlos S. Kanaroglou (Geography)
Frank Maine (Business)
Harald D.H. Stöver (Chemistry)
George C. Weatherly (Materials Science and Engineering)
François M. Winnik (Chemistry and Physics)
Daniel S.C. Yang (Biochemistry)
Shiping Zhu (Chemical Engineering & Materials Science and Engineering)

Courses

TSIJHR 4H03 SPECIAL TOPICS IN INTERNATIONAL JUSTICE AND HUMAN RIGHTS
The topic for 1996-97 will be The Right to Development. This course will explore different approaches to development, such as gender, cultural and human rights issues, popular participation and sustainable development.
Prerequisite: Registration in the Theme School; TSIJHR 2A06 and one three unit Level II International Justice and Human Rights course
Preference given to Level IV Theme School students.
Enrollment is limited. Preference given to students registered in the Theme School on International Justice and Human Rights.
Not open to students with credit in TSIJHR 2B03 (1993-94, section 01) and TSIJHR 2D03 (1995-96) if the topic was The Right to Development.

THEME SCHOOL ON NEW MATERIALS AND THEIR IMPACT ON SOCIETY

Faculty as of January 15, 1996

Director
A. John Berlinsky (Institute for Materials Research) (on leave 1996-97)

Acting Director
John S. Preston (Engineering Physics)
John L. Brash (Chemical Engineering and Pathology)
Michael A. Brook (Chemistry)
Malcolm Collins (Physics)
J. David Embury (Materials Science and Engineering)
Richard M. Epand (Biochemistry)
John E. Greedan (Physics)
Andrew N. Hrymak (Chemical Engineering)
Catherine Kallin (Physics)
Pavlos S. Kanaroglou (Geography)
Frank Maine (Business)
Harald D.H. Stöver (Chemistry)
George C. Weatherly (Materials Science and Engineering)
François M. Winnik (Chemistry and Physics)
Daniel S.C. Yang (Biochemistry)
Shiping Zhu (Chemical Engineering & Materials Science and Engineering)

Courses

TSNM 3A02 THEME SCHOOL SEMINAR
Reporting on and planning research projects, special events.
One hour, both terms
Prerequisite: TSNM 2A02 and permission of the Theme School

TSNM 3B03 MATERIALS OF THE FUTURE
A survey of the frontiers of materials research, considering new types of materials, the ultimate limits of materials, the limitations of present materials and desirable properties which might be sought.
Three hours, first term
Prerequisite: Permission of the Theme School

TSNM 3R06 RESEARCH INTERNSHIP
Research on a subject of relevance to the Theme School. Includes one hour per week seminar. See programme description regarding summer research internships.
Three months, May-July
Prerequisite: TSNM 2R06 and permission of the Theme School

TSNM 4A02 THEME SCHOOL SEMINAR
Reporting on and planning research projects, special events.
One hour, both terms
Prerequisite: TSNM 3A02 and permission of the Theme School

TSNM 4B03 ENTREPRENEURSHIP AND INNOVATION: TRANSFERRING NEW MATERIALS TO THE MARKETPLACE
The problem of introducing new materials, products and processes to the marketplace is examined both from the point of view of new start-up companies and in the context of existing companies.
Prerequisite: Permission of the Theme School.

TSNM 4C03 STRATEGIES FOR THE LIFECYCLES OF MATERIALS
The strategies and trade-offs which influence choices of materials and processes will be studied from the point of view of technical, economic, environmental and social factors.
Three hours, second term
Prerequisite: Permission of the Theme School

WOMEN'S STUDIES

The Honours B.A. Women's Studies and Another Subject Programme is coordinated by an interdisciplinary Committee of Instruction.

Director of Women's Studies
Patricia M. Daanzer (Social Work) B.A., B.S.W. (York), M.S.W., Ph.D. (Toronto)

Faculty Advisors
Jane Aronson (Social Work) B.Sc. (New University of Ulster), B.S.W. (McGill), Ph.D. (Toronto)
Sylvia Bowkerbank (Arts & Science and English) B.A. (McMaster), B.Ed. (Toronto), M.A. (Simon Fraser), Ph.D. (McMaster)
Joel Coolidge (English) B.A., M.A. (London), Ph.D. (Harvard)
Vera Chouinard (Geography) B.A. (Western), M.A. (Toronto), Ph.D. (McMaster)
Joanne Fox (Nursing) B.N. (New Brunswick), M.Sc., Ph.D. (Queen's), R.N.
Ruth Fraser (History) B.A. (Rochester), M.A., Ph.D. (Toronto)
Kathy Garay (Archives) B.A. (East Anglia), M.A. (McMaster), Ph.D. (Toronto)
Donald Goeblinr (English) B.A. (Queen's), M.A., Ph.D. (McMaster)
Nora Gold (Social Work) B.S.W., M.S.W., Ph.D. (Toronto)
Elizabeth Inman (Drama) B.A. (London)
Rhoda Lentori (Sociology) B.A. (Winnipeg), M.A. (Manitoba), Ph.D. (Toronto)
Julia O'Connor (Sociology) B.A., M.Soc.Sc. (Ireland), Ph.D. (Toronto)
Marie O'Connor (English) M.A., Ph.D. (Toronto)
Vivienne Walters (Sociology) B.A., M.A. (Sheffield), Ph.D. (McGill)
Dolores Wawia (Indigenous Studies) B.A.(McMaster), B.Ed., M.Ed. (Lakehead)
Lorraine York (English) B.A., M.A., Ph.D. (McMaster)
Isik Zeytinoglu (Business) B.A., M.A. (Bogazici), M.S., Ph.D. (Pennsylvania)

Part-time Instructors as of January 15, 1996

Kerry Burke/L.L.B. (Laval)
Lori Chambers/B.A., M.A. (McMaster), Ph.D. (Toronto)
Nicolette DiFranco/B.A. (Carleton), M.A. (McMaster)
Naim Galvin/B.A., M.A. (McMaster)
Glynis George/B.A., M.A. (Toronto)
Rose Janson/B.A. (Waterloo Lutheran), M.A. (Toronto)
Mary McKearney/B.A., M.A. (McMaster)
Jane Vock/B.A. (Laurier), M.A. (McMaster), M.S.W. (Laurier)
Geraldine Voro/B.A., M.A. (Guelph), M.A. (McMaster)

Courses

If no prerequisite is listed, the course is open.

WOMEN ST 1A06 WOMEN IN CANADIAN SOCIETY
An introduction to Women's Studies of an interdisciplinary nature, designed to illustrate and account for the position of women in Canadian society. Possible areas of inquiry include health, law, politics, history, women and work, representation of women in literature, Canadian women artists and musicians.
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, past and present, to improve social conditions. It examines the issues and controversies at the heart of historical and contemporary movements and studies utopias as envisioned by women writers. Subjects might include anti-slavery, temperance and, suffrage movements, prison and labour reform, and women's peace movements.
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
The course examines the contribution of women to western European society from the late classical era to the early twentieth century. Whether examined from a historical, sociological 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
Prerequisite: WOMEN'S ST 1 A06
Enrolment is limited.
(Preference will be given to students in the Women's Studies programme.)

WOMEN ST 2C06 PERSPECTIVES ON GENDER
This course is an overview of debates and research on the shaping of gender identity. Whether taking the approach of social psychology, literature or cultural studies, it includes such topics as sex typing and socialization experiences, daughter/parent relationships and moral development.
Three hours; two terms
Prerequisite: WOMEN'S ST 1A06
Enrolment is limited.
(Preference will be given to students in the Women's Studies programme.)
WOMEN ST 2H03  REPRODUCTIVE BIOLOGY
This course presents a medical study of human reproductive anatomy and physiology, with particular emphasis on intrinsic control mechanisms and extrinsic methods of regulation of reproduction. It also explores feminist approaches to this subject.
Three hours; lectures, tutorials and guided reading; one term
Prerequisite: Registration in the Women's Studies Programme
Enrolment is limited.

WOMEN ST 2H33  WOMEN'S HEALTH: A SOCIO-CULTURAL PERSPECTIVE
This course studies women's actions to improve health and health care. Topics to be explored 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; historical analysis of female healers.
Three hours; one term
Prerequisite: WOMEN ST 1A06, or permission of the Director of Women's Studies
Antirequisite: SOCIOL 3U03, WOMEN ST 3C06 (Summer 1994 only)
Enrolment is limited.

WOMEN ST 3A06  FEMINIST THEORY AND METHODOLOGY
This seminar explores various theoretical feminist perspectives and methodological issues in feminist research. Theories may include classical Marxism, liberal feminism, radical feminism, socialist feminism, biological determinism and post structuralism. Possible themes to be studied from these perspectives are psychotherapy, sexuality and language. Guest speakers from different disciplines will lead workshops on feminist interdisciplinary research methods.
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 I: THEATRE AND FILM
1996-97: WOMEN AND DRAMA
An exploration of women's role in either theatre or film, whether as subjects or creators of these art forms. Approaches may be practical, historical and/or theoretical, but there will be particular emphasis on the contemporary scene.
Three hours; one term
Prerequisite: WOMEN ST 1A06 or registration in Level III or IV of a programme in Drama
Enrolment is limited.
(Preference will be given to students in the Women's Studies programme.)
WOMEN ST 3B03 may be repeated, if on a different topic, to a total of six units.

WOMEN ST 3B83  TOPICS IN WOMEN AND THE ARTS II 1996-97: WOMEN AND THE VISUAL ARTS
This course explores women's achievements in any one of the following fields: literature, music, visual arts. Interrelationships between these fields will also be examined where appropriate.
Three hours; one term
Prerequisite: WOMEN ST 1A06, or permission of the Director of Women's Studies
Enrolment is limited.
(Preference will be given to students in the Women's Studies programme.)
WOMEN ST 3B83 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
Antirequisite: WOMEN ST 3C06
Enrolment is limited.

WOMEN ST 3C33  WOMEN AND THE URBAN ENVIRONMENT
The course is an interdisciplinary enquiry into how women's lives are shaped by an urban environment. It examines a range of issues regarding women's experience of urban living with a focus on such subjects 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
Antirequisite: WOMEN ST 3C06
Enrolment is limited.

WOMEN ST 3D06  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 women's own 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
Enrolment is limited.
(Preference will be given to students in the Women's Studies programme.)

WOMEN ST 4A06  INDEPENDENT RESEARCH
Students develop and execute their own research projects, in regular consultation with a faculty supervisor. In March, students present the results of their work at a one-day forum in which all students and faculty of Women's Studies are encouraged to participate. A formal written report is submitted to the supervisor shortly afterwards.
Prerequisite: Registration in Level IV of the Women's Studies Programme

WOMEN ST 4B06  TOPICS IN WOMEN, THE ECONOMY AND THE STATE
This course presents a critical analysis of the legal system and of specific legal issues as they have developed over time and as they pertain to women today.
Three hours; two terms
Prerequisite: Registration in Level III or IV of the Women's Studies Programme, or permission of the Director of Women's Studies
Enrolment is limited.
WOMEN ST 4B06 may be repeated, if on a different topic, to a total of 12 units.

WOMEN ST 4C06  TOPICS IN FEMINIST SCHOLARSHIP
This course offers intensive study in a specific field as defined by the instructor's own special research interests. It allows the students to benefit from up-to-date scholarship and provides insight into research methods that might be different from or complimentary to those being used in WOMEN'S ST 4A06.
Three hours; two terms
Prerequisite: Registration in Level III or IV of the Women's Studies Programme, or permission of the Director of Women's Studies
Enrolment is limited.
The Eighteenth-Century Collection of British material numbers over 33,000 volumes and is the major Canadian collection in the field. Library fellowships in Eighteenth-Century Studies are offered annually. Among more modern materials are the papers of Vera Brittain, Marian Engel, Robert Fulford, Pierre Berton, Farley Mowat, Peter Newman, Matt Cohen and many others.

Business interests are reflected in such files as the General Steel Wares Archives, the Macmillan of Canada Archives, the Clarke Irwin Archives, and the McClelland and Stewart Archives. Canadian social and political interests are documented in papers from the Canadian Union of Students, the Canadian Youth Congress, the SUPA/CUCNND papers and other related collections. There are holdings of the records of a number of labour unions, including UGWA Local 1005, USWA. District 6, United Glass and Ceramic Workers (Canada), and the Hamilton and District Labour Council.

Publications
- McMaster University Library Research News
- Russell, the Journal of the Bertrand Russell Archives
- Monographs with the imprint of the McMaster University Library Press

COMPUTING AND INFORMATION SERVICES (CIS)

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

Assistant Vice-President, IST
John Drake, M.A., M.Sc., Ph.D.

Director, CIS
Pat O’Day, B.A.

Client Services-Research
Robin Griffin, B.Sc., Ph.D./Assistant Director

Data Services
John Masterson, B.Sc., M.B.A./Assistant Director

Client Services
Heather Grigg, Assistant Director

Administration
Barb Campbell, B.A./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 a VAX 4000. A transition to client server computing is being planned.

Student computer laboratories are located in the Burke Sciences Building, Rooms 240-245, the John Hodgins Engineering Building, Room 234; the Arthur Bourns Building, Room 166, and Kenneth Taylor Hall, Rooms B110, B111, B120 and B123. Student consultants are available to assist customers in each of these terminal areas. 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. Other courses relating to computers and computing are offered by the Department of Computer Science and Systems, the Science Resource and Training Centre and through the Centre for Continuing Education.

CIS services for the University community include a variety of electronic communications and information services; electronic mail, newsgroups, listserver access, gopher and access to Internet, a worldwide network.
THE INSTRUCTIONAL DEVELOPMENT CENTRE

- General Sciences, Room 217, ext. 24540

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

E-mail Address
blizzard@mcmaster.ca

Director
A.C. Blizzard, B.Sc., M.Sc., Ph.D.

Educational Consultant
D.E. Roy, B.A., M.A.

Educational Consultant
P.A. Lockhart, B.A.

Secretary
S. Riselay

The Instructional Development Centre (IDC) is a resource centre for people who teach at McMaster; individual faculty members and teaching assistants (tutors, demonstrators, markers) as well as departments and other groups. The Centre works closely with the University Committee on Teaching and Learning. This group, which includes a representative of the McMaster Students Union Teaching Awards Committee, two graduate students and faculty members from all six Faculties, provides policy guidance for the Centre, makes recommendations to the University on issues affecting teaching and learning conditions and provides grants for teaching and learning development projects. The Centre's activities include:

1. 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.

2. Programmes for Teaching Assistants: The Centre plans and organizes T.A. Day, a campus-wide orientation programme for teaching assistants. It also offers a series of short courses on teaching for senior Ph.D. students.

3. 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 or are reports by people who have completed Teaching and Learning Grant projects. Subjects typically include teaching large classes, self-directed learning, research on learning and teaching methods, lecturing, small group discussion, simulations and the use of microcomputers in education.

4. 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.

5. The Centre has a long history of collaboration with student efforts to support excellence in teaching. For example, the IDC provided consultation on refinements to the MSU Teaching Awards programme and the MSU Handbook The Disabled Student as well as on grants the MSU has received for its own teaching and learning projects.

6. Resources: The IDC has a library of books on university teaching and learning, example audio-visual materials and microcomputer programmes. It also has video-tape equipment (for use in workshops and for taping classes at the request of instructors) and some microcomputer equipment for familiarization seminars and for faculty to use in evaluating educational software.

The Office's activities are supported by University funding, while specific projects are funded by public agencies, private foundations, or user fees. The Undergraduate Degree Studies in Gerontology programme is administered by this Office. The various degree options are described in this Calendar in the Faculty of Social Sciences section, Gerontology Studies.

The Office's activities are supported by University funding, while specific projects are funded by public agencies, private foundations, or user fees. The Undergraduate Degree Studies in Gerontology programme is administered by this Office. The various degree options are described in this Calendar in the Faculty of Social Sciences section, Gerontology Studies.

The Office's 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.

**McMASTER INTERNATIONAL**

- John Hodgins Engineering Building, Room A414, ext. 24700

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

**E-mail Address**
macintl@mcmaster.ca

**Director**
Gary Warner

**Administrative Assistant**
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 and engineering. McMaster International was created in 1988 in response to the need for a coordinated approach to the international activities of the University. The role of McMaster International is to support and encourage institutional international activities which contribute to the achievement of the international component of the Strategic Plan adopted by the University Senate and Board. The vision of McMaster International is to promote global social equity and to be guided by the principles of partnership, human rights and environmental protection.

The specific functions of McMaster International are as follows:
1. Develop and provide liaison with funding agencies, as well as domestic and overseas contacts, for international research and education projects involving McMaster faculty and graduate students.
2. Serve as the resource centre concerning international activities at McMaster and for those at McMaster seeking to promote internationalization of their programmes.
3. Assist in developing exchange agreements with Universities in other provinces and countries.

**MCMASTER 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**
J. Zatyiny, B.A.

**E-mail:** zatyiny@mcmaster.ca

**Registrar/Operations Manager**
G. Loveys, B.A.

**E-mail:** loveys@mcmaster.ca

**Installations/Preservation Officer**
J. Petteplace, B.A.

**Secretary**
L. Parker, B.A.

**Exhibitions Assistant**
C. Wiginton, B.A.; MMST

**Head of Information**
R.A. Prevec, B.A.

**Information Staff**
D. Hammond
K. Hogue, B.A.
C. Hullenaar, B.A.

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 either organized by the McMaster Museum or loaned by such institutions as the Art Gallery of Ontario or the National Gallery of Canada. McMaster's permanent art collection contains 5500 Canadian, American and European art works with a specialized collection of over 230 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 AND ORGANIZATIONS**

**Student Affairs Web Address**
http://www.access.mcmaster.ca

**Information on the following organizations may also be accessed through the above address:**
Counselling and Career Services, International Students' Advisor, Human Rights Consultant and Student Exchanges Officer, Student Financial Aid and Scholarships, Housing Services and Hospitality Services.

**ASSISTANT PROVOST (STUDENT AFFAIRS)**

Mary E. Keyes, Ph.D.

The Assistant Provost (Student Affairs) heads a variety of specialized student services offices. The Assistant Provost 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. The Assistant Provost is located in Gilmour Hall, Room 207, ext: 27455.

**OFFICE FOR ABILITY AND ACCESS**

**Web Address**
http://access.admin.mcmaster.ca/abildocs/abilhome.html

**E-mail Address**
ability@mcmaster.ca

**Manager**
William A. Hoch ext. 24883

**E-mail:** hochwill@mcmaster.ca

**Programme Coordinator (Learning Specialist)**
Caroline Cayuga ext. 24354

**E-mail:** cayuga@mcmaster.ca
The Office for Ability and Access provides support services, resource referral and advice to applicants and students on process and policy issues related to the University and students with disabilities. The office consists of professional staff, support staff, and volunteers who can assist students in meeting their educational objectives.

Initiatives and services undertaken by the Office for Ability and Access include:

- campus accessibility issues
- provision of technical equipment services
- alternate media formats based on the individual needs of students
- on-campus professional services or referral to external community resources
- direct services to students in providing skill/process workshops on a variety of issues
- direct involvement with student and/or programme/faculty as required
- promotion of the ability of all qualified applicants

The University encourages persons with disabilities to apply for admission to its programmes. Students must meet the University’s academic criteria for admission to a programme.

All students are expected to satisfy the normal requirements for courses and programmes (including final examinations) although accommodations concerning an educational programme may be authorized to assist students in the completion of assignments, tests, examinations and other course requirements. Associate Deans (Studies) may authorize accommodations based on the need of the individual and the programme of study.

SELF IDENTIFICATION FOR STUDENTS WITH DISABILITIES

To ensure continuity of assistance with University programming within departments, faculties and programmes, students are strongly encouraged to self identify through the Office for Ability and Access.

The Office for Ability and Access works with all self-identified students in providing the necessary support services and network which will lead to a positive educational experience.

Self identification, supported by proper documentation, and the subsequent assistance which can be provided to students in obtaining their university education can be best described as a working partnership.

NOTIFICATION OF STATUS TO THE OFFICE FOR ABILITY AND ACCESS

Students are required to inform the Office for Ability and Access of accommodation needs for final examinations at least one month prior to the exam period. This allows sufficient time to verify and arrange reasonable and appropriate accommodation. Notifications must be received by November 6, 1995 for Term 1 exams and by March 9, 1996 for Term 2 and 3, unless extraordinary circumstances prevail.

CONFIDENTIALITY

All academic, personal information and health or disability related information is confidential. It will be treated in accordance with the University policy on freedom of information.

ATHLETICS AND RECREATION

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

E-mail Address
iwyne@mcmaster.ca (Customer Service Line)

Thérèse Quigley
Director of Athletics and Recreation

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 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 choosing. Access to the various facilities on campus is open to all McMaster students.

The facilities include a 50-metre pool, several gyms, dance studio and a fitness centre known as "The Pulse". The Pulse 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, horseback riding, hiking and many other opportunities are offered on a cost recovery basis.

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 offers inter-university competition in 31 sports for men and women. 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.

BOOKSTORE

Web Address
http://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.
COUNSELLING AND CAREER SERVICES

Counselling Service
Laurie Barlow Cash/Career Counsellor
David Lawson/Career Counsellor
Debbie Nifakis/Counselling Psychologist
David Palmer/Academic Skills Counsellor
Bill Wilkinson/Counselling Psychologist and Director

The Counselling Service is a resource provided by the University to promote the personal, academic and career development of McMaster students. The department offers many counselling, assessment and information services to help students deal with personal and social problems, succeed in their studies, clarify educational and career goals, obtain employment, and gain the most from their university experience.

Peer Helpers assist students in assessing their needs and in determining which of our services or programmes might be most appropriate. They also provide a wide variety of services, under supervision of the counselling staff.

Personal problems which students discuss with counsellors often concern family and peer relationships, or such unwanted feelings as anxiety, stress, loneliness, depression, low self-confidence or loss of motivation - all of which can interfere with concentration and academic performance.

All discussions between students and counsellors are voluntary, private and confidential. Whenever required, students are given assistance in locating other specialized help both on and off campus.

Many students seek help in defining their interests, personalities and abilities in order to make decisions about academic choices and career goals. The lack of such goals can be a barrier to sustained academic effort.

Students also ask for help in writing resumes and in preparing to look for employment after graduation. Together with the Placement Service, the department provides assistance designed to prepare graduates and recent alumni to find jobs.

For students who are dissatisfied with their academic performance, their effectiveness in studying or in managing their time, the department provides counsellors oriented toward effective learning and study skills.

In addition to individual counselling, the department provides group programmes, workshops and presentations about such topics as educational and career planning, the employment search process, applying to professional and graduate programmes, assertive communication skills, writing skills, stress management, building self-confidence, speaking in public, procrastination, writing tests and exams, and preparing for university.

The department maintains a Resource Centre of career, educational and work-abroad information for use by all members of the University community and general public.

It is an administrative centre for Graduate Record Examinations, the Law School Admission Test, the Medical College Admission Test, and the Miller Analogies Test.

Students are invited to visit the office in Hamilton Hall, Room 302, Monday through Friday, 9 a.m. to 4:30 p.m. (Wednesday 11:30 a.m. to 7 p.m.) to arrange to talk with a Peer Helper or a counsellor, to inquire about current programmes, or to use the Resource Centre. The telephone number is 525-9140, ext. 24711.

Placement Service
Donna Yates/Coordinator
Teresa Lynch/Placement Officer

The Placement Service assists undergraduate and graduate students, and recent alumni of all faculties in finding permanent, temporary and part-time employment.

Job Postings
Immediate vacancies for permanent, summer and part-time positions are advertised year round by employers who do not conduct employment interviews on campus. Job notices for these positions are posted on the Job Boards outside the Placement Service, on the computerized Student Placement System network available in the computer labs, and at other appropriate locations on campus. A daily e-mail bulletin listing new jobs is sent to students who register for this service.

Presentations and Workshops
Placement staff provide and arrange, in cooperation with the Counselling staff, workshops and presentations on resume development, preparing standardized application forms for on-campus recruitment, effective job search, and interview skills.

On-Campus Recruitment Programme
Major national employers visit McMaster to present information about their companies and to conduct employment interviews in order to hire permanent and summer employees. Students who wish to participate in the on-campus recruitment programme should visit the Placement Service in early September.

Resource Centre
The Placement Service maintains a collection of employment-related reference material and company information on a large number of private and public sector employers.

The Placement Service, located in Hamilton Hall, Room 409, is open Monday to Friday, from 8:30 a.m. to 4:30 p.m. (Wednesday 8:00 a.m. to 4:00 p.m.); telephone (905) 525-9140, ext. 24253, fax (905) 529-8972, or e-mail: placement@mcmaster.ca.

STUDENT EXCHANGES OFFICER
The Officer provides information to Canadian students on a range of options from independent study and externally sponsored programmes, to summer sessions abroad, work abroad opportunities and McMaster formal exchanges. Information about, and applications for exchanges are available in Hamilton Hall, Room 405.

THE GROUP OF TEN STUDENT EXCHANGE PROGRAMME (GOTSEP)
This is an undergraduate exchange programme involving the Group of Ten Canadian Universities:

- McMaster University
- McGill University
- Queen's University
- Université Laval
- Université de Montréal
- University of Western Ontario
- University of Alberta
- University of British Columbia
- University of Toronto
- University of Waterloo

To be considered for this exchange, students must:
- be able to demonstrate above average academic performance
- possess language skills at a level that will allow full and successful participation in the academic and extracurricular life of the host institution
- be eligible to receive credit at McMaster University for courses completed at the host institution

Successful applicants will be considered visiting students while at the host institution. The minimum duration of the exchange is two terms, or one year. Students are required to pay all tuition and fees for the period of the exchange to McMaster University. The deadline for applications is February 1. Information and application materials are available in Hamilton Hall, Room 405.
STUDENT FINANCIAL AID AND SCHOLARSHIPS

Director
J. Edwards

Coordinator
D. Ellis

The office administers a variety of programs which are accessed by nearly half of all full-time students as well as a large number of part-time students attending University. These programs include the Ontario Student Loan Programme, Canada Student Loan Programmes, Undergraduate Scholarships Programme, Ontario Work Study Programme, Ontario Special Bursary Programme, University Bursary and Emergency Loan Programmes. In addition, the office provides administrative support to outside agencies providing scholarships and bursaries to students attending McMaster.

The office offers financial and budget counselling, assessment and information service to current and potential students designed to help identify and address post-secondary education expenses. All discussions with students are voluntary, private and confidential. Appointments and drop-in style counselling is available. The office is located in Hamilton Hall, Room 404, telephone ext. 24319.

For more detailed profiles of programme offerings, please refer to Undergraduate Academic Awards and Student Financial Aid sections in this Calendar.

INTERNATIONAL STUDENTS’ ADVISOR

Advisor
Cheryl-Ann Jackson

The office is available to all foreign students for consultation, advice and direction in numerous areas of concern, providing information regarding immigration matters, accommodation, orientation, etc. The office is located in Hamilton Hall, Room 405, telephone ext. 24748.

STUDENT HEALTH SERVICE

Acting Director
J. Young

Health care is available to all university students year-round at the Student Health Service, located on the ground floor of McKay Hall Residence. The health service is open Monday through Wednesday from 9 a.m. to 7:50 p.m.; and Thursday and Friday from 9 a.m. to 4:20 p.m. Appointments can be made by calling 529-7070, ext. 27700.

Staffed by family physicians and nurses, the Student Health Service provides comprehensive primary medical care. Services include medical assessment and treatment; annual health examinations (physicals); birth-control counseling; assessment and treatment of depression, eating disorders, insomnia and other mental or emotional health problems; allergy injections; immunization; wart treatment; on-site laboratory; pregnancy tests; and information or counselling for any personal health concerns. A specialist in sports medicine is available for sports related injuries and other problems. Physiotherapy is also available at Ivor Wynne Centre on referral from one of the physicians. A staff psychiatrist is available to students on referral from one of the clinic physicians or from a counseling service psychologist. The psychiatrist provides consultation for assessment and management recommendations as well as for ongoing therapy.

Birth-control pills are dispensed at a reduced cost of $10.00 per package to Student Health Service patients who have a current prescription for oral contraceptives from a SHS staff physician.

A computerized health status/risk assessment programme can be taken by students on several lap top units available from the receptionist. These programmes estimate a person’s current level of health and their chances of developing serious health problems in the future. An individual health summary with recommendations is printed at the end of this computer programme.

Staff physicians and nurses are available for lectures, seminars, or small group discussions on health-related issues, on request by students. As well, an education and support group for students with eating disorders is conducted for six weeks during either or both the fall and winter terms. Further information can be obtained by calling the Student Health Service office at (905) 529-7070, ext. 24441. Access from the World Wide Web is expected to be available in late 1996.

HOSPITALITY SERVICES

General Manager, Hospitality Services
Albert Y. Ng
McMaster University provides many dining areas on campus offering a wide variety of nutritious food at reasonable prices. Students living in residence (except the Bates apartment-style building) are required to purchase a meal plan. Off-campus students and other members of the University community may purchase an off-campus meal plan for any amount over $10 at the MAC Express Centre, located in the Commons Building, Room B101B. McMaster has a self-operated food service that includes five full-service cafeterias with dining rooms located strategically around campus in Togo Salmon Hall, Kenneth Taylor Hall, A.N. Boums Building, Commons Building, and the Refectory. All dining facilities accept meal cards and cash. Students can obtain meals anytime from 7 a.m. to midnight.

MAC Express Coffee Shops are located in the Chester New Hall basement, the John Hodgins Engineering Building foyer, and the Burke Science Building—2nd floor. Vending machines at many locations around campus supplement these facilities. Inquiries are welcomed by Hospitality Services at ext. 24836.

Campus Dining Locations as follows:

- Commons Marketplace (Located in the Commons Building);
- Arts Quad Cafe (Located in the basement of Togo Salmon Hall, formerly TSH Cafeteria);
- The Wokery (Located in the basement of Kenneth Taylor Hall, formerly KTH Cafeteria);
- Refectory Dining Hall;
- Rathskellar (located in the lower level of Refectory)

Hours of operation vary among locations.

HUMAN RIGHTS CONSULTANT

The Human Rights Consultant is the resident expert and advisor on human rights legislation to all members of the University community for advice on the legislation itself, and how it should be applied. Inquiries should be directed to, Hamilton Hall, Room 405, (905) 525-9140, ext. 24748.

HOUSING SERVICES

Director, Housing Services
Catherine Miller
(905) 525-9140, ext. 24036
E-mail: millerc@mcmaster.ca

Manager, Admissions and Conferences
Léanne Piper
ext. 24070
E-mail: piper@mcmaster.ca

Manager, Residence Life
Andrea Thyret-Kidd
ext. 23032
E-mail: thyretak@mcmaster.ca

Residence Facilities Manager
David J. Speagle
ext. 24779
E-mail: speagle@mcmaster.ca

Conference Coordinator
Wendy Read
ext. 24783
E-mail: readwen@mcmaster.ca
RESIDENCES

The University owns and operates ten on-campus residences, accommodating a total of 2,782 students. The nine traditional-style residences consist of a women's residence (248), one men's residence (102), five co-educational residences (168), and Matthews Hall, consisting of a co-educational International House and a Francophone (112) and a co-educational Halcyon (Quiet) House (135). 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 acceptance from the University's Guarantee of Residence, and the University is unable to provide any on-campus facilities for students who 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 a deposit before the specified deadline which will be applied to the full period must be forwarded to the Off-Campus Housing Office.

RESIDENCE ADMISSIONS

Admissions is responsible for admission systems, withdrawals, room assignments, medical and grade appeals, and waiting lists. Enquiries about residence information should be directed to the Manager, Residence Admissions, Housing Services, Commons Building 101, extension 24342, e-mail: housing@mcmaster.ca.

RESIDENCE LIFE

Residence Life is responsible for 12 Hall Directors from the University community who serve as mentors and leadership figures in each residence. Residence Life works with the student government and Hall Directors to fashion student government and the Residence Security Patrol. Residence Life provides leadership training, residence life activities, social, educational, and personal development programs for students and residence executives, as well as overseeing discipline matters, student government and the Residence SecurityPatrol.

RESIDENCE FACILITIES

Residence Facilities 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 Moutton Hall (west campus) and the Commons Building (north campus).

OFF-CAMPUS HOUSING

The Off-campus Housing Office is a listing service provided jointly by Housing Services and the McMaster Students Union. This service 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 staff on a year-round basis and is located in Wentworth House, Room 118, (905) 525-9140 ext. 24086.

CONFERENCE SERVICES

During the summer months, accommodation, food services and meeting facilities are available on campus for conferences, conventions, and touring groups, in addition to residence for summer students and casual visitors. The Conference Front Desk 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

Web Address

http://www.mcmaster.ca/parking

Campus parking facilities are limited and the availability of spaces cannot be assured.

Travel to and from the University on foot, by public transportation and in car pools is encouraged. Students wishing to park a motor vehicle or motorcycle on campus are required to complete and submit a parking application. Applications are accepted between June 1 and the last business day of July. Completed application forms, accompanied by cheque or money order, payable to McMaster University, in the amount required for the full period must be forwarded to:

Parking and Transit Services

E.T. Clarke Centre, McMaster University

Hamilton, Ontario L8S 4K1

Completed applications from eligible applicants will be processed beginning in August. If any applicable zone is oversubscribed, there will be a lottery draw. Undergraduate students not in residence may apply for available spaces in Zones 1 and 6 only. The procedure for allocation of these spaces will be developed in consultation with the MSU Executive. Students in residence requiring parking can apply for Zone 7 only, and may apply at any time of the year. Special arrangements can be made for disabled parking privileges.

UNIVERSITY CHAPLAINS

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 Brian Donst, Ecumenical Chaplain; Aren Geisterfer, Christian Reformed Chaplain; Father Jack Hurley, Roman Catholic Chaplain and Donna Higson, 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.
Personal and confidential counselling is offered 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 co-operatively with a variety of student groups; and promotes interfaith events and dialogue on campus. The Centre can be reached at (905) 525-9140, extension 24207 or by e-mail.

**STUDENT GOVERNMENT AND ORGANIZATIONS**

**McMASTER STUDENT UNION**

**Web Address**
http://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 operations spanning over 30 unique departments. Over 12,000 full-time undergraduate students (enrolled in 18 units, or more) belong to the MSU by virtue of their supplementary fees paid at registration.

**Services of the MSU:** Considered as one of the most extensive student unions in Canada, the MSU offers an array of services and volunteer opportunities for students at McMaster. These services include two campus bars (The Downstairs John and The Rathskeller), a convenience store (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), an Ombuds Office and an Off-Campus Housing Office. The MSU offers volunteer opportunities through the Emergency First Response Team (EFRT), a radio station (93.3 CFMU FM), a newspaper (The Silhouette), a Student Walk Home Attendant Team (SWHAT), a Student Health Education Centre (SHEC), 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 Student Union. Established committees include Elections, Environment, Events, External Affairs, Finance, Gender Equity, Human Rights, Services & 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 Main Office located in Hamilton Hall Room 406, or call ext. 22003.

**Fraternities and Sororities:** Not recognized by McMaster University and are not permitted to associate with the University in any way. The University is not responsible for any acts by these groups.

**OMBUDS OFFICE**

The Ombudsperson 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 McMaster University Staff Association, McMaster Association of Part-Time Students and the McMaster University Faculty Association. The office is located in Hamilton Hall, Room 406, ext. 24151, or (905) 528-9887.

**McMASTER ASSOCIATION OF PART-TIME STUDENTS (MAPS)**

**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 Association.

The Association’s lounge and office are open all year, Monday to Thursday, from 10 a.m. to 8:55 p.m., and Friday from 10 a.m. to 2 p.m., when classes are in session. When classes are not in session, the office hours are Monday to Thursday, from 10 a.m. to 5 p.m., and Friday from 10 a.m. to 2 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.

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.

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 three awards: two Centennial Awards and the Martin W. Johns Award. MAPS has also established bursaries to assist students who have demonstrated financial need.

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.

The MAPS lounge and office are located in Kenneth Taylor Hall, Room 102, ext 22021.

**McMASTER UNIVERSITY ALUMNI ASSOCIATION**

**E-mail Address**
alumni@mcmaster.ca

Following convocation, all graduates of McMaster University automatically become members of the McMaster Alumni Association (MAA) and join our over 83,000 alumni living in over 100 countries. The Association’s mission statement addresses a number of goals: support of McMaster University, involvement of alumni, recognition of alumni achievements, alumni services and benefits, alumni communication, and involvement of current students.

Our alumni branch programme creates connections in geographic areas like Brantford, Vancouver, Ottawa, Toronto and Singapore. Branches also connect alumni to their faculty or department through groups like the Nursing Alumni Branch, MBA Alumni Association, Engineering Alumni Branch, or Social Work Alumni Branch. Other branches create connections among Mac grads who share a common interest or affinity, like the MSU Alumni Branch, Women’s Athletic Alumni or Lettermen’s Alumni Association, just to name a few.
The MAA also offers programmes in the Hamilton area. The McMaster Alumni Connection Luncheon Series brings high profile speakers to downtown Hamilton to talk with McMaster alumni and friends, and the Albert Lager Lecture Series expands your educational relationship with Mac into a lifelong affair by providing fun and unique opportunities to enjoy lectures, trips, and seminars. Alumni Weekend occurs every year in June and is the largest single alumni event. It incorporates class reunions and dozens of events designed to attract alumni, family, friends, students and the community to the McMaster campus.

The Association also gives its members the chance to obtain unique or discounted products or services through its Services and Benefits portfolio. Alumni can experience fantastic trips, get unique McMaster merchandise, use their long-distance phone calls to help benefit the Association, receive high-quality home and auto insurance at group rates, or investigate the other services offered through the MAA.

The McMaster Alumni Association also acts as your advocate, with representatives on the University Senate and Board of Governors. These representatives, along with other elected alumni, compose the MAA Board of Directors which, along with hundreds of other alumni volunteers, provides alumni programming in conjunction with the Office of Alumni Advancement. Both the Office and the Association can be contacted in Chester New Hall, 111, or by phone at (905) 525-9100 ext 23900, or by fax at (905) 524-1733.

The University's Board of Governors has made provision for naming buildings, facilities, spaces and streets after individuals or organizations who have some connection with the University. Recommendations made according to the criteria outlined below are considered by the Advisory Committee on Campus Names.

Policy of the Board of Governors on Campus Names

1. The names of distinguished members of the McMaster University community who are no longer actively involved in the affairs of the University.
2. Others in the following groups:
   a) Outstanding scholars outside the University who have had a close relationship with McMaster and whose academic disciplines relate to the structure or area being named.
   b) Major benefactors of the University, including foundations and corporations.
   c) Names that bear a special relationship to McMaster University, Hamilton or district.

(Board of Governors, December 9, 1993)

Information concerning the nomination can be obtained via the Vice-President (Administration), Chair, Advisory Committee on Campus Names, Gilmour Hall, Room 202.
**STUDENT FINANCIAL AID**

WEB ADDRESS: http://access.mcmaster.ca

E-MAIL ADDRESS: awards@mcmaster.ca

Director
John Edwards

Coordinator
Denise Ellis

For information on any of the programmes which follow contact:

Student Financial Aid and Scholarships Office
Hamilton Hall, Room 404
McMaster University
Hamilton, Ontario, L8S 4K1
Telephone: (905) 525-9140, ext. 24319

**ONTARIO STUDENT ASSISTANCE PROGRAMME**

Financial aid to help students meet the costs of post-secondary education is available from the federal and provincial governments through the Ontario Student Assistance Programme (OSAP) which consists of four plans:

- Canada Student Loans Plan
- Ontario Student Loans Plan
- Ontario Special Bursary Plan
- Ontario Work-Study Plan

To be eligible for assistance under each of these plans, a student must be a Canadian citizen or permanent resident of Canada and fulfill certain requirements for residency in Ontario. The amount of financial aid awarded is determined by a need-testing procedure. It is strongly recommended that students apply by June 30 to ensure that their applications are processed by September. Currently, it takes six to eight weeks to process a regular OSAP application.

All of the government programmes described in this text are modified and restructured annually to reflect the changing needs of students from the Province of Ontario. It is, therefore, recommended that you discuss your specific financial requirements with a counselor in the Student Financial Aid and Scholarships Office as early as possible.

**Canada Student Loans Plan**

This is a federal government plan, administered by the provincial government, which provides loans to needy students for completion of any level of study. In 1994-95 maximum assistance under this plan was about 40% of standard costs at an Ontario institution. 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. This plan also helps part-time students or students enrolled in programmes not eligible for 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 them 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 awarded 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, from November 1 to the last Friday in November of each academic year. Bursary awards will be disbursed in January. Any person who is registered and in good standing as a student of McMaster University is eligible to apply.

**THE GARY ALLEN MEMORIAL BURSARY**

Established in 1987 by friends and family of the late Gary Allen (‘84) to assist a needy Commerce student in Year III or IV whose major area of study is accounting. Preference will be given to a mature student.

**TOM ANDERSON MEMORIAL BURSARY**

Established in 1988, a bursary to be awarded to a student attending his or her first year at McMaster in Business I. The student must have graduated from a secondary school in the Regional Municipality of Hamilton-Wentworth or the City of Burlington.

**THE A.H. ATKINSON BURSARIES**

Established in 1989 by the A.H. Atkinson Education Fund Inc. of Hamilton. A variable number of bursaries to be awarded to undergraduate students in a full-time programme in Engineering who demonstrate financial need.

Value: $700

**THE ATKINSON CHARITABLE FOUNDATION BURSARIES**

A fund has been made available for the assistance of students who are residents in the Province of Ontario. A number of awards will be made on the basis of financial need and other considerations, according to regulations suggested by the Foundation.

Value: $700

**THE BECHTEL CANADA ENGINEERING BURSARY**

Established in 1995 by Betchel Canada. A variable number of awards to assist needy students who graduated from a Secondary School in Canada, are currently enrolled in a programme in Engineering and who have completed Engineering I.

**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.

Value: $700

**THE CHARLES MURRAY BALL BURSARIES**

Established in 1993 by bequest of May Alexandra Ball in memory of her brother Charles Murray Ball. To assist needy students in any programme.

**THE BECHTEL CANADA ENGINEERING BURSARY**

Established in 1995 by Betchel Canada. A variable number of awards to assist needy students who graduated from a Secondary School in Canada, are currently enrolled in a programme in Engineering and who have completed Engineering I.

**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.

**THE SIDNEY L. BLUM BURSARY**

Established in 1989 by friends and associates in memory of Sidney L. Blum. To be awarded 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 Bachelors of Arts/Social Work programme or Level II of the Bachelors of Social Work programme.

**THE ROBERTA BONDAR BURSARY**

Established in 1992 by the Zonta Club of Hamilton in recognition of Canada's first female astronaut. To be awarded to a female student enrolled in Engineering I or Natural Sciences I.

**BURSARIES FOR IN-COURSE VISA STUDENTS**

Established in 1982 by the University to assist visa students in any programme.

90547
THE CANADIAN FEDERATION OF UNIVERSITY WOMEN'S (BURLINGTON) BURSARY
Established in 1988, a bursary to be awarded to a female student who demonstrates financial need and who 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 1980 by the University Women's Club of Hamilton. To be awarded to female students in any programme.
90546

THE CITY OF HAMILTON BURSARIES
Established in 1959 by the City of Hamilton to commemorate the visit of Her Majesty Queen Elizabeth II and His Royal Highness Prince Philip to Hamilton in July 1959. To assist Hamilton students.
90515

THE CLASS OF '35 BURSARIES
Established by the Year '35 in honour of their 50th class reunion. 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 awarded to a student in a programme in Gerontology.
90564 337

THE DORIS PARTRIDGE COLE BURSARY
Established in 1981, this bursary is to be awarded to a worthy student in memory of Doris Partridge Cole (45).
90508 002

THE ARCHIBALD R. CROZIER BURSARIES
Established in 1983 by Archibald (Archie) Crozier (35), former professional football player and Chair of the Ontario Energy Board for 17 years. To be awarded to a needy student who has demonstrated 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 AUBREY DALGLEISH BURSARY
Established in 1985. To be awarded to a student in any programme with special preference given to handicapped students and/or students in the Faculty of Business.
90509

PATRICIA ANNE DICICCO MEMORIAL BURSARY
Established in 1988 this bursary is to be awarded to a student or students enrolled in a programme which includes Gerontology as a major, who is a Canadian citizen or permanent resident and who exhibits financial need.
90510 204

THE MICHAEL EARP MEMORIAL BURSARY
Established in 1991 by family and friends of Michael Earl. To be awarded to a needy student enrolled in a programme in Psychology.
90577

THE EDITH E. FERRIE BURSARIES
Established in 1965 by the late Edith E. Ferrie. To be awarded to students in any programme.
90511 289

THE EMMA FOX BURSARIES
Established in 1961 by the Wallingford Hall Committee of which Emma Fox was treasurer from 1918 to 1958. To assist female students in any programme.
90512

LES AMIS DU DEPARTEMENT DE FRANCAIS BURSARIES
Established in 1995 by the Friends of the Department of French. To be awarded to a needy student enrolled in a programme in French. Preference will be given to students from the Regional Municipality of Hamilton-Wentworth.
90574.

THE JAMES EDWARD GRADER MEMORIAL BURSARY
Established in 1964 by his sister. To be awarded to a student specializing in Geology. Application should be made to the Department of Geology.
90513

THE JAMEL (JAMIE) GREILING MEMORIAL BURSARIES
Established in 1991 in memory of Jamie Greiling (38) by the Operating Committee on the Disabled through its Awareness Week Activities. To be awarded to a disabled student in any programme who demonstrates financial need. Students should have registered with the Office for Ability and Access.
90553 287

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 HARWOOD BURSARIES
Established in 1990 by bequest of Dr. William Harwood of Hamilton in memory of his beloved wife Grace and devoted daughter Willa Ruth Laurie (50). A variable number of bursaries to be awarded 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, after graduation, will reimburse the fund to the extent of their award so that the fund may assist increasing numbers of students.
90518 297

THE HAWKIRG FUNDATION BURSARIES
Established in 1988. To be awarded to an outstanding student in Business I or Kinesiology I.
90514 288

THE JAMES JUDSON & MARIE MAYER BURSARIES
Established in 1973 by friends in memory of James Judson and Marie Mayer. To assist students who demonstrate financial need, in Level II or IV of the B.Sc.N. programme (basic and/or post-diploma stream).
90519

THE JULIA HURTIG BURSARY
Established in 1985 by Norton Canada Inc. in memory of Jack and Thelma Heath, former employees of the Company, who were tragically killed in a boating accident. The fund provides up to four awards to assist students, with demonstrated financial need, in Level III or IV of the B.Sc.N. programme (basic and/or post-diploma stream).
90521

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 one who has graduated from a secondary school in Hamilton.
90522 211

THE INTER-RESIDENCE COUNCIL BURSARY
Established in 1995 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 financially needy students with disabilities who 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 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 Ability and Access.
90572

THE LABARGE MEMORIAL BURSARIES
Established in 1973 by friends and associates in memory of Raymond C. Labarge (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 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 awarded to needy students enrolled in any programme. Preference to be given to women students who are single parents.
Value: $600
90575

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 needy students in any programme.
90555 301

3M CANADA INC. BURSARY
Established in 1980, two bursaries to be awarded annually; one to an M.B.A. student and one to a student in Business or Science.
90525 220

THE DIANNE MACISAAC MEMORIAL BURSARY.
Established in 1994 by friends and family of Dianne Macisaac. To be awarded to a student or students enrolled in a programme in Sociology who demonstrate financial need. Preference will be given to students with disabilities.
90571

THE ANDREW MCFARLANE BURSARIES
Established in 1988 by bequest of Andrew McFarlane of Hamilton. To be awarded to a student or students who are in good standing and have demonstrated financial need.
90526

THE MCMASTER 1980 BURSARIES
Established in 1980 by the University to assist undergraduate students in any programme.
90527

THE MCMASTER ALUMNATA CENTENNIAL BURSARY
Established in 1988 by the McMaster Women’s Alumnae, Hamilton Branch, to be awarded to a mature student in her or his graduating year, who is a Canadian citizen or permanent resident and who exhibits financial need. Preference will be given to a single parent.
90528 214

THE MCMASTER SAVINGS AND CREDIT UNION LTD. BURSARIES
Established in 1993 by the McMaster Credit Union Limited. To assist students in any programme. Preference will 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.
90561 334

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 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 WOMEN’S CLUB BURSARY
Established in 1983 by the McMaster Women’s Club to assist a student beyond Level I in the University’s B.Sc.N. programme.
90531 291

THE A.J. MELLONI MEMORIAL FUND
To be awarded to a student in any programme.
90532

THE JAMES C. MOORE MEMORIAL BURSARY
Established in 1989 by family and friends in memory of James C. Moore. To be awarded to a student in Humanities or Social Sciences who demonstrates involvement in student government.
90566 339

MOUNT HAMILTON ROTARY CLUB BURSARY
Established in 1987, this bursary is to be awarded to a student or students 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 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 pursuing an education in Nursing (basic or post-diploma stream) in Level II, III, or IV.
90535 218

THE MARION PEARCE BURSARIES
Established in 1990 by Dr. Sally Palmer in memory of her aunt Marion Pearce (’20). Miss Pearce worked with New Canadians at the Beverly Street Baptist Church in Toronto. A variable number of bursaries to be awarded to students enrolled in the Social Work programme who have demonstrated financial need.
90536 228

THE MARC ANDRE ADRIEN PINEAULT BURSARY
Established in 1995 by family and friends in memory of Marc Pineault. To be awarded to a needy student enrolled in a programme in Engineering who has demonstrated involvement in University activities including the McMaster Choir, varsity wrestling, karate club and issues related to the environment and social justice.
90576

THE PROFESSIONAL ENGINEERS’ WIVES ASSOCIATION BURSARY
Originally established in 1983 by the Professional Engineers’ Wives Association to be awarded to a needy female Engineering undergraduate student who, because of extenuating circumstances, would be unable to continue her studies without such assistance.
90537 061

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 ERIC SCHLICHTING MEMORIAL BURSARY
Established in 1986 by his family, classmates and friends. To assist a student in a programme in Geochemistry, Geology, or other field of Science, in that order of preference. Application should be made to the Department of Geology.
90539 219

THE MYKOLA SEMENIUK BURSARIES
Established in 1989 by the Sertoma Club of Hamilton. To be awarded to a hearing disabled student in any programme who demonstrates financial need. In a year that a suitable candidate is not found, the bursary will be awarded to a student with another disability provided they demonstrate financial need. Students must have registered with the Office for Disabled Students.
90540 221

THE MYKOLA SEMENIUK BURSARIES
Established in 1989 by the Sertoma Club of Hamilton. To be awarded to a hearing disabled student in any programme who demonstrates financial need. In a year that a suitable candidate is not found, the bursary will be awarded to a student with another disability provided they demonstrate financial need. Students must have registered with the Office for Disabled Students.
90540 221

THE SAM SMURLOCK BURSARY
Established in 1976 by the Smurlock family in memory of Sam Smurlock (’35). To be awarded to a student in any programme.
90541

THE SOCIAL SCIENCES SOCIETY BURSARIES
Established in 1990 by the Social Sciences Society in recognition of the outstanding efforts of Dr. Peter George in establishing the Social Sciences Society. A variable number of bursaries to be awarded to full-time students enrolled in the Faculty of Social Sciences who demonstrate financial need.
90542 229

THE LILLIAN R. STEGNE MEMORIAL BURSARIES
Established in 1990 in memory of Lillian Rose Stegne (’62) by family, friends and colleagues. Two or three bursaries to be awarded to handicapped students in any programme who demonstrate financial need.
90543 137

SUNCOR INC. 1988 BURSARIES
Established in 1988, this bursary is awarded 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.
90544 222

THE TRESSILA TRUBY MEMORIAL BURSARY
Established in 1992 from the bequest of Tressila Truby (M.e.S.p.) and Past-President of the Zonta Club of Hamilton II. To be awarded to a female student who has completed Level II of a programme in Music.
90556 200
THE WALLINGFORD HALL BURSARIES
Established through anonymous donations to assist needy students in any programme.
Value: $500

THE G. S. (SANDY) WATT MEMORIAL BURSARY
Established in 1993 by Zeton Inc. of Burlington in memory of G. S. (Sandy) Watt. To be awarded to a student in financial need enrolled in the Commerce programme who is a Canadian citizen or permanent resident.
Value: $350

THE CLIFFORD JOHNSTON WEBSTER MEMORIAL BURSARIES
Established in 1993 by Viola Webster in memory of her brother Clifford Johnston Webster (41). To assist needy students enrolled in the Honours English programme who are Canadian citizens of permanent residents and who have graduated from a public secondary school in Ontario. Applicants should have a record of academic performance that has normally been at the upper second-class level or higher. If sufficient applicants are not eligible in the Honours English programme, the bursaries are available, under similar conditions, to students in the Honours French programme.
Value: $90,000

THE YATES BURSARIES
Value: $225,000

THE ZONTA CLUB OF HAMILTON I BURSARIES
Established in 1988 by the Zonta Club of Hamilton I to financially assist female students. Two bursaries to be awarded to students in good academic standing: a) one to a student specializing in Commerce; and b) one to a student specializing in Gerontology.
Value: $500

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, 1995, submit a bursary application to the Office of Student Financial Aid and Scholarships, Hamilton Hall, Room 404. Final decisions regarding potential bursary support will be available on May 19, 1995 and 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 (page 16) and the Student Exchanges Officer in the Academic Facilities, Student Services and Organizations section in this Calendar.

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 Director of Student Financial Aid and Scholarships.

THE ENGINEERING INSTITUTE
OF CANADA (HAMILTON 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. ('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:

- Edith M. Griffen Loan Fund
  Established in 1957 by Paardeburg Chapter, IODE, in honour of Mrs. H.S. Griffen.
- Princess Marina Chapter, IODE, Loan Fund
  Established in 1975.
- Emma Frances Pratt Chapter, IODE, Loan Fund
  Established in 1968. To assist female students in Levels III or IV of any programme.
- Muriel Clark Riddell Loan Fund
  Established in 1964 by the Right Honourable Stanley Baldwin Chapter, IODE.
- Sovereign Chapter, IODE, Loan Fund
  Established in 1960. To assist female students in the final level of any programme.
- Margaret B. Sutterby Memorial Fund
  Established in 1955 by the 67th University Battery Chapter, IODE.
- Wentworth Chapter, IODE, Loan Fund
  Established in 1953.

THE 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 MCLROY 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 LOAN FUND
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.

STUDENT FINANCIAL AID 261
The University Senate, acting on behalf of generous benefactors and donors, bestows academic awards on entering, in-course, and graduating students to encourage and recognize high levels of scholarship. The University requires all recipients of academic awards to fulfill a set of general conditions, in addition to meeting the particular terms attached to individual academic awards. The general conditions and terms have been established to ensure equity in competition and a high academic standing. Any interpretation of the conditions attached to academic awards is solely the prerogative of the Undergraduate Council.

TERMINOLOGY

An explanation of the terminology used to describe Academic Awards is provided in the sections of this 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. Honours Biology and Psychology, Level I: 33 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. A full load is not required to be eligible for graduate awards.

Graduat Awards are granted to eligible students on the completion of their graduating session.

In-Course Awards are granted to eligible students, based on academic achievement in other than their graduating session.

Part-time Studies Awards are referred to under Section 2, Category C. To be eligible for these awards, students must have been registered in at least 50% of all units attempted at McMaster, while fulfilling the University's definition of a part-time student as described in the Glossary section of this Calendar.

Session, for scholarship purposes, refers to the Fall/Winter session. The Fall/Winter session is the period from September to April as defined in the Sessional Dates section of this Calendar.

Full-load Average (FA) is the weighted average computed for Undergraduate In-Course Academic Awards. It is based on the successful completion of a full load of course units, as defined by programme and level. It includes only those courses taken in the Fall/Winter session. Overload courses (courses over and above full load), and Extra courses taken during the Fall/Winter session are included in the Full-load Average.

Reviewing Period for scholarship purposes, normally refers to work completed during the Fall/Winter session. Please refer to the Glossary section of this Calendar.

SECTION 1. GENERAL CONDITIONS FOR ACADEMIC AWARDS

1. The University Academic Awards listed below are provided exclusively for students entering, registered in, or graduating from baccalaureate degree programmes at McMaster University. Continuing Students, Post-degree Students, and students registered in the McMaster Medical programme are not eligible for these awards.

2. To ensure a wide distribution of the limited number of awards, there are restrictions on the number of awards that a student may receive. An eligible student may be granted:
   a. travel scholarships and awards such as books and medals;
   b. awards continued from a previous year (including entrance scholarships), except as provided by the particular terms of an award; and
   c. either one award greater than or equal to the value of a Senate Scholarship ($800 in 1995-96) and one award of less than the value of a Senate Scholarship, or two awards of less than the value of a Senate Scholarship.

When a student is named the winner of an award but may not retain it because of the conditions listed above, the next eligible student will be granted the award.

3. The monetary benefits of travel scholarships, awards won by part-time students and graduating students, and awards such as books and medals will be disbursed directly to the student.

4. The monetary benefits of other awards will be disbursed only if the recipient is registered in a baccalaureate degree programme, or a specific programme when explicitly required by terms of award, at McMaster University in the next Fall/Winter session. After the award was earned, it will be credited in the following manner:
   a. the monetary benefits of award(s) will be credited to the student's academic fees account up to the value of the academic fees prescribed for a full load of work as specified in the Calendar for the level and programme in which the student is registered.
   b. the monetary benefits of award(s), which exceed the value of academic fees as prescribed for a full load of work for the level and programme in which the student is registered, will be credited to one or more of the student's other University accounts (e.g. residence, and/or bookstore, etc.).

   The amounts in excess of the student's monetary obligation to the University will be disbursed directly to the student in November or December.

5. Awards credited to the student's academic fees account are not refundable in cash under any circumstances.

6. Awards credited to the student's academic fees account may be used only to defray academic fees for baccalaureate degree courses taken during the Fall/Winter session in which the account is credited with the awards. Students wishing to defer the benefits of an award to a later session should apply to the Director, Student Financial Aid and Scholarships. Approval of applications is not automatic, and deferments are not normally granted for more than one calendar year.

7. Students holding four-year, full-fees scholarships who choose to accelerate their programme and to complete their degree earlier than normal by completing Spring/Summer session courses and who wish to employ the benefits of their award to defray the academic fees for such courses should apply to the Director, Student Financial Aid and Scholarships. Approval of applications is not automatic.

8. The University reserves the right not to grant an award in the absence of a suitable candidate, and to limit the number of awards when there are too few suitable candidates. The University also reserves the right to withdraw, or amend the terms of, any award.

9. The particular terms for University Academic Awards are listed in Section 2.

SECTION 2. CATEGORIES OF AWARDS

A. Awards for Entering Students (page 263)
   • McMaster Scholars Programme
   • National Scholarships
   • Scholarships Open to Ontario Students
   • Merit Awards Open to Ontario Students

B. Awards for Full-time In-Course Students (Full Load) (page 268)
   • Medal
   • Senate Scholarship
   • Residence Scholarships
   • Travel Scholarships

C. Awards for Part-time In-Course Students (page 274)
SECTION 2. CATEGORIES OF AWARDS

A. Awards for Entering Students

A.1 These awards are provided exclusively for students qualifying for admission to Level I of a first baccalaureate degree programme.

A.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.

A.3 Where explicitly 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 Director, Student Financial Aid and Scholarships about making changes to their programme of study.

A.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 Director, Student Financial Aid and Scholarships. Approval of applications is not automatic, and deferments are not normally granted for more than one calendar year.

A.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 each successively Fall/Winter session at the University, a full load corresponding to at least:

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 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 March 1, 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 Director, Student Financial Aid and Scholarships.

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.

The McMaster Scholars programme incorporates the following awards:

THE ASHAUBA SCHOLARSHIP

Established in 1989 by bequest of Frederick K. Ashauba of St. Petersburg, Florida, in memory of Mary Eliza Kingston. 2002

THE GEORGE AND NORI ELWIN SCHOLARSHIP

Established in 1979 by bequest of George and Nora Elwin of Hamilton. 2002

THE DR. HARRY LYMAN HOOKER ENTRANCE SCHOLARSHIP

Established in 1981, and resulting from the bequest of Dr. H. L. Hooker. 2000

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
dataextracted...
THE FRANK THOROLFSON 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 Music, have attained high scholastic achievement and musical proficiency.
Value: $750 each

THE TYNOWSKI SCHOLARSHIP
Established in 1989 by the University, friends and colleagues of Olga Tynowski, for her outstanding contributions to McMaster University during 46 years of service. To be awarded to an outstanding student entering a full-time programme of study.
Value: $12,000 ($3,000 per year for up to four years)

THE WALLINGFORD HALL ENTRANCE SCHOLARSHIP
Established in 1993. To be awarded to a student entering a full-time programme of study.
Value: $3,000

THE CANADIAN SCHOLARSHIPS (SPEClFIED LEVELs 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

THE HELEN M. CURREY SCHOLARSHIP
Established in 1941 by bequest of Helen Maud Currey of Drumbo, Ontario. To be awarded to an outstanding student entering the Faculty of Engineering.
Value: $1,200

THE DUNDAS SCHOLARSHIPS
Established in 1985 by the Dominion Foundries and Steel Company. To be awarded to a student who is a Canadian citizen or permanent resident and who is entering Engineering I.
Value: $12,000 ($3,000 per year for up to four years)

THE HENRIETTA BROWN SCHOLARSHIP
Established in 1979 by the University, friends and colleagues of Mrs. Henrietta Brown. To be awarded to an outstanding student entering the School of Nursing.
Value: $1,000 each

THE JOSEPH J. HOFFMAN SCHOLARSHIP
Established in 1999 by the University, friends and colleagues of Dr. Joseph J. Hoffman. To be awarded to an outstanding student entering the Faculty of Health Sciences.
Value: $1,000 each

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)

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)

THE ISABELLA CAMPBELL MCNIE SCHOLARSHIP
Established in 1925 and augmented in 1946. OAC subjects to be included are three credits of Mathematics and Physics.
Value: $12,000 ($3,000 per year for up to four years)

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)

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)

MERIT AWARDS OPEN TO ONTARIO STUDENTS
Each year, allotments of Merit Awards are established for Arts & Science I, Business I, Engineering I, Humanities I (including Music I), Natural Sciences I, Nursing I and Social Sciences I (including Kinesiology I) in proportion to full-time undergraduate students enrolled in these Level I programmes. Applications from students completing OACs in the current school year are required by March 30, 1995. Applications must include a resume, and school assessment. Details may be obtained from the Director, Student Financial Aid and Scholarships.

THE MURRAY BALL ENTRANCE SCHOLARSHIP IN EARTH SCIENCES
Established in 1990 by Murray Ball in memory of his brother Murray Ball. To be awarded to the outstanding student entering the Faculty of Science who, in the judgment of the Department of Geology, has demonstrated interest in the study of Earth Sciences.
Value: $1,000

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 Ingleheim, Smithkline Beecham, Monsanto and the Royal Bank. Two scholarships to be awarded to outstanding students graduating from a secondary school in the Halton Region; (a) one to a student entering a full-time programme of study; and (b) one to a student entering full-time study in Natural Sciences I or Music I. Preference will be given to women students.
Value: $1,000 each

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

THE CATHRYN E. KAake MERIT AWARD
Established in 1988 in memory of Cathryn E. Kaake (78) by family and friends.
Value: $1,000

THE RAYMOND C. LABARGE MERIT AWARD
Established in 1990 in memory of Raymond C. Labarge (36) of Ottawa.
Value: $1,000

THE MCMaster MERIT AWARDS
Made available from time to time by authorization of the Board of Governors of the University.
Value: $1,000

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
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.

B.1 These awards, which are granted in June or November, are provided exclusively for first baccalaureate degree students registered for a full load qualifying on the basis of work included at the May review (or deferred examinations 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.

B.2 In addition to meeting the General Conditions listed in Section 1, a student must complete, during the Fall/Winter session immediately prior to the May review, a full load of work corresponding at least:

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.

B.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. Load 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.

B.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 spring review, and who ranks highest in scholarship, leadership and influence.

Value: $25

THE ACI (ONTARIO CHAPTER) SCHOLARSHIP
Established in 1992 by the American Concrete Institute (Ontario Chapter). To be awarded to a student entering Level IV of the Civil Engineering programme who, in the judgment of the Department of Civil Engineering, has demonstrated outstanding academic achievement and knowledge of concrete technology.

Value: $300

THE W.K. ALLAN MEMORIAL SCHOLARSHIP
Established in 1994 in memory of William Kellock Allan (31) by his wife. To be awarded to a student entering the final level of a programme in Mathematics or Physics who attains the highest Full-load Average.

Value: $900

THE AMOCO CANADA UNDERGRADUATE SCHOLARSHIP IN GEOLOGY
Established in 1990 by Amoco Canada Petroleum Company Limited to recognize outstanding students pursuing a programme of courses related to petroleum geology. To be awarded to a student entering Level III or IV of a Geology programme who, in the judgment of the Department of Geology, has demonstrated the greatest aptitude in such relevant areas as stratigraphy, sedimentology, structural geology, exploration geophysics, palaeontology and geologically oriented computer applications.

Value: $1,500

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 30-75 units of the Ceramic Engineering, Honours Materials Science, Materials Engineering or Metallurgical Engineering programme and who attains the highest Full-load Average (at least 9.5).

Value: $1,500

THE ASSOCIATION OF PROFESSIONAL ENGINEERS UNDERGRADUATE SCHOLARSHIPS
Established in 1961 by the Ontario Professional Engineers Foundation for Education. Four scholarships: two to be awarded to students with the highest Full-load Average after completion of Engineering I, and two to be awarded to students with the highest Full-load Average in Engineering programmes after completion of Engineering I and 35-90 units.

Value: $600 each

THE A.H. ATKINSON PRIZE
Established in 1980 by Atkinson Engineering Consultants Limited. To be awarded to the student in a Civil Engineering programme who attains the highest average in CIV ENG 3G03 and 3J04, taken in one session.

Value: $200

THE MURRAY BALL SCHOLARSHIPS IN GEOLOGY
Established in 1991 by Mary 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 Department of Geography, have attained notable standing. Ordinarily, not more than one scholarship will be awarded in any one programme.

Value: $800 each

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 or Major programme in the Department of Mathematics and Statistics, who attains the highest Full-load Average and who in that session achieves a grade of at least B in STATS 3D06.

Value: $300

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.

Value: $350

THE SCOTT BARTLETT MEMORIAL PRIZE
Established in 1986 in memory of Scott N. Bartlett by his family and friends. To be awarded to a student who has completed Level I and 60-75 units of the Honours Commerce Programme and who, in the judgment of the Faculty of Business, has achieved high standing in COMMERCE 3FA3 and 3FB3, taken in one session.

Value: $100

THE BEAUTY COUNSELORS OF CANADA SCHOLARSHIP
Established in 1956 by Beauty Counselors of Canada Limited. To be awarded to the student who has completed Natural Sciences I with the highest Full-load Average and who is entering Level I of Honours Biochemistry, Honours Chemistry, Honours Biochemistry and Chemistry or Honours Applied Chemistry programme.

Value: $300

THE LOUISE E. BETTGER SCHOLARSHIPS IN MUSIC
Established in 1982 in memory of Louise E. Bettger of New Hamburg, Ontario, by her nieces and nephews. Three scholarships to be awarded to students in an Honours programme in Music who, in the judgment of the School of Art, Drama and Music, are outstanding: (a) one in the area of choral or vocal music to a student who has completed Music I or an additional 30-75 units; (b) one to a keyboard student who has completed Level I and 30-75 units; and (c) one to a student who has completed Music I and who has demonstrated overall musical excellence.

Value: $400 each

THE J.P. BICKELL SCHOLARSHIPS
Established in 1955 by the J.P. Bickell Foundation to encourage interest in the study of geology and metallurgy. Two scholarships to be awarded, normally one to the student entering Level II of Honours Geology, Honours Geology and Physics, Honours Chemistry and Geology or Honours Materials Science and another to the student entering Level I 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.

Value: $3,000 each ($1,000 each year)

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.
THE CANADIAN SOCIETY FOR CHEMISTRY PRIZES
Established in 1947 by the Chemical Institute of Canada. Two awards to be made to students who have completed Level I and 60 to 80 units: (a) one to a student in an Honours programme in Chemistry, Honours Applied Chemistry, or Chemistry Major who attains high standing in chemistry; (b) one to a student in the Honours Biochemistry or Honours Biochemistry and Chemistry programme who attains high standing in biochemistry and organic chemistry.
Value: Medal and certificate

THE CANADIAN SOCIETY FOR CHEMISTRY PRIZE
Established in 1947 by the Chemical Institute of Canada. 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

THE CHEMICAL INSTITUTE OF CANADA (HAMILTON SECTION) PRIZES
Established in 1984 by the Hamilton Section. Two prizes to be awarded to students who have completed Level I and 30 to 50 units: (a) one to a student in an Honours programme in Chemistry who, in the judgment of the Department of Chemistry, shows particular promise in thermodynamics. 
Value: $1,100
(b) one to a student in a programme in Chemical Engineering who, in the judgment of the Department, shows particular promise in Chemical Engineering.
Value: $50 each

THE CIVITAN-BELL SCHOLARSHIP
Established in 1986 by the CIVitan Club of Burlington. To be awarded to a student who has completed Level I and 30 to 60 units of a Social Work programme with high standing and who, in the judgment of the School of Social Work, has demonstrated an interest in a career in working with the mentally handicapped.
Value: $500

THE CLASS OF '37 Scholarship
Established in 1987 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: $1,100

THE CLASS OF '43 GOLDEN ANNIVERSARY SCHOLARSHIP
Established by the Class of 1943 in celebration of their 50th anniversary. To be awarded to the student who has completed Level I and at least 60 units of an Honours programme in Drama who, in the judgment of the School of Art, Drama and Music, has achieved notable academic standing and has made a significant contribution to theatre on campus.
Value: $600

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
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 participation in extracurricular activities.
Value: $500
30183252

THE CONSUMERS GLASS SCHOLARSHIP
Established in 1986. 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
30029345

THE DR. RUDOLF DE BUDA SCHOLARSHIP
Established in 1989 in memory of Professor De Buda by family, friends and colleagues. To be awarded to a student who has achieved high standing after completion of Level I and 70 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
30041240

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
30032047

THE JOHN DEERE LIMITED SCHOLARSHIP
Established in 1992 by John Deere Limited. To be awarded to a 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: $1,500
30070305

THE DELoitTE & TouCHE SCHolARSHIP
Established in 1962. To be awarded to the student who has completed Level I and 60 to 75 units of a programme in Commerce and who attains a high Full-load Average and in that session attains an average of at least 10.0 in COMMERCE 3AA3 and 3AB3.
Value: $500
30041877

THE SCHOOL OF ART, DRAMA AND MUSIC SCHOLARSHIP IN MUSIC
Established in 1993 by the Department of Music which later became part of the School of Art, Drama and Music. To be awarded to a student who, in the judgment of the School of Art, Drama and Music, has demonstrated academic excellence in Music.
Value: $1,000
30016324

THE ROSEMARY DOUGLAS-MERCIER 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 2J03 or 2JJ3 and one of 2W03 or 2W03.
Value: $225
30124

THE HORNACE 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 student who has completed Level I and 60 to 75 units of an Honours programme in Philosophy and who, in the judgment of the Department of Philosophy, has attained the most notable standing.
Value: $150
30068
THE GEORGE P. GILMOUR MEMORIAL SCHOLARSHIP
Established in 1987 by the Graduating Class of 1962 in honour of Dr. G.P. Gilmour (‘21), Chancellor of McMaster University from 1941 to 1950 and President and Vice-Chancellor from 1950 to 1961. To be awarded to a student who has completed Level I and 60 to 75 units of an Honours programme in the Arts and Science Programme and who, in the judgment of the Arts and Science Programme Admissions, Awards, and Review Committee, has demonstrated outstanding academic achievement and has made notable contribution to the campus or community by participation in extracurricular activities.
Value: $3000

THE DAPHNE EHERINGTON GRAHAM MEMORIAL SCHOLARSHIP IN ENGLISH
Established in 1989, in memory of a former student and dedicated servant of the University, by her friends, family, and Professor Emeritus R.P. Graham. To be awarded to the student, registered for a first degree after completing Level I, who attains the highest standing in 18 units of English including ENGLISH 2A06, all taken in the same session, with an average standing of at least A- provided that the recipient is not the holder of another scholarship of equal or greater value.
Value: $1,000

THE H.H. GREENING BOOK PRIZE
Established in 1969 by bequest of Gladys Powis Greening in memory of her husband, Harold Benjamin Greening. To be awarded to the student who has completed Level I and 30 to 45 units of an Honours programme in Music and who, in the judgment of the School of Art, Drama and Music, has demonstrated excellence in music.
Value: $100 for books

THE RUTH AND JACK HALL PRIZE
Established in 1993 by Jackie Macdonald in memory of her parents. To be awarded to a student who has completed Level I and at least 60 units and who, in the judgment of the Department of Materials Science and Engineering, shows most promise as a materials scientist or engineer.
Value: $100

THE HAMILTON CHEMICAL ASSOCIATION PRIZE
Established in 1953 by the Trustees of the Hamilton Chemical Association in memory of Dean C.E. Burke. To be awarded to the student who has completed Level I and 30 to 45 units of an Honours programme in Chemistry and who attains the highest Cumulative Average.
Value: $200

THE HAMILTON ECONOMIC DEVELOPMENT COMMISSION SCHOLARSHIPS
Established in 1976. (a) Two scholarships to be awarded on the basis of Full-load Average to students entering Level II of a Commerce programme; (b) Four scholarships to be awarded on the basis of Full-load Average: two to students who have completed Level I and 30 to 45 units, and two to students who have completed Level I and 60 to 75 units of a programme in Commerce. Recipients must have obtained all their secondary school education in the Hamilton Wentworth Region.
Value: $800 each (six awards)

THE HAMILTON PERFORMING ARTS SCHOLARSHIP
Established in 1982 by the Hamilton Performing Arts Council. To be awarded to a student who has completed at least 30 units of a programme in Art, Drama, or Music, who, in the judgment of the Faculty of Humanities, has demonstrated outstanding academic achievement and excellence in the performing arts: theatre, drama, music or art.
Value: $500

THE DONALD HART SCHOLARSHIP
Established in 1985 by Mrs. Pamela Hart and Joel Jordan in honour of Donald Neil Hart (’70). To be awarded to a student who has completed Level I and 30 to 45 units of a programme in Commerce and who, in the judgment of the School of Business, has achieved high standing in the required Level II Commerce courses, taken in one session.
Value: $350

THE HELLINIC PRIZE
Established in 1995 by the Greek communities and associations in the Hamilton-Wentworth area. 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

THE ANNA MARIE HIBBARD SCHOLARSHIP
Established in 1992 from the bequest of Anna Marie Hibbard. To be awarded to the student completing Level I who attains the highest Full-load Average. The recipient may not hold another scholarship of equal or greater value.
Value: $1,600

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 Level I and 32 to 45 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

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

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-five awards were given in 1995.
Value: $1,500 each

THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS (HAMILTON SECTION) PRIZES
Established in 1961. Two prizes to be awarded to students entering the final level who qualify on the basis of high academic standing and, in the judgment of selection committees, demonstrate interest in university activities: a) to a student in an Electrical Engineering Programme; b) one to a student in a Computer Engineering Programme.
Value: $200 and a book

THE INTER-METCO 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

THE ITCA COMMUNITY INVOLVEMENT PRIZE
Established in 1982 by Italian Canadian Community Involvement Incorporated. 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

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
UNDERGRADUATE AWARDS — FULL LOAD

THE IVEY SCHOLARSHIP
Established in 1971 by Professor and Mrs. G.S. French in memory of Mr. and Mrs. I.E. Ivey, the parents of Mrs. French. To be awarded to the student who has completed Level I and 60-75 units of an Honours programme in Music and who, in the judgment of the School of Art, Drama and Music, has attained notable standing.
Value: $125
30074 087

THE A.I. JOHNSON SCHOLARSHIP
Established in 1977 in memory of Dr. A.I. Johnson by his friends and former colleagues. To be awarded to a student who has completed Level I and 110 to 130 units of a programme in Engineering and Management. Award to be based on distinguished academic performance during the student’s undergraduate career. Consideration will also be given to noteworthy contribution in extracurricular activities.
Value: $600 and certificate
30022 59

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
30094 090

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
30093

THE STANFORD N. KATAMBALA GEOLOGY PRIZE
Established in 1965 by contributions from friends and associates of Stanford N. Katambala, a Year III Honours Geology student from Tanzania, killed in a mine accident in Northern Ontario in September 1964. To be awarded to a student who has completed Level I and 60 to 75 units of the Honours Geology programme and who attains high standing in Geology.
Value: $50
30143

THE GEORGE P. AND LEATHA M. KEYS SCHOLARSHIPS
Established in 1982 by Mrs. Leatha Keys. Three scholarships to be awarded to students who, in the judgment of the Departments of Computer Science and Systems, and of Mathematics and Statistics, have demonstrated outstanding achievement in Honours and Major programmes in those Departments: (a) one to a student who has completed Level I and 30 to 75 units of the Computer Science programme; (b) one to a student who has completed Level I and 60 to 75 units of a programme in Mathematics; and (c) one to a student who has completed Level I and 60 to 75 units of a programme in Statistics.
Value: $350 each
30057 091

THE KIT MEMORIAL SCHOLARSHIP
Established in 1936 by the Hamilton Branch of the Canadian Women’s Press Club (now the 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
30095 092

THE GARY LAUTENS MEMORIAL SCHOLARSHIP
Established in 1992 by family, friends and colleagues in memory of Gary Lautens (’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. To be awarded to a student who has completed any Level I programme who, in the judgment of a Selection Committee, has achieved notable academic standing and has demonstrated journalistic skills in the written media. The scholarship is tenable for up to three years provided the recipient maintains a Cumulative Average of 6.0. Students who wish to be considered for this award should consult the Director, Student Financial Aid and Scholarships, before December 1.
Value: $3,600 ($1,200 each year)
30212 321

THE HOWARD O. LAWRENCE SCHOLARSHIP
Established in 1988 by Industrial Ceramics Limited. To be awarded to a student entering Level IV of the Ceramic Engineering and Management programme and who, in the judgment of the Department of Materials Science and Engineering, has achieved high standing in Level III of the programme.
Value: $500
30067

THE MEGAN LAWRENCE SCHOLARSHIP
Established in 1988 by the Zonta Club of Hamilton II in memory of Megan Lawrence, Zontian and educator in the City of Hamilton. To be awarded to a student who has completed Level I and 67 to 85 units of the Kinesiology programme and who, in the judgment of the Department of Kinesiology, demonstrates excellence in scholarship, leadership and participation in sport, dance and fitness.
Value: $700
30109 376

THE RAY LAWSON SCHOLARSHIPS
Established in 1975 by the Honourable Ray Lawson, O.B.E., D.C.L., D.Cn.L., LL.D., K.G.St.J., Lieutenant-Governor of Ontario from 1946 to 1952. Two scholarships to be awarded for the highest Full-load Averages in an Engineering and Management programme: (a) one to a student who has completed Level I and 70 to 90 units, and (b) one to a student who has completed Level I and at least 109 units beyond Level I.
Value: $400 each
30126 099

THE BETTY MACMILLAN PRIZE
Established in 1960 by her classmates in memory of Elizabeth Johnstone MacMillan (’50). To be awarded to the student who has completed Level I and 60 to 75 units in an Honours programme in Sociology and who, in the judgment of the Department of Sociology, is the most promising student.
Value: $100
30100

THE LIANNE MARKS SCHOLARSHIP
Established by her family, in 1980 as a bursary and in 1985 as a scholarship, in honour of Lianne Marks, a student at McMaster University (1977-80). To be awarded to a student who has completed Level I and 60 to 75 units of an Honours programme in Sociology and who, in the judgment of the Department of Sociology, has demonstrated outstanding academic achievement and has made notable contribution to the campus or community by participation in activities other than sports.
Value: $700
30101

THE RONALD E. MATERICK SCHOLARSHIP
Established in 1987 by Ronald E. Materick (’70). To be awarded to a student who has completed Level I and 70 to 85 units of a programme in Civil Engineering and who, in the judgment of the Department of Civil Engineering and Engineering Mechanics, has attained notable academic standing.
Value: $1,200
30127 106

THE MCGREGOR-SMITH-BURR MEMORIAL SCHOLARSHIP
Established in 1910 by the Class of 1912 in Arts, in memory of their classmates, Percy Neil McGregor, Lee Wilson Smith and George William Burr, and supplemented in 1944 by bequest from Professor R. Wilson Smith, father of Lee Wilson Smith. To be awarded to the student who has completed Level I and 60 to 75 units of the Honours English and History programme and who has the highest Full-load Average.
Value: $425
30108

THE ALEXANDER GORDON MCKAY SCHOLARSHIP
Established in 1990 by friends and colleagues of Professor A.G. McKay, first Dean of the Faculty of Humanities from 1968 to 1973, to mark his retirement after 33 years of service at McMaster University. To be awarded to a student who has completed Level I and 60 to 75 units of an Honours Classics programme and who, in the judgment of the Department of Classics, has attained high academic standing. Preference will be given to students from the Regional Municipality of Hamilton-Wentworth.
Value: $350
30180 260

THE A.B. MCLAY SCHOLARSHIP IN PHYSICS
Established in 1991 by C. Lucy Mclay in memory of her late husband, A. Boyd Mclay (Ph.D., 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
30186 254

THE BOYD MCLAY SCHOLARSHIP IN PHYSICS
Established in 1977 to commemorate the contributions of Dr. A. Boyd Mclay (’22) to teaching and research in optics and spectroscopy at McMaster University from 1930 to 1967. To be awarded to a student who has completed Level I and 60 to 75 units of an Honours programme in Physics with a high Full-load Average.
Value: $350
30011 109

THE MCMASTERS UNIVERSITY RETIREES’ ASSOCIATION SCHOLARSHIP
Established in 1991 by the McMaster University Retirees’ Association. To be awarded to a student who has completed Level I and at least 30 units of a programme in Gerontology and who attains the highest Full-load Average. The student must enrol in a programme in Gerontology in the subsequent Fall/Winter session.
Value: $300
30187 271
UNDERGRADUATE AWARDS — FULL LOAD

THE MCNABB SCHOLARSHIP
Established in 1989 in memory of Donald G. McNabb ('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

THE SIMON MCNALLY SCHOLARSHIPS
Established in 1972 by S. McNally and Sons Limited, in honour of Simon McNally. One or two scholarships to be awarded to Canadian citizens who have completed Level I and 35 to 50 units of a programme in Civil Engineering. Awards are based on scholarship and evidence of practical engineering experience and background.
Value: $650 each

THE PETER MCPHATER MEMORIAL SCHOLARSHIP
Established in 1986 by Peter McPhater's friends in recognition of his art, craftsmanship and humanitariamism. To be awarded to a student who has completed Level I and 60 to 75 units of a programme in Honours Art or Honours Art History and who, in the judgment of the School of Art, Drama and Music, is outstanding.
Value: $500

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

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, or Engineering and Society, who attains the highest Full-load Average.
Value: $700

THE MICHAEL J. MORTON MEMORIAL BOOK PRIZE
Established in 1979 in memory of Dr. M.J. Morton. To be awarded to a student who has completed Level I and 60 to 75 units in an Honours programme in Chemistry and who, in the judgment of the Department of Chemistry, is outstanding in the field of inorganic chemistry.
Value: $150 for books

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: $600

THE MOUTON COLLEGE SCHOLARSHIPS
Established in 1957 from funds originally subscribed by the Alumnae of Mouton College during the years 1946 to 1949 for the expansion of Mouton College. Two scholarships to 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

THE ANNE MURRAY SCHOLARSHIP
Established in 1985 in memory of Anne M. Murray ('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 who, in the judgment of the Department, has attained notable standing in at least 9 units of German courses above Level I.
Value: $300

THE NIEMEIER SCHOLARSHIP
Established in 1938 and augmented in 1952 by Dr. O.W. Niemeier. To be awarded to the student who attains the highest Full-load Average at the completion of Level I and 31 to 55 units of the Nursing programme.
Value: $600

THE ROBERT NIXON SCHOLARSHIP
Established in 1991 by the Brant-Haldimand Liberal Association in honour of Dr. Robert Nixon ('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

THE FREDRIC P. OLSEN BOOK PRIZE
Established in 1974 in memory of Professor F.P. Olsen by his family, friends and former colleagues. To be awarded to a student who has completed Level I and 60 to 75 units of an Honours programme in Chemistry and who, in the judgment of the Department of Chemistry, shows particular promise as an experimental scientist.
Value: $100 for books

THE ONTARIO HYDRO SCHOLARSHIP IN ELECTRICAL ENGINEERING
Established in 1986. To be awarded to the student who has completed Level I and 35 to 55 units of a programme in Electrical Engineering and who, in the judgment of the Department of Electrical and Computer Engineering, has achieved notable standing (Full-load Average of at least 9.5), displayed strong communication skills, and demonstrated leadership ability and involvement in extracurricular activities.
Value: $2,400

THE PAIKIN SCHOLARSHIP
Established in 1957 in memory of Barney David Paikin ('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

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

THE F.W. PAULIN SCHOLARSHIP
Established in 1981 by the Canadian Engineering and Contracting Co. Limited in honour of its founder. To be awarded to a student who has completed Level I and 70 to 85 units of the Civil Engineering programme, or Level I and 110 to 130 units of the Civil Engineering and Management programme. Award is based on scholarship Full-load Average of at least 9.5 and evidence of leadership, self-motivation, and practical aptitude appropriate for a future in the construction industry.
Value: $1,100

THE IRENE PEARCE SCHOLARSHIP
Established in 1994 by Centenary United Church of Hamilton in honour of Irene Pearce, organist and choir director for fifty-four years. To be awarded to a student who plans to continue their studies after graduation with a practising firm of chartered accountants.
Value: $350

THE PEVENSING 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 60 to 75 units of a programme in Commerce. Preference will be given to students who wish to continue their studies after graduation with a practising firm of chartered accountants.
Value: $350

THE PRICE WATERHOUSE AND CO. SCHOLARSHIP
Established in 1959 by Price Waterhouse and Co. To be awarded to the outstanding student on the basis of qualifications and academic record after completion of Level I and 60 to 75 units of a programme in Commerce. Preference will be given to students who plan to continue their studies after graduation with a practising firm of chartered accountants.
Value: $350
THE PSYCHOLOGY SOCIETY PRIZES
Established in 1985 by the Psychology Society and the Faculty and Alumni of the Department of Psychology. Three prizes to be awarded to students who have completed Level I and 60 to 75 units with the highest Full-load Average: (a) one in the Honours Psychology B.A. programme; (b) one in the Honours Psychology B.Sc. programme; and (c) one in a combined Honours programme in Psychology.
Value: $50 each
30123141

THE DR. JOHN A. PYLYPUK SCHOLARSHIP
Established in 1967 in memory of Dr. John A. Pylypuk and in recognition of Canad'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
30039142

THE SHARON REEVES SCHOLARSHIP
Established in 1987 by Kevin W. Reeves (’80) in memory of his wife, Sharon (’79). To be awarded to a student entering Level III or IV of an Honours programme in Music (Education) and who, in the judgment of the School of Art, Drama and Music, has attained notable standing.
Value: $350
30135143

THE ELLA JULIA REYNOLDS SCHOLARSHIPS
Established in 1984 by bequest of Ella Julia Reynolds of Hamilton. Two scholarships to be awarded on the basis of scholarship and character to students who have completed Level I and 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 SCHOLARSHIPS
Established in 1982 by bequest of Mrs. Edna Elizabeth Ross Reeves of Hamilton in memory of her husband, Herbert A. Ricker. Four scholarships to be awarded on the basis of scholarship (Full-load Average of at least 9.5) and character to: (a) two to students who have completed Engineering I, or Level I and 35 to 90 units of a programme in Engineering, and (b) two to students who have completed 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: $1,150 each
30065145

THE ROSART PROPERTIES INC. SCHOLARSHIP
Established in 1989 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 Department of Geography, has attained high academic standing.
Value: $325
30129146

THE LEONA ALLERSTON RYAN AND GORDON HENRY STEVENS MEMORIAL SCHOLARSHIP
Established in 1995 by Elaine Keillor in memory of Leona and Gordon Stevens. To be awarded to a student who has completed Level I and 60 to 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: $600
30229393

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 both
30045245

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: $500 each
3017384

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 9 units of Russian courses above Level I.
Value: $400
30189255

THE SHELL CANADA SCHOLARSHIPS
Established in 1984 by the Shell Canada Ltd. Development Council: Two scholarships to be awarded, normally one in each of the B.A. and B.Sc. programmes, to the students who have completed Level I and 60 to 75 units of the Honours Geography programme and who elect GEOG 4C06 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
30142161

THE MARNIE SPEARS SCHOLARSHIP
Established in 1993 by many friends, colleagues and alumni of McMaster University as a tribute to Marnie Spears (’89), Executive Director, Development and Public Relations from 1986-93 and dedicated alumna who served as President of the McMaster Alumni Council in 1980, in recognition of her outstanding contribution to the University. To be awarded to the student who has completed Level I and at least 30 units of an Honours programme with notable academic standing and who, in the judgment of a Selection Committee, has demonstrated leadership in public, community or University alumni relations.
Value: $550
30217323

THE SALVATORE SPITALE MEMORIAL PRIZE
Established in 1984 by Dr. Salvatore Spitale. 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 and has demonstrated an active involvement in community life.
Value: $1,000
30133162
THE S.L. SQUIRE SCHOLARSHIPS
Established in 1938 by bequest of S.L. Squire of Toronto. Four awards to be made to students in any Level I programme who attain the highest standing in any two of MATH 1A06, 1B03, 1H05, 1N06, and in other tests provided for this scholarship by the Department of Mathematics and Statistics.
Value: $400 each

THE CLARENCE L. STARR PRIZE
Established in 1946 in memory of Dr. C.L. Starr, M.D., LL.D., F.A.S.S., Professor of Surgery at the University of Toronto, and an honorary alumnus of McMaster University (LL.D. 1922). To be awarded to the student who has completed Nursing I and who attains the highest Full-load Average.
Value: $150

THE MABEL STOOKLEY 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

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 1982 to 1986. 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

THE JUANITA LEBARRE SYMINGTON SCHOLARSHIP
Established in 1961 by The Women's Art Association of Hamilton in memory of Juanita LeBarre Symington. To be awarded to the student entering the graduating session of the Honours Art programme with the highest Full-load Average. The recipient must be from the Hamilton-Wentworth Region.
Value: $300

THE T.H.B. SYMONS SCHOLARSHIP IN CANADIAN STUDIES
Established in 1978. To be awarded to the student who attains the highest Cumulative Average in Canadian Studies after completion of Level I and 60 to 75 units of a programme in Canadian Studies.
Value: $250

THE HUGH R. THOMPSON MEMORIAL PRIZE
Established in 1960 in memory of Dr. Hugh R. Thompson. To be awarded to the student who has completed Level I and 30 to 45 units of the Honours Geography or the Honours Geography and Geology programme with the highest Full-load Average.
Value: $150

THE DR. R.A. THOMPSON PRIZE IN MATHEMATICS
Established in 1954 by bequest of Dr. William Bethune, in memory of R.A. Thompson, B.A., LL.D., Principal of Central Collegiate Institute, Hamilton, from 1897-1919, in recognition of his contribution to education in Hamilton. To be awarded to the student who has completed Level I and 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

THE GRAHAM RONALD TOOP SCHOLARSHIP
Established in 1989 in memory of Graham Toop ('89) by family and friends. To be awarded to the student entering Level IV of the 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

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: (a) one in the Ceramic Engineering programme and (b) one in the Chemical Engineering programme.
Value: $500 each

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 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

THE LILLIAN AND MANUEL ZACK SCHOLARSHIP
Established in 1991 by Lillian and Manuel Zack ('40) of Hamilton. To be awarded to the student who has completed Level I and 30 to 45 units of an Honours programme in Biology and who, in the judgment of the Department of Biology, shows an innovative approach to the study of ecology.
Value: $200

THE F.Y.S. TRAGOS MEMORIAL SCHOLARSHIP
Established in 1990 by the former students, colleagues and friends of Dr. F.Y.S. Tragos, Professor from 1935 to 1959. To be awarded to the student entering Level IV of the Honours Programme in Philosophy who, in the judgment of the Department of Philosophy, shows the most academic promise.
Value: $500
**SENATE SCHOLARSHIPS**

The following scholarships are awarded for general academic proficiency at the discretion of the Undergraduate Council.

Every full-time student with a good academic record 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 or she attains a Full-load Average of 8.5 in addition to meeting the conditions noted in Category B, above.

In 1995, 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 1995, 175 Senate Scholarships were awarded, all of which were funded by the donors listed below.

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**THE EDGAR R. ASHALL SCHOLARSHIP**
Established in 1965 by bequest of his wife, Edith M. Ashall. 30162

**THE EDWIN MARWIN DALLEY MEMORIAL SCHOLARSHIPS**
Established in 1965 by bequest of Edwin Marwin Dalley of Hamilton. 30164

**THE EDUCATION FOUNDATION OF THE FEDERATION OF 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. 30163 056

**THE HAMILTON INDUSTRIAL SCHOLARSHIPS**
Established in 1958. 30165

**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 1990 by bequest of Pauline Detwiler Lister in memory of her husband. To be awarded to a student in a programme in the School of Business. 30199 262

**THE TONY PICKARD MEMORIAL SCHOLARSHIP**
Established in 1973 by his wife and family, in honour of Captain Antony F. Pickard, O.B.E., C.D., R.C.N. (Ret'd). 30172

**ROTARY CLUB OF HAMILTON SCHOLARSHIP**
Established in 1989. 30168 263

**THE HILDA SAVAGE MEMORIAL SCHOLARSHIP**
Established in 1960 by bequest of Bertha Savage. 30166

**THE SOMERVILLE SCHOLARSHIPS**
Established in 1966 by bequest of William L. Somerville, architect of the McMaster University buildings of 1930. 30169 159

**THE STOBO SCHOLARSHIP**
Established in 1957 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 1960 by bequest of Mrs. W.H. Yates of Hamilton. 30167

**THE YATES SCHOLARSHIPS**
Established in 1963 by bequest of William Henry Yates of Hamilton. 30171

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**RESIDENCE SCHOLARSHIPS**

Nine scholarships were established in 1962 by the University for students in residence at the University. Three 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 25 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 each residence with the highest Full-load Average (at least 8.5) 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**
  30158

- **Bates Residence Scholarship**
  30155

- **Edwards Hall Residence Scholarship**
  30156

- **Hedden Hall Residence Scholarship**
  30198

- **Matthews Hall Residence Scholarship**
  30157

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**TRAVEL SCHOLARSHIPS**

Students who wish to be considered for these awards should consult the Director, Student Financial Aid and Scholarships 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 are 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 60 to 75 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 30175 037

**THE JOHN P. EVANS TRAVEL SCHOLARSHIP**
Established in 1951 by many friends, colleagues, students and graduates of McMaster University as a tribute to John (Jack) P. Evans upon his retirement as Associate Vice-President, University Services and Secretary of the Board of Governors in recognition of his 25 years of outstanding contribution to the University Community. To be awarded to a student who has completed at least 30 units beyond Level I of an Honours programme with notable academic standing and has demonstrated a scholarly interest in some aspect of Asian languages, history or cultures, with preference being given to a student wishing to study in China.

Value: $1,000 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 purpose of the scholarship is to assist with travel expenses to study and travel abroad.

Value: $400 each 30188 274

**THE ALBERT SHALOM TRAVEL SCHOLARSHIP**
Established in 1994 by family, friends and colleagues in memory of Albert Shalom, Professor of Philosophy at McMaster University from 1966 to 1991. To be awarded to a student who is enrolled in a programme in Philosophy, and has, in the judgment of the Department of Philosophy, attained notable standing. The award is to be used to help defray the costs of study overseas in Level III.

Value: $500 30225 365

**THE E.T. SALMON SCHOLARSHIP**
Established in 1991 by Mrs. Edward Togo Salmon in memory of her husband, world-renowned Roman historian and a 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

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**McKay Hall Residence Scholarship**

**Whidden Hall Residence Scholarship**

**Woodstock Hall Residence Scholarship**

In 1994, the value of each scholarship was $300.
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

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.

D.1 These awards, which are granted in June or November, are provided for either full-time or part-time first baccalaureate degree students qualifying on the basis of achievement during the Spring/Summer or Fall/Winter sessions immediately preceding the May review (or deferred examinations resulting therefrom). Normally, these awards will be granted to In-Course students. A number of awards under this category are also listed under Category F for Second Degree Students.

D.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.

D.3 The Cumulative Average will be used to break any tie in the competition for these awards.

THE ALUMNI ASSOCIATION SCHOLARSHIP
Established in 1978. Twenty $cholarships to be awarded to part-time students who have attained the highest Cumulative Average at the most recent review. Normally, these awards will be granted to In-Course students. A number of awards under this category are also listed under Category F for Second Degree Students.

Value: $250 each

THE UNIVERSITY SCHOLARSHIPS

General Conditions:

A. All awards are granted in June or November, are provided for either full-time or part-time first baccalaureate degree students qualifying on the basis of achievement during the Spring/Summer or Fall/Winter sessions immediately preceding the May review (or deferred examinations resulting therefrom). Normally, these awards will be granted to In-Course students. A number of awards under this category are also listed under Category F for Second Degree Students.

B. 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.

C. The Cumulative Average will be used to break any tie in the competition for these awards.

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

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.

D.1 These awards, which are granted in June or November, are provided for either full-time or part-time first baccalaureate degree students qualifying on the basis of achievement during the Spring/Summer or Fall/Winter sessions immediately preceding the May review (or deferred examinations resulting therefrom). Normally, these awards will be granted to In-Course students. A number of awards under this category are also listed under Category F for Second Degree Students.

D.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.

D.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 2E03 (Geography of Canada).
Value: $175

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

THE AMERICAN-STANDARD PRIZE
Established in 1978. To be awarded to the student in the Ceramic Engineering programme who attains the highest grade in GEOLOGY 3B04.
Value: $100

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

THE MURRAY BALL PRIZES IN GEOLOGY
Established in 1991 by May A. Ball in memory of her brother Murray Ball. Two scholarships to be awarded to students in Natural Sciences I who, in the judgment of the Department of Geology, attained notable standing in (a) GEOLOGY 1A03 and (b) GEOLOGY 1CG respectively.
Value: $200 each

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 4D06 (Honours Thesis).
Value: $100

THE CFUW (HAMILTON) RUBY BROWN BOOK PRIZE IN ENGLISH
Established in 1970 by bequest of Mrs. Edgar Brown. To be awarded to a student in any Level I programme for the most creative essay in a Level I English course.
Value: $50

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 an interdisciplinary 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
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 40079 395

THE JAMES ROBERTSON CARRUTHERS MEMORIAL PRIZE
Established in 1984 in memory of James Robertson Carruthers (74) by his family and friends. To be awarded to the student who, in the judgment of the Department of History, attains notable standing in HISTORY 2H06 (United States History).
Value: $300 40025 032

THE CITIZEN ACTION GROUP PRIZE
Established in 1984 by the Citizen Action Group, Hamilton, to honour Professor Harry L. Penny, founding Director of the School of Social Work and Board Member of Citizen Action Group. To be awarded to the student in a programme in Social Work who submits an essay or report based on the student's field work experience that best addresses the need for innovative or non-traditional social work practice.
Value: $250 40006 031

THE JOHNSON BURNS CLINARD SCHOLARSHIP
Established in 1989 by friends and colleagues as a tribute to John Clinard in recognition of his outstanding contribution to the choral field, especially through his association with the Bach Elgar Choir. To be awarded to an in-course student who has completed Level I of a programme in Music and who, in the judgment of the School of Art, Drama and Music, is outstanding in the area of choral or vocal music.
Value: $500 30220 350

THE COMPARATIVE LITERATURE PRIZE
Established in 1988. To be awarded to a student in an Honours programme in Comparative Literature or Literary Studies, who, in the judgment of the Department of Modern Languages, has achieved notable standing in Level II courses in Comparative Literature.
Value: $200 40008

THE CONSUL GENERAL OF ITALY BOOK PRIZE
Established in 1982. To be awarded to in-course students for excellence in Italian studies.
Value: $500 30046 043

THE BEATRICE CORRIGAN MEMORIAL BOOK PRIZE
Established in 1980 in memory of Professor Beatrice Corrigan by her friends and colleagues. To be awarded to the student who achieves the highest standing in either ITALIAN 3N3 or ITALIAN 4P03, or MOD LANG 3SS3.
Value: $75 40004

THE CRANSTON PRIZES
Established in 1958 by William H. Cranston of Midland in honour of his parents, J. Herbert Cranston (05) and Eva Wilkins Cranston (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 40011

THE DRAMA BOOK PRIZE
Established in 1974 by Professor Ronald W. Vince. To be awarded to the student who attains the highest standing in DRAMA 1A06.
Value: $100 40070 341

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 Laidlaw Waste Systems. To be awarded to the student who attains the highest grade in GEOG 4VV6.
Value: $100 40070 341

THE NEIL FORSYTH PRIZE
Established in 1992 by The Steel Founders' Society of America in honour of Neil Forsyth, president of the organization in 1990 and 1991. To be awarded to the student who attains the highest grade in MATLS 3D06 or MATLS 3H03.
Value: $100 40067 121

THE FRENCH GOVERNMENT BOOK PRIZES
To be awarded from time to time to in-course students for proficiency in Level I and II French.
Value: $250

THE R. LOUIS GENTILCORE PRIZE
Established in 1989 by the family and friends of Professor R. Louis Gentilcore on the occasion of his retirement from the Department of Geography. To be awarded to a student in an Honours programme in Geography who, in the judgment of the Department, has demonstrated exceptional achievement in historical-cultural geography.
Value: $400 40018

THE GERMAN EMBASSY BOOK PRIZE
To be awarded from time to time to in-course students for proficiency in Level II or III German.
Value: $250

THE GILMOUR MEMORIAL PRIZE
Established in 1927 by Year '27, in memory of Dr. Joseph Leeming Gilmour, Honorary President of their first year in 1923, and subsequently enarged by his children. To be awarded to the student who attains the highest standing in RELIG 2E06.
Value: $100 40019

THE GREEK COMMUNITY OF BURLINGTON AND DISTRICT SCHOLARSHIP
Established in 1983. To be awarded to the student who obtains the highest standing in GREEK 1Z06.
Value: $250 40020 066

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 I who attains the highest grade in ENGINEER 1C04.
Value: $250 40023 073

THE HUGHES SCHOLARSHIP
Established in 1993 by Heidi Dickensen-Hughes in memory of her husband Peter Hughes ('99). 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 40069 330

THE WILLIAM D.G. HUNTER PRIZE
Established in 1995 by family, friends and colleagues in memory of Professor William D.G. Hunter, member of the Department of Economics from 1951 to 1984. To be awarded to the student who achieved the highest standing in ECON 3LL3.
Value: $200 for books 40080 394

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 080

THE MUNICIPAL CHAPTER OF HAMILTON, IODE, PRIZE
Established in 1944 by the Municipal Chapter of Hamilton, Imperial Order Daughters of the Empire. To be awarded to the student who attains the highest standing in a Level I History course.
Value: $150 40036 081

THE INTER NATIONES (BONN) BOOK PRIZE
To be awarded from time to time to in-course students for proficiency in German studies.
Value: $400 40024

THE H.L. JACKSON MEMORIAL SCHOLARSHIP
Established in 1989 in memory of Professor H.L. Jackson by his friends and colleagues. To be awarded to the student who has completed Level I and at least 60 units of an Honours programme in the Department of Mathematics and Statistics, who in the judgment of the department has demonstrated achievement in MATH 3A06 or 3C06.
Value: $400 40021 311

THE HERBERT M. JENKINS PRIZE
Established in 1990 as a tribute to Dr. Herbert M. Jenkins, first Director of the Arts and Science Programme, by his many friends, colleagues and students on the occasion of his retirement from McMaster University. To be awarded to a student in an Arts and Science Programme whose work, in the judgment of the Arts and Science Programme Awards and Review Committee, best reflects scholarship and the spirit of inquiry.
Value: $175 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 2806.
Value: $50

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

THE LATIN PRIZE
Established in 1967 by Dr. John B. Clinard. To be awarded to a student who, in the judgment of the Department of Classics, has demonstrated notable achievement in LATIN 1Z06.
Value: $100

THE SAM LAWRENCE PRIZE
Established in 1987 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

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

THE MACGIBBON SCHOLARSHIP
Established in 1970 by bequest of Professor Duncan A. MacGibbon ('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

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 ECON 3J06 (Economic Development) or, in exceptional circumstances, for work in a related area.
Value: $200

THE ELEANOR DÖRNBUSCH MARPLES PRIZE IN ART HISTORY
Established in 1985 by Mrs. Barbara Niedermeyer and her family in memory of her sister. To be awarded to a student who, in the judgment of the Department of Art and Art History, has demonstrated outstanding achievement in ART HIST 3V03.
Value: $100

THE ELEANOR DÖRNBUSCH MARPLES PRIZE IN DRAMA
Established in 1987 by Vaughan W. Marples in memory of his wife. To be awarded to the student who attains the highest grade in DRAMA 2M06.
Value: $100

THE H.W. MCCREARY PRIZE IN BRITISH HISTORY
Established in 1981 in memory of Professor H.W. McCready, a member of the Department of History from 1943 to 1976, by former students, colleagues, and friends. To be awarded to the student who, in the judgment of the Department of History, attains notable standing in HISTORY 2N06.
Value: $100

THE JOHN MCDIARMID PRIZE
Established in 1966. To be awarded to the student in Engineering I who obtains the highest standing in PHYSICS 1D03.
Value: $100

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

THE MASTER 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

THE MOFFAT KINOSHITA ASSOCIATES INC. PRIZES
Established in 1990 by Moffat Kinoshita Associates Inc. Two prizes to be awarded to: (a) the student who attains the highest grade in GEOG 4F03; and (b) the student who attains the highest grade in GEOG 4Z03.
Value: $175 each

THE JOHN F. MOORE PRIZE
Established in 1990 by the Steel Founders' Society of America in honour of John Moore's contributions to the Society over the past 25 years. To be awarded to the student who attains the highest grade in METALL 4C04.
Value: $100

THE NEOSID CERAMIC ENGINEERING PRIZE
Established in 1978 by Neosid (Canada) Limited. To be awarded to the student who has completed Level I and at least 75 units of the Ceramic Engineering programme and who attains the highest standing in CERAMICS 3A04.
Value: $50

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 grade in PSYCH 1A06.
Value: $300

THE DERRY NOVAK SCHOLARSHIP
Established in 1984 by the Political Science alumni and colleagues in honour of Professor Derry Novak. To be awarded to the student in a 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

THE CONNIE O'SHAUGHNESSY MEMORIAL PRIZE
Established in 1988 by family, friends and associates of Connie O'Shaughnessy ('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

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

THE PROCOR LIMITED SCHOLARSHIP
Established in 1962. 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 either MOD LANG 3R03 or MOD LANG 3R3R.
Value: $150

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 and who, in the judgment of the Department of English, has made the most notable original contribution to student publications.
Value: $200
THE ABRAHAM ROSENBERG MEMORIAL PRIZE  
Established in 1986 by bequest of Abraham I. Rosenberg ('34) of Hamilton and Kitchener. To be awarded to the student who attains the highest standing in ENGLISH 3B03 or SOCIOLOG 2X03.  
Value: $150  
40000 147

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 1D06.  
Value: $150  
40033 152

THE NOEL SANDUSKY MEMORIAL PRIZE  
Established in 1994 by family and friends in memory of Noel Sandusky. To be awarded to a student who has completed Level I and 30-45 units of a programme in History who, in the judgment of the Department of History, attains notable academic standing in the Department of History, attains notable academic standing in at least 9 units of History courses.  
Value: $150 for books.  
40075 359

THE LARRY SAYERS PRIZE IN CHINESE HISTORY  
Established in 1983 in memory of Larry P. Sayers ('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  
40030 149

THE LARRY SEFTON SCHOLARSHIP  
Established in 1985 by the Hamilton Steelworkers Area Council in memory of Larry Sefton, area supervisor (1946-53) and director of District 6 (1953-73) of the United Steelworkers of America, to recognize his commitment to education, to working people, to unions and to the City of Hamilton. Five scholarships to be awarded to students in the Labour Studies programme, five 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 in Labour Studies as a full-time student; (b) one to 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  
30099 151

THE GRACE SENRA-FONTES MEMORIAL PRIZE  
Established in 1989 by the graduating class ('88) in association with the McMaster University Nursing Society and the McMaster Nursing Executive in memory of Grace Senra-Fontes ('88) of Toronto. To be awarded to a student who, upon completion of Level I attains the highest standing in BIOLOGY 1A06.  
Value: $125  
40059 277

THE SOCIAL WORK PRIZE  
Established in 1982. To be awarded to the student who attains the highest grade in SOC WORK 2D03.  
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 3D03 and attains the highest average in SOC WORK 3D06 in the same session.  
Value: $100  
40003

THE STO PRIZE IN GERONTOLOGY  
Established in 1987 by the Supernannuated Teachers of Ontario, District 13. To be awarded to the student who attains the highest standing in GERONTOL 1A06.  
Value: $75  
40047 163

THE SWISS MINISTER TO CANADA BOOK PRIZES  
Established in 1950. To be awarded from time to time to in-course students for proficiency in French, German, or Italian.  
Value: $2000 for books  
40061

THE KENNETH W. TAYLOR BOOK PRIZE  
Established in 1976 by his children in memory of Dr. Kenneth W. Taylor ('21), LL.D. ('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  
40029 171

THE MICHAEL THOMSON MEMORIAL BOOK PRIZES  
Established in 1975 by the members of the Departments of German and Russian in memory of Michael Thomson, Supervisor of the McMaster University language laboratories from 1961 to 1975. Two prizes to be awarded: (a) one to the student who attains the highest standing in GERMAN 1Z06 and (b) one to the student who attains the highest standing in RUSSIAN 2C06.  
Value: $50 each  
40035 266

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  
40028 176

THE JOHN H. TRUEMAN SCHOLARSHIP  
Established in 1989 as a tribute to Professor John H. Trueman by his many friends, colleagues and students on the occasion of his retirement from McMaster University. To be awarded to the student who has completed Level I and who, in the judgment of the Department of History, has achieved notable academic standing in medieval history.  
Value: $300  
30081 179

THE THOMAS TRUMAN MEMORIAL PRIZE  
Established in 1992 by friends and colleagues in memory of Professor Thomas Truman, in memory of the Department of Political Science from 1966 to 1990. To be awarded to the student entering the final level of an Honours programme in Political Science who, in the judgment of the Department of Political Science, has achieved notable academic standing in at least nine units of Comparative Politics courses.  
Value: $75  
40068 313

THE UNIVERSITY PRIZES FOR SPECIAL ACHIEVEMENT  
Established in 1973. Two prizes to be awarded in each Faculty and other academic units to students who exhibit exceptional skill and originality in a creative project (such as an essay, poem, sculpture, mathematical or scientific problem, engineering design) or a related series of such projects.  
Value: $150 each  
40052

THE MELINDA WAPSHA 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 60-75 units of an Honours Programme in Labour Studies and who, in the judgment of the Committee of Instruction, demonstrates outstanding achievement.  
Value: $ 100  
40074 358

THE RALPH WEEKES SCHOLARSHIP  
Established in 1994 by the Investors Group Financial Services to recognize the accomplishments of Ralph Weekes ('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 360

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 1Z06 who, in the judgment of the Department of Modern Languages, have achieved notable proficiency in German.  
Value: $250 each  
40054 278

THE R.M. WILES MEMORIAL BOOK PRIZE  
Established in 1975 in memory of Professor Roy McKean 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

E. Awards for Graduating Students

The following awards are based on competition across the University or within a Faculty or programme.

E.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.
E.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 Her 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 his former Hamilton partner, E.H. Ambrose, member of the University's Board of Governors from 1957 to 1967 and its Chair, 1965 to 1967, and augmented by Mrs. E. H. Ambrose in 1987. To be awarded to the student in the graduating class of a programme in Commerce who, on the basis of scholarship and leadership, is judged to be the outstanding member of the class.

50014 006

THE ASSOCIATION OF 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 008

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 4AA3, 4AB3, 4AC3, 4AD3, 4AE3, 4AF3.

50006 013

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.

50018 030

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 on the recommendation of the Faculty of Social Sciences to a student in the graduating class who, on the basis of scholarship, is judged to be an outstanding member of the class of Social Sciences 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 ('38), D. Litt. ('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 HURD MEDAL
Established in 1955 by Donald W. Hurd ('49) in memory of his father, Dean William Burton Hurd. To be awarded to a student at graduation for distinguished achievement in an Honours programme in which economics is a major field of study.

50027 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 Co-operative 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 R.C. MCVOR 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 Deans' Honour List and who has made the most outstanding contribution to undergraduate activities.

50007

◆ SCHOLARSHIPS AND PRIZES

THE CAMERON D. ALLEN BOOK PRIZE
Established in 1978 in memory of Cameron D. Allen. To be awarded to a student graduating from an Honours programme in Geography who, in the judgment of the Department of Geography, 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.

50062 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 D. Barnes, of Morgantown, West Virginia. To be awarded to the student graduating from an Honours programme in History who, in the judgment of the Department of History, has attained notable standing in an Honours History programme.

Value: $200 50065 366

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 1963 by Dr. and Mrs. Herbert S. Armstrong in memory of Mrs. Charles E. Burke. To be awarded to the student in the Nursing programme who attains the highest Cumulative Average. The Prize is a set of engraved sterling silver coffee spoons.

50047 268

THE CAMPBELL UNDERGRADUATE STUDENT AWARD
Established in 1993 by the Canadian Society for Exercise Physiology. To be awarded to the student from the Kinesiology programme who attains the highest Cumulative Average.

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 demonstrated outstanding achievement in accounting and has attained an average of at least 10.0 in COMMERCE 3AA3, 3AB3, 4AA3 and 4AB3.
Value: $150
50012033

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 each
50062132

THE DENTON COATES MEMORIAL SCHOLARSHIP
Established in 1982 in memory of Denton E. Coates ('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 MATLS4K04.
Value: $225
50013

THE LAURA DODSON PRIZE
Established in 1985 by Laura Dodson ('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
50031049

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 programme who has displayed outstanding achievement.
Value: $250
50053237

THE EUROPEAN HISTORY PRIZE
Established in 1986 by Professor Ezio Cappadocia, on the occasion of his retirement from the Department of History, in memory of his mentor, Professor Frank H. Underhill. To be awarded to a student graduating from an Honours programme in History who, in the judgment of the Department of History, has displayed outstanding achievement in European history courses consistently through the degree programme.
Value: $100
50017368

THE FINANCIAL EXECUTIVES INSTITUTE PRIZE
Established in 1983 by the Hamilton Chapter of the Financial Executives Institute. To be awarded to the graduating student who, in the judgment of the School of Business, has demonstrated outstanding achievement in courses in finance.
Value: $500
50019060

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, in which, in the judgment of the Gerontology Committee of Instruction, have demonstrated high academic achievement and leadership in extracurricular activities.
Value: $100 each
50021066

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.
Value: $700
50028

THE BURTON R. JAMES MEMORIAL PRIZE
Established in 1974 by his friends and colleagues in honour of Burton R. James ('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 graduating 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
50052088

THE FRANK E. JONES PRIZE
Established in 1982 in honour of Professor F.E. Jones for his outstanding contributions to the Department of Sociology. To be awarded to the full-time student with the highest Cumulative Average in an Honours programme in Sociology.
Value: $50
50020

THE KINESIOLOGY PRIZE
Established in 1982. To be awarded to the graduating student who, in the judgment of the Department of Kinesiology, has submitted an outstanding paper or project.
Value: $50
50058

THE RUTH LANDES PRIZE
Established in 1982 in honour of Professor Ruth 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 ('78) and Richard Litkowski ('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
50032100

THE AGNES AND JOHN MACNEILL 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 CATHERINE MACNEILL PRIZE
Established in 1946 by bequest of Annie May MacNeill ('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 C. A. MCKAY MEMORIAL PRIZE
Established in 1982 in honour of Professor C.A. McKay. To be awarded to the graduating student who, in the judgment of the Department of Classics, has demonstrated outstanding achievement in the study of Latin.
Value: $700
50054269

THE A.G. MCKAY PRIZE IN CLASSICAL STUDIES
Established in 1987 by John R. McCarthy LL.D., ('65), former Deputy Minister of University Affairs and Deputy Minister of Education for the Province of Ontario. To be awarded to a student graduating from a programme in Arts & Science, Humanities, Science, or Social Sciences who enrolls in the Faculty of Education of an Ontario University in the academic session immediately following graduation. The student selected will have made a contribution to the life of the University by displaying leadership in student government or student affairs and leadership and sportsmanship in athletic endeavours. Applications and the name of two referees should be submitted to the Director of Student Financial Aid and Scholarships by April 2.
Value: $700
50030107

THE E.S. MOORE PRIZE IN GEOLOGY
Established in 1990 by Professor Emeritus A.G. McKay. To be awarded to a student graduating from an Honours programme in Geology who, in the judgment of the Department of Geology, has attained the most notable standing in Geology.
Value: $150
50057279

THE AGNES AND JOHN MACNEILL MEMORIAL PRIZE
Established in 1987 by Professor Emeritus A.G. McKay. To be awarded to a student graduating from an Honours programme in Classics who, in the judgment of the Department of Classics, has demonstrated outstanding academic achievement and leadership.
Value: $100
50054269

THE WALTER SCOTT MCLAY PRIZE
Established in 1938 in honour of Dean McKay, by his daughter, Mrs. R.R. McLaughlin (Marjorie McKay '25) and further enlarged in 1950 by A.H. Wilson of Woodstock. To be awarded to the student who attains the highest Cumulative Average in an Honours programme in English.
Value: $250
50057279

THE E.S. MOORE PRIZE IN GEOLOGY
Established in 1956 by Elwood S. Moore, LL.D. ('55). To be awarded to the student graduating in an Honours programme in Geology who, in the judgment of the Department of Geology, has attained the most notable standing in Geology.
Value: $150
50015116
THE NATIONAL ASSOCIATION OF CORROSION ENGINEERS PRIZE
Established in 1989 by the Toronto Section of the National Association of Corrosion Engineers. To be awarded to the graduate who, in the judgment of the Department of Materials Science and Engineering, has submitted an outstanding thesis in the area of Corrosion Science and Engineering. In the absence of a qualified candidate, the award will be made to the student who attains the highest standing in MATLS 4D03 (Corrosion).
Value: $100
50036 120

THE P. L. NEWBIGGIN PRIZES
Established in 1982 in recognition of Dr. Lynn Newbigging for his outstanding contributions to the Department of Psychology. Four prizes to be awarded to students with the highest Cumulative Average: (a) one to a full-time student in the three-level B.A. programme in Psychology; (b) one to a student in a B.A. programme in Psychology who has completed the programme primarily on a part-time basis; (c) one to a full-time student in the three-level B.Sc. programme in Psychology; and (d) one to a student in a B.Sc. programme 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 SOC WORK 4D06 and 4D06. Simultaneous with these awards.
Value: $125
50037 126

THE ONTARIO PHYSIOTHERAPY ASSOCIATION BOOK PRIZE
Established in 1985 by the Ontario Physiotherapy Association (Hamilton Branch). To be awarded to the student who has attained the highest Cumulative Average in the Physiotherapy programme.
Value: $100 for books
50038 128

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
50056 370

THE PIONEER GROUP PRIZE IN NURSING
Established in 1989 by the Pioneer Group Limited in conjunction with The Samuel Mclaughlin Centre for Gerontological Health Studies. To be awarded to the student who, in the judgment of the Department of Nursing, has achieved notable standing and demonstrated practical aptitude for a career in the health care of the elderly.
Value: $50
50023

THE POLITICAL SCIENCE PRIZE
Established in 1982. To be awarded to a graduating student who has completed a programme in Political Science primarily on a part-time basis and who, in the judgment of the Department of Political Science, has demonstrated outstanding academic achievement.
Value: $200
50042

THE POLITICAL SCIENCE HONOURS ESSAY PRIZE
Established in 1982. To be awarded to the student who, in the judgment of the Department of Political Science, has demonstrated outstanding achievement in POL SCI 4Z06.
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: (a) one to the student who attains the highest Cumulative Average in an Honours B.A. programme in Geography; (b) one to the student who attains the highest Cumulative Average in an Honours B.Sc. programme in Geography; (c) one to the student who attains the highest Cumulative Average in a three-level B.A. or B.Sc. programme in Geography; and (d) one to the student who, in the judgment of the Department of Geography, has demonstrated outstanding achievement in 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-year programme in Religious Studies: (a) one to a student who has completed the programme on a full-time basis, and (b) one to a student who has completed the programme primarily on a part-time basis.
Value: $50 each
50045

THE RELIGIOUS STUDIES HONOURS ESSAY PRIZE
Established in 1982. To be awarded to the student who, in the judgment of the Department of Religious Studies, has demonstrated outstanding achievement in RELIG ST 4J06.
Value: $50
50044

THE SHELL CANADA PRIZES IN ENGINEERING AND MANAGEMENT
Established in 1983. Three prizes to be awarded to students graduating from an Engineering and Management programme. Awards will be based on scholarship and on the quality of and creativity shown in written communication.
Value: $225 each
50049 154

THE RICHARD SLOBODIN PRIZE
Established in 1982 in honour of Professor Richard Slobodin for his outstanding contributions to the Department of Anthropology. To be awarded to the graduating full-time student in an Honours Anthropology programme who, in the judgment of the Department, has demonstrated outstanding academic achievement.
Value: $50
50046

THE SOCIETY OF CHEMICAL INDUSTRY MERIT AWARDS
Established in 1961. Three plaques to be awarded: (a) one to a Chemical Engineering graduate, (b) one to an Honours Biochemistry or Honours Biochemistry and Chemistry graduate, and (c) one to an Honours Applied Chemistry, Honours Chemistry, Honours Chemistry and Geology, or Honours Chemistry and Physics graduate, who have attained the highest Cumulative Average (at least 8.5) and have completed the programme in the normal number of years.
Value: $50 each
50060 369

THE SOCIOLGY PRIZES
Established in 1982. Two prizes to be awarded to students with the highest Cumulative Averages: (a) one to a student who has completed the three-level programme in Sociology on a full-time basis; and (b) one to a student who has completed a programme in Sociology primarily on a part-time basis.
Value: $50 each
50051

THE JOHN H. TRUEMAN PRIZE
Established in 1989 as a tribute to Professor John H. Trueman by his many friends, colleagues and students on the occasion of his retirement from McMaster University. To be awarded to a graduating student who demonstrates the most outstanding ability in medieval history based on achievement in HISTORY 4Q06 or HISTORY 4S06.
Value: $500
50067 367

THE HARRY WAISGLASS BOOK PRIZE
Established in 1988 in honour of Harry Waiglass, 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
50035 183

F. Awards for Second Baccalaureate Degree Students
The following awards are granted based on competition across the University or within a Faculty or programme.

F.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).

F.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.

F.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 Occupational Therapy and Physiotherapy, is most outstanding in the theory component of the Occupational Therapy programme.
Value: $75
50065 316
## THE PHYSIOTHERAPY SECTION OF THE CANADIAN LUNG ASSOCIATION BOOK PRIZE
Established in 1992 by the Canadian Physiotherapy Association. To be awarded to a graduating student who has attained the highest Cumulative Average in the Physiotherapy programme.
Value: $150 50063315

## THE CANADIAN PHYSIOTHERAPY CARDIO-RESPIRATORY SOCIETY BOOK PRIZE
Established in 1992 by the Canadian Physiotherapy Cardio-Respiratory Society. To be awarded to a graduating student who, in the judgment of the School of Occupational Therapy and Physiotherapy, has demonstrated notable academic achievement and excellence in clinical fieldwork related to cardio-respiratory physiotherapy.
Value: $60 50066314

## THE HAMILTON DISTRICT ONTARIO PHYSIOTHERAPY ASSOCIATION BOOK PRIZE
Established by the Hamilton District of the Ontario Physiotherapy Association. To be awarded to a student graduating from the Physiotherapy programme who has attained the highest Cumulative Average.
Value: $150 50064317

## THE HOMEWOOD AWARD
Established in 1987 at Mohawk College by the Occupational Therapy Department of Homewood Sanatorium and transferred to McMaster University in 1992. To be awarded to the student completing Block IV of the B.H.Sc. (OT) programme who, in the judgment of the School of Occupational Therapy and Physiotherapy, has demonstrated outstanding academic achievement and excellence in clinical fieldwork related to psychiatry.
Value: $100 40065306

## THE KARL KINANEN ALUMNI PRIZE IN GERONTOLOGY
Established in 1992 by the Gerontology Alumni of McMaster University in recognition of Karl Kinanen for his leadership in the development of Gerontological Studies at the University. To be awarded to a student graduating from a 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 50064317

## THE ELEANOR LEES BOOK PRIZE
Established in 1994 in memory of Eleanor Lees by friends in Physiotherapy. To be awarded to a student graduating from the Physiotherapy programme who, in the judgment of the School of Occupational Therapy and Physiotherapy, has demonstrated notable academic achievement and excellence in clinical fieldwork related to neurology.
Value: $500 50073354

## THE ONTARIO ASSOCIATION OF PROFESSIONAL SOCIAL WORKERS PRIZE
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 SOC WORK 4D06 and 4D66.
Value: $125 50037126

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OTHER INFORMATION

Campus Shuttle Bus Service
The Shuttle Bus makes three passenger stops on the West Campus and transports people to and from University Hall, the Health Sciences Centre and A.N. Bourns Science Building.

Security
E.T. Clarke Centre (2nd Floor) 525-9140, ext. 24824
Parking
E.T. Clarke Centre, Room 102, ext. 24232
Lost and Found
E.T. Clarke Centre (2nd Floor), ext. 23968

Medical Services
Medical Emergency, ext. 88

Community Information
Gilmour Hall, Room 121, ext. 23659

Drill Hall T12
Building T-Thirteen T13
Temporary Bldg. TB34
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