

# 2006-2007

## McMASTER UNIVERSITY Undergraduate Calendar

◆ This Calendar covers the period from September 2006 to August 2007.

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

- ARTS AND SCIENCE
- BUSINESS
- ENGINEERING
- HEALTH SCIENCES
- HUMANITIES
- SCIENCE
- SOCIAL SCIENCES
- INDIGENOUS STUDIES

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### Using the Calendar

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

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

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

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

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

# Directory for Correspondence and Enquiries

## Mailing Address

McMaster University  
Hamilton, Ontario, L8S 4L8  
Canada

Telephone: (905) 525-9140

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

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

### Admissions Office (Undergraduate Studies)

Associate Registrar (Admissions): Lynn Giordano  
Gilmour Hall, Room 108, L8S 4L8, ext. 24796; Fax: (905) 527-1105

### Student Liaison

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

### Student Financial Aid and Scholarships

Director: Elizabeth Seymour  
Gilmour Hall, Room 120, L8S 4L8, ext. 24319

### Transcripts and Records

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

### Examinations, Schedules and Classroom Reservations

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

### Office of the Associate Vice-President (Student Affairs) and Dean of Students

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

### School of Graduate Studies

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

### Centre for Continuing Education

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

### Alumni Association

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

### Housing and Conference Services

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

### Off-Campus Resource Centre

McMaster University Student Centre, Room B112, L8S 4S4, ext. 24086

### Hospitality Services

Director: Albert Ng, ext. 23836  
Commons Building, Room 116, L8S 4K1  
Mac Express Inquiries: ext. 27448

### Centre for Student Development

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

### Services for Students with Disabilities

Manager, Disability Services and University Advisor  
on Disability Issues: Tim Nolan  
Learning Disabilities Coordinator (Disability Specialist): Caroline Cayuga  
McMaster University Student Centre, Room B107, L8S 4S4, ext. 24711

### Career Services

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

### Advice for Overseas and Exchange Students

International Student Services Supervisor/Advisor: Marcos Costa  
Gilmour Hall, Room 104, L8S 4L8, ext. 24748

### Grievances

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

## Other Publications for McMaster Students

### ◆ Undergraduate Studies

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

### ◆ Graduate Studies

- Calendar of the School of Graduate Studies  
(Available from the School of Graduate Studies.)
- McMaster Divinity College Calendar  
(Available from Divinity College.)

- Graduate Studies in Business (MBA and Ph.D programs)  
(Available from the DeGroot School of Business.)
- Teaching departments that offer graduate studies also provide information booklets about their programs. These may be requested directly from the departments.

### ◆ Certificate and Professional Studies

- The Centre for Continuing Education Calendar, which describes professional designations, certificate and correspondence programs, is available from the Centre for Continuing Education.

### ◆ Professional Development and Non-Credit Studies

- Brochures about non-credit programs and special offerings are available from the Centre for Continuing Education.

## Ombuds Office

Ombuds: Shelley Lancaster, Carolyn Brendon

McMaster University Student Centre, Room 210, L8S 4S4, ext. 24151; Fax: (905) 529-3208; Email: [ombuds@mcmaster.ca](mailto:ombuds@mcmaster.ca)

The Ombuds provides information and advice relating to problems, complaints and appeals involving members of the McMaster community. The Ombuds Office is a service provided by the MSU and the University.

# McMaster University

McMaster University, through its continued dedication to innovative education and ground-breaking research, has earned its reputation as one of the leading post-secondary institutions in Canada.

McMaster is a medium-sized, full-service university offering educational programs through six Faculties. The extensive activity in research, supported by approximately \$248 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 Program. The Department of Kinesiology and the School of Social Work are part of the Faculty of Social Sciences.

## DISCIPLINES AND DEGREES

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

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

The Faculty of Engineering offers the Bachelor of Engineering program in Chemical Engineering, Civil Engineering, Computer Engineering, Electrical and Biomedical Engineering, Electrical Engineering, Engineering Physics, Materials Engineering, Mechanical Engineering, Mechatronics Engineering, Software Engineering and Software Engineering and Game Design.

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

The Faculty of Engineering offers a five-year program in Chemical Engineering and Bioengineering leading to a Bachelor of Engineering and Biosciences degree.

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

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

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

Bachelor of Science programs are available in the Faculty of Science at the B.Sc. and B.Sc. Honours levels. Programs are offered in Biochemistry, Biology, Chemistry, Computer Science, Earth and Environmental Sciences, Geoscience, Kinesiology,

Life Science, Mathematical Science, Mathematics and Statistics, Materials Science, Medical and Health Physics, Medical Radiation Sciences, Molecular Biology, Origins, Physical Science, Physics and Psychology.

The Faculty of Social Sciences offers B.A. programs in Anthropology, Economics, Geography, Geography and Environmental Studies, Gerontology, Health Studies, Indigenous Studies, Labour Studies, Political Science, Psychology, Religious Studies and Sociology. The School of Social Work offers the combined B.A./B.S.W. degree, and the Department of Kinesiology, the Hons. 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 21,000 full-time students attend McMaster University, 2,300 of whom are pursuing advanced degrees offered through the School of Graduate Studies. In addition, over 3,800 part-time students are registered in the Fall/Winter session, from September to April, and 5,300 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 1100 members of the University faculty hold doctoral degrees in their areas of specialization. Faculty members are expected to teach both graduate and undergraduate courses and may be involved in the academic counselling of students.

The University's diverse academic programs are supported by some fine, and even unique, facilities. The University Library is a member of the Association of Research Libraries and contains more than two million volumes and has 5,418 current print

journal titles and 17,746 current electronic journal titles. The Library has an extensive special collections section which includes the Bertrand Russell Archives, 18th Century materials and major Canadian collections. Facilities for programs in the Humanities include modern language laboratories, music rehearsal rooms, art studios, a museum of art and seminar rooms. The work of the Faculties of Science and Engineering is supported by sophisticated facilities, which includes a nuclear reactor. There are four general purpose Student Computing Centres on campus using MS Windows XP Pro Operating System based PCs and a variety of Windows software. As well there are numerous departmental computing clusters which operate a mixture of Windows, Linux or Solaris environments. Students in residence have convenient access to the McMaster network and the internet from their rooms.

The recreation, fitness and intramural programs offer more than 30 different sports in which over 14,000 students participate. The Interuniversity Athletic Program features 34 varsity sport opportunities. The department also offers a full range of instructional and outdoor education programs throughout the calendar year. The athletic facilities include a new athletics and recreation complex featuring one of the largest collegiate fitness centres in Canada, seven gymnasiums, a 50-metre swimming pool, a 400-metre outdoor track, a 200-metre indoor track, squash courts and indoor climbing wall.

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 co-educational and single-sex residences are available for approximately 3,750 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 2006-2007 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.

SESSIONS	TERMS	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.
FALL/ WINTER SESSION	Term 1	7			20								
	Term 2					3			27				
	Term 3	7							27				
SPRING/ SUMMER SESSION	Term 1								30	15			
	Term 2										18	3	
	Term 3								30				3

## CONVOCATIONS

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

### Friday, July 21, 2006

- Last day to file a Graduation Information Card and declare a minor for Fall 2006 Convocations

### Friday, November 17, 2006

- Fall 2006 Convocations (all Faculties)

### Friday, February 2, 2007

- Last day to change programs for Spring 2007 Convocations

### Friday, February 2, 2007

- Last day to file a Graduation Information Card and declare a minor for Spring 2007 Convocations

### Friday, May 18, 2007

- Health Sciences Convocation (excluding Nursing)

### Monday, June 4 to Thursday, June 7, 2007

- Spring Convocations

### Friday, July 20, 2007

- Last day to file a Graduation Information Card and declare a minor for Fall 2007 Convocations

### Friday, November 16, 2007

- Fall 2007 Convocations (all Faculties)

## Release from Liability

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

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

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

## University Policies

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

# Sessional Dates for 2006-2007

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

## Fall/Winter Session 2006-2007

	Term 1	Term 2	Term 3
➤ Registration (All Levels)		To Be Announced	
➤ Classes begin	Thursday, September 7	Wednesday, January 3	Thursday, September 7
➤ Last day for registration and adding or dropping courses	Monday, September 18	Friday, January 12	Monday, September 18
➤ Thanksgiving Day: No classes	Monday, October 9	—	Monday, October 9
➤ Mid-term recess	—	Monday, February 19 to Saturday, February 24	Monday, February 19 to Saturday, February 24
➤ Last day for cancelling courses without failure by default	Friday, November 3	Friday, March 2	Friday, March 2
➤ Good Friday: No classes	—	Friday, April 6	Friday, April 6
➤ Test and Examination ban: No tests or examinations may be held	Tuesday, November 28 to Tuesday, December 5	Friday, March 30 to Monday, April 9	Friday, March 30 to Monday, April 9
➤ Classes end	Monday, December 4	Thursday, April 5	Thursday, April 5
➤ Mid-Session Tests (Level I)	—	—	Wednesday, December 6 to Wednesday, December 20
➤ Final Examinations	Wednesday, December 6 to Wednesday, December 20	Tuesday, April 10 to Friday, April 27	Tuesday, April 10 to Friday, April 27
➤ Deferred Examinations	Monday, February 19 to Thursday, February 22	Monday, June 25 to Thursday, June 28	Monday, June 25 to Thursday, June 28

## Spring/Summer Session 2007

	Term 1	Term 2	Term 3
➤ Classes begin	Monday, April 30	Monday, June 18	Monday, April 30
➤ Last day for registration and adding or dropping courses	Friday, May 4	Friday, June 22	Friday, May 4
➤ Victoria Day: No classes	Monday, May 21	—	Monday, May 21
➤ Last day for cancelling courses without failure by default	Wednesday, May 30	Wednesday, July 18	Thursday, June 28
➤ Canada Day: No classes	—	Monday, July 2	Monday, July 2
➤ Classes end	Friday, June 15	Friday, August 3	Friday, August 3
➤ Examinations	During class time, as arranged by instructor		
➤ Deferred Examinations	December 2007 Examination period	December 2007 Examination period	December 2007 Examination period

# DEGREES, PROGRAMS AND COURSES

## DEGREES AND PROGRAMS

McMaster University offers the following undergraduate degrees:

FACULTY AND DEGREE	DURATION IN YEARS
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**ARTS & SCIENCE PROGRAM**

B.Arts Sc.	3
B.Arts Sc. (Honours)*	4

(\*With the exception of the Combined Honours degrees in Biology and Physics which require five years of study.)

**DEGROOTE SCHOOL OF BUSINESS**

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

**FACULTY OF ENGINEERING**

B.Eng.	4
B.Eng. Mgt.	5
B.Eng. Society	5
B.Eng. Biosciences	5
B.Tech	**1
B.Tech	2 or 4

**FACULTY OF HEALTH SCIENCES**

B.H.Sc. (Midwifery)	4
B.H.Sc. (Honours)	4
B.Sc.N.	4
B.Sc.N. (Diploma RN Stream)	**2
B.Sc.N. (Registered Practical Nurse Stream)	3
B.Sc.N. (Nurse Practitioner Stream)	**2
M.D. (Doctor of Medicine)	**3

**FACULTY OF HUMANITIES**

B.A.	3
B.A. (Honours)	4
B.Mus. (Honours)	4
B.A./B.S.W.	4

**FACULTY OF SCIENCE**

B.Sc.	3
B.Sc. (M.R.Sc.)	**4
B.Sc. (Honours)	4
B.Sc. (Honours)	▲ 5

(▲ These are Co-op programs.)  
(\*\*In these programs, an academic year extends beyond the regular Fall/Winter session.)

**FACULTY OF SOCIAL SCIENCES**

B.A.	3
B.A. (Honours)	4
B.Kin. (Honours)	4
B.A./B.S.W.	4
B.S.W.	♦ 2

(♦ Follows completion of prior undergraduate degree)

**Second Undergraduate Degree**

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

**Combined Programs**

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

**ELECTIVE COURSES**

**AVAILABLE TO LEVEL I STUDENTS**

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

ANTHROP	1A03, 1B03, 1Z03
ART HIST	1A03, 1AA3
* ASTRON	1F03
* BIOLOGY	1A03, 1AA3, 1K03
CAYUGA	1Z03
* CHEM	1A03, 1AA3, +1R03
CLASSICS	1A03, 1B03, 1BB3, 1L03, 1LL3
CMST	1A03, 1B03
COMP LIT	1A03, 1AA3
* COMP SCI	1FC3, 1MA3, 1MD3, 1SA3, 1TA3
CSCT	1B03, 1BB3
ECON	1B03**, 1BB3
ENGLISH	1A03, 1AA3, 1B03, 1BB3, 1C06
* ENVIR SC	1A03, 1B03, 1G03
FRENCH	1A06, 1N06, 1Z06
GEO	1HS3, 1HU3
GERMAN	1B03, 1BB3, 1Z06
GERONTOL	1A03
GREEK	1Z03, 1ZZ3
* HTH SCI	1G03
HEALTHST	1A03
HISPANIC	1A03, 1AA3, 1Z06, 2D03
HISTORY	1A03, 1AA3, 1B03, 1BB3, 1L03, 1LL3
JNDIG ST	1A03, 1AA3
INQUIRY	1HU3, 1SS3
* INQUIRY	1SC3
ITALIAN	1A03, 1AA3, 1Z06, 1ZZ6
JAPANESE	1Z06
* KINESIOL	1Y03, 1YY3
LABR ST	1A03, 1C03
LATIN	1Z03, 1ZZ3
LINGUIST	1A03, 1AA3
* MATH	1A03, 1AA3, 1B03, 1C03, 1D03, +1K03, +1M03
* MATLS	1M03
* MMEDIA	1A03, 1B03
MOHAWK	1Z03
MUSIC	1A03, 1AA3
* MUSIC	1C03
OJIBWE	1Z03
PEACE ST	1A03, 1B03
PHILOST	1A03, 1B03, 1C03, 1D03, 1E03
* PHYSICS	1B03, 1BA3, 1BB3, 1P03
POLISH	2A03, 2AA3
POL SCI	1G06
PSYCH	1A03, 1AA3
RELIG ST	1B06, 1D06, 1E03, 1I03
* SCIENCE	+1D03
SOC WORK	1A06
SOCIOL	1A06
* STATS	+1A03, 1CC3, +1L03
THTR&FLM	1A03, 1B03
WOMEN ST	1A03, 1AA3

- \* Not acceptable for the six-unit complementary studies elective required in Engineering I.
- \*\* Note: Engineering I students interested in entering the Engineering and Management program must take ECON 1B03 as one of their complementary studies electives.
- + May not be taken for credit by students in Science I.

**COURSE AVAILABILITY**

The following are lists of upper-level courses available to students subject to enrolment limitations and the prerequisites as specified for each list. (Engineering students should refer to the website at <http://www.eng.mcmaster.ca/administration/electives.htm>) A brief description of each course can be found under the appropriate Department within the *Course Listings* section in this Calendar.

**UPPER-LEVEL COURSES AVAILABLE TO ALL STUDENTS**

ANTHROP	2B03, 2G03, 2H03, 2LP3, 2P03, 2U03, 2VV3, 2W03, 2X03, 3Y03
GEO	2HC3, 2HD3, 2HU3, 2QQ3, 3HR3
HTH SCI	2A03, 2G03, 2J03, 3G03, 3GG3, 3I03, 4I13, 4J03
POLISH	2A03
POL SCI	2A06, 2B03, 2BB3, 2C03, 2DD3, 2H03, 2I03, 2J03, 2K03, 2L03, 2N03, 2O06, 2XX3
RELIG ST	2B03, 2BB3, 2DD3, 2EE3, 2F03, 2GG3, 2H03, 2HH3, 2I03, 2I13, 2JJ3, 2KK3, 2L03, 2MM3, 2P06, 2Q03, 2QQ3, 2SS3, 2U03, 2V03, 2VV3, 2W03, 2WW3, 2YY3, 2ZZ3, 3A03, 3AA3, 3B03, 3CC3, 3D03, 3DD3, 3E03, 3EE3, 3GG3, 3J03, 3K03, 3KK3, 3LL3, 3M03, 3MM3, 3N03, 3NN3, 3P03, 3R03, 3T03, 3U03, 3UU3, 3V03, 3W03, 3X03, 3Z03, 3ZZ3
SOC SCI	2O03, 2P03, 2Q03, 2R03
SOCIOL	3KK3

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

ANTHROP	2L03, 2LC3
ART HIST	2A03, 2B03, 2D03, 2F03, 2G03, 2H03, 2I03, 2Z03, 3AA3, 3D03, 3I03, 3J03, 3PP3, 3S03
CLASSICS	2B03, 2D03, 2E03, 2H03, 2K03, 2L03, 2LL3
CMST	2AA3, 2E03, 2N03, 2O03, 2Q03, 2R03, 2RR3, 2T03, 2U03, 2V03, 2W03, 2Y03, 3F03, 3M03, 3P03, 3U03, 3WW3
COMPLIT	2BB3, 2CC3, 2G03, 2H03, 2J03, 2M03, 3EE3, 3G03, 3H03, 3M03, 3MM3, 3N03, 3NN3, 3SS3
C SCT	2J03, 2S03, 3BB3, 3D03, 3EE3, 3Y03, 3YY3
ECON	2CC3, 2L03
ENGLISH	2C03, 2E03, 2F03, 2J03, 2L03, 2N03, 2R03, 2S03, 3BB3, 3D03, 3DD3, 3EE3, 3H03, 3U03, 3Y03, 3YY3

GEO	2GG3, 2MM3, 2WW3
GERMAN	3NN3
HEALTHST	2C03, 2D03, 2H03, 3Y03
HTH SCI	3K03, 3Y03, 4O03
HISTORY	2AA3, 2F03, 2FF3, 2G03, 2HH3, 2I13, 2K03, 2L03, 2LL3, 2M03, 2MM3, 2Q03, 2QQ3, 2R03, 2RR3, 2S03, 2T03, 2TT3, 2U03, 2UU3, 3AA3, 3B03, 3DD3, 3F03, 3G03, 3GG3, 3I03, 3I13, 3KK3, 3L03, 3NN3, 3O03, 3P03, 3PP3, 3QQ3, 3RR3, 3V03, 3W03, 3WW3, 3Y03, 3Z03, 3ZZ3
HUMAN	2C03
ITALIAN	2B03 (Taught in English)
JAPAN ST	2A03, 2F03, 2P06, 3B03, 3E03, 3H03, 3UU3
LINGUIST	2A03, 2E03
MEDIA	2I03, 2J03
MUSIC	2A03, 2F03, 2I03, 2I13, 3T03, 3U03
PEACE ST	2A03, 2AA3, 2G03, 2I03, 2S03, 3B03, 3F03, 3I03, 3I13, 3KK3, 3L03, 3O03
PHILOS	2B03, 2C06, 2D03, 2F03, 2G03, 2H03, 2N03
RELIG ST	2C03, 2FF3, 2M03, 2N03
SOC SCI	2J03
SOTA	3B03, 3C03
THTR&FLM	2F03, 2G03, 2H03, 2I03, 3G03, 3J03
WOMEN ST	2F03, 2FF3, 2H03, 2HH3, 2L03, 3B03, 3DD3, 3E03, 3G03, 3GG3, 3NN3

**UPPER-LEVEL COURSES AVAILABLE TO STUDENTS****REGISTERED IN LEVEL III OR ABOVE OF ANY PROGRAM**

ANTHROP	3Z03, 3ZZ3
ART HIST	3B03
CLASSICS	3EE3
COMPLIT	4G03, 4J03
GEO	3AA3, 3CC3, 3DD3, 3HJ3, 3NN3
GERMAN	4G03 (Taught in English)
HEALTHST	3D03, 3E03, 3H03
HISTORY	3EE3
KINESIOL	3DD3, 3F03, 3L03, 3M03, 3SS3, 3T03, 3Y03, 4M03
POL SCI	3A06, 3AA3, 3CC3, 3D03, 3E03, 3EE3, 3F03, 3FF3, 3G03, 3GG3, 3HH3, 3I03, 3JJ3, 3KK3, 3LL3, 3N06, 3NN6, 3Q03, 3S03, 3T03, 3U03, 3V03, 3Y03, 3YY3, 3Z03
RELIG ST	3L03, 3S03
THTR&FLM	4J03

# DEGREES BY PROGRAM

- ★ This degree program is also available through a combination of evening and summer study. The rate of completion however, will vary from program to program.
- A five-year co-op option is available.
- ▲ An Honours (Specialist Option) is available for this program.
- A Co-op option is available.

SUBJECT	BACHELOR'S DEGREE	HONOURS DEGREE	COMBINED HONOURS	PROFESSIONAL DEGREE
Anthropology	B.A.★	B.A.★	B.A.★	
Art		B.A.	B.A.	
Art History	B.A.	B.A.	B.A.	
Arts & Science		B.Arts Sc.	B.Arts Sc.	
Biochemistry •		B.Sc.	B.Sc.	
Biological Chemistry		B.Sc.		
Biology •		B.Sc.	B.Sc.; B.A.	
Biology & Pharmacology •			B.Sc.	
Chemical Engineering ▪				B.Eng.; B.Eng.Mgt.; B.Eng. Society
Chemical Engineering & Bioengineering ▪				B.Eng.Biosciences
Chemistry •		B.Sc.		
Civil Engineering ▪				B.Eng.; B.Eng.Mgt.; B.Eng. Society
Classics	B.A.★	B.A.	B.A.	
Commerce				B.Com.; B.Com. (Honours)
Communication Studies		B.A.★	B.A.★	
Comparative Literature			B.A.	
Computer Engineering ▪				B.Eng.; B.Eng.Mgt.; B.Eng. Society
Computer Science		B.Sc.	B.Sc.; B.A.	
Computing and Information Technology	B.Tech.			
Cultural Studies and Critical Theory			B.A.★	
Earth & Environmental Sciences •		B.Sc.		
Economics	B.A.★	B.A.★▲	B.A.	
Electrical Engineering ▪				B.Eng.; B.Eng.Mgt.; B.Eng. Society
Electrical and Biomedical Engineering ▪				B.Eng.
Engineering Infrastructure Technology	B.Tech.			
Engineering Physics ▪				B.Eng.; B.Eng.Mgt.; B.Eng. Society
English	B.A.★	B.A.★	B.A.★	
French	B.A.★	B.A.★	B.A.★	
Geography	B.A.★	B.A.★	B.A.★	
Geography & Environmental Studies		B.A.		
Geoscience	B.Sc.			
German			B.A.	
Gerontology	B.A.★	B.A.★	B.A.★	
Health Sciences		B.H.Sc.		
Health Studies	B.A.★	B.A.★	B.A.★	
Hispanic Studies			B.A.	
History	B.A.★	B.A.★	B.A.★	
Indigenous Studies	B.A. (Combined)			
Italian			B.A.	
Kinesiology		B. Kin.; B.Sc.		
Labour Studies	B.A.★	B.A.★	B.A.★	
Life Science	B.Sc.★			
Linguistic Cognitive Science		B.A.		
Linguistics		B.A.	B.A.	
Manufacturing Technology	B.Tech.			
Materials Engineering ▪				B.Eng.; B.Eng.Mgt.; B.Eng. Society
Materials Science		B.Sc.		
Mathematical Science	B.Sc.★			
Mathematics			B.A.	
Mathematics & Statistics •		B.Sc.		
Mechanical Engineering ▪				B.Eng.; B.Eng.Mgt.; B.Eng. Society
Mechatronics Engineering				B.Eng.
Medical & Health Physics •		B.Sc.		
Medical Radiation Sciences	B.Sc.			
Medicine				M.D.
Midwifery				B.H.Sc.
Modern Languages & Linguistics		B.A.		
Molecular Biology		B.Sc.		
Multimedia			B.A.	
Music	B.A.	B.Mus.	B.A.	
Nursing				B.Sc.N.
Peace Studies			B.A.	
Philosophy	B.A.★	B.A.★	B.A.★	
Physical Science	B.Sc.			
Physics •		B.Sc.		
Political Science	B.A.★	B.A.★	B.A.★	
Process Automation Technology	B.Tech.			
Psychology	B.A.★	B.A.★; B.Sc.	B.A.★; B.Sc.	
Religious Studies	B.A.★	B.A.★	B.A.★	
Science		B.Sc.		
Social Work				B.A./B.S.W.; B.S.W.★
Sociology	B.A.★	B.A.★	B.A.★	
Software Engineering ▪				B.Eng.; B.Eng.Mgt.; B.Eng. Society
Software Engineering and Game Design ▪				B.Eng.
Theatre & Film Studies	B.A.	B.A.	B.A.	
Women's Studies			B.A.	

The University also offers Thematic Areas of Study and a large number of Minors. Suggested lists of courses, which constitute non-degree Thematic Areas, have been assembled in the section *Interdisciplinary Minors and Thematic Areas*. Also in that section are two Interdisciplinary Minors. Other Minors are found in the program sections of most departments.



# 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/Credit** may be granted to an applicant who has completed work at another university or college or who has completed a Certificate/Diploma program at McMaster, subject to the applicant having met the minimum requirements prescribed by the University.

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

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

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

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

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

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

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

**Degree** is conferred when a student completes a program of study (e.g. Bachelor of Arts, Bachelor of 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 and Linguistics).

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

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

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

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

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

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

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

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

**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 programs. A Minor consists of at least 24 units — of which normally no more than six units may be from Level I — that meet the requirements set out in the program description of that Minor.

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

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

**Prerequisite** is a requirement to be fulfilled before registration in a course is permitted. This is usually the successful completion of another course.

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

**Program Probation** which may be assigned to students whose CA falls within the probationary band below the minimum CA required to remain in the program in good standing, will allow a student to continue in his/her program for at least one reviewing period. (See the *General Academic Regulations* section in this Calendar.)

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

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

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

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

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

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

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

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

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

**Sessional Average (SA)** is a weighted average based on the grades 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 program of study and selected courses.

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

**Units** define the number of credits associated with a course. A unit is roughly equivalent to one lecture-hour per week for one term or two hours of laboratories or seminars per week for one term. Three-unit courses are usually one term in length. Six-unit courses are usually two terms, or one session.

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

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

# ADMISSION REQUIREMENTS

## 1. ADMISSION FROM SECONDARY SCHOOLS

### A. Ontario

#### General Requirements (For All Level I Programs)

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

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

1. An Ontario Secondary School Diploma (OSSD) with acceptable standing;  
AND
2. An overall average in completed Grade 12 U and M courses which meets or exceeds the minimum set by the specific program to which you applied;  
AND
3. Satisfactory completion of six Grade 12 U and M courses including the subject requirements for your chosen program.

McMaster continues to accept OAC courses as equivalent to Grade 12 U and M courses.

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

**NOTE:** At the time of publication of this Calendar, the continuing review of the Grades 11 and 12 Mathematics curricula had not yet been completed. Please consult McMaster's Prospective Students website with respect to any future changes to our Mathematics prerequisites.

#### Early Conditional Admission

Early **conditional** admission is granted annually to qualified applicants, depending on your academic standing at that time. McMaster normally begins making offers in early March. Early **conditional** admission is based on:

1. six appropriate midterm/interim Grade 12 U and M grades,  
OR
2. at least three final Grade 12 U and M grades PLUS enrolment in the appropriate additional three Grade 12 U and M courses.

If you do not receive an offer of admission in March, you will automatically be reassessed for admission after additional Grade 12 U and M grades are received from your secondary school.

Admission offers made in May will be based on updated Grade 12 U and M grades. Some Faculties may review information you may have provided on a supplementary application form.

If you are granted a **conditional** offer of admission, you must meet the general requirements of the university. See *General Requirements (For All Level I Programs)* above.

**The University reserves the right to withdraw a conditional offer of admission** due to any of the following:

1. if you do not meet the minimum final average prescribed for your chosen program;  
OR
2. if you do not receive an OSSD;  
OR
3. if you do not complete six Grade 12 U and M courses including all required subjects;  
OR
4. if you do not respond to the Ontario Universities' Application Centre (OUAC) within the response period indicated on your offer letter.

#### Minimum Final Average

If you are a secondary school applicant who receives a **conditional offer of admission** based on interim grades, you will be required to achieve an overall average (on six (6) final grades including all required courses for your desired program) as indicated on your offer of conditional admission.

If your final average falls below this level (or its equivalent), your offer of admission will be rescinded and your registration will be cancelled.

**The required minimum final average will vary from year to year and by program. This average will be stated clearly on the offer of conditional admission.**

#### Supplementary Application Forms and Personal History

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

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

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

#### Final Admission

If you fulfill the requirements for your OSSD, including the subject requirements for your chosen program by the end of February, you may be granted an offer of **Final Admission** by the end of March.

If you do not receive a conditional offer of admission by June 2, you may still be considered for final admission, once final marks are received, depending on availability of space in your chosen program.

#### Deferral of Admission

Applicants who receive both an offer of scholarship and an offer of admission and who have accepted the offer of admission through the OUAC, may apply to defer their entry for one year. Otherwise, McMaster does not normally grant a deferral of an admission offer unless special circumstances exist. Each case is evaluated on its own merits.

All requests for deferral of both admission and scholarship should be made in writing to the Office of the Registrar at McMaster by September 1, 2006 outlining the reasons for the request. Normally, decisions regarding deferral requests are not made until early August, after the receipt of all final grades.

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

#### Program Transfer After Admission

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

#### Subject Requirements for Specific Level I Programs

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

McMaster University offers thirteen Level I programs: Arts & Science I, Business I, Engineering I, Health Sciences I, Humanities I, Kinesiology I, Mathematics and Statistics I, Medical Radiation Sciences I, Midwifery I, Music I, Nursing I, Science I and Social Sciences I.

➤ **ARTS AND SCIENCE I** {0027}

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

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

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

➤ **BUSINESS I** {0725}

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

1. English U
2. Advanced Functions and Introductory Calculus U
3. One of Geometry and Discrete Mathematics U or Mathematics of Data Management U
4. Completion of additional Grade 12 U or M courses to total six credits

Principles of Financial Accounting M is recommended.

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

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

➤ **ENGINEERING I** {0730}

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

1. English U
2. Advanced Functions and Introductory Calculus U
3. Chemistry U
4. Physics U
5. One of Geometry and Discrete Mathematics U, Mathematics of Data Management U, Biology U or Earth and Space Science U. (Geometry and Discrete Mathematics U is recommended).
6. Completion of one additional Grade 12 U or M course to total six credits

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

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

➤ **HEALTH SCIENCES I** {2276}

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

1. English U
2. Biology U
3. Chemistry U
4. Advanced Functions and Introductory Calculus U
5. One Grade 12 U or M course from Social Sciences (Geography, History, Law, Psychology, Sociology) or Humanities (Art, Drama, English, French, Music, other languages)
6. One additional U or M course in any subject area to total six courses

The selection method is by consideration of academic qualifications (minimum overall average of 88% is required for consideration) and a mandatory *Supplementary Application*. A review of the mandatory *Supplementary Application* is a very important component of the admission process. Applicants who do not complete the *Supplementary Application* are not considered for admission.

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

➤ **HUMANITIES I** {0700}

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

1. English U
  2. Completion of additional U or M courses to total six credits
- In recent years, an average in the mid-70s has been required for an offer of admission.

The Faculty of Humanities strongly recommends that you select at least one Grade 12 U or M course from Humanities subjects (Art, Drama, English, French, français, other languages, History and Music) in addition to Requirement 1 above.

**ART 1F03, 1FF3:** Entrance to any Honours Art Program requires the permission of the School of the Arts as these programs and courses have limited enrolments. Students who wish to enrol in ART 1F03 and 1FF3 must first complete a portfolio interview. Portfolio interviews occur between January and April each year for entrance in September of the same calendar year. Only those students who call the Office of the School of the Arts (ext. 27671) before March 1st to book appointments for portfolio interviews will be guaranteed consideration for entrance into ART 1F03 and 1FF3. (Late applicants will only be interviewed if space availability permits). Acceptance into ART 1F03 and 1FF3 will be verified with written confirmation from the School of the Arts. School of the Arts verification and a Letter of Acceptance from the University guarantee a space in the program as long as the student meets the minimum academic requirements as outlined under *School of the Arts* programs in the *Faculty of Humanities* section of the Calendar. **Applicants for Art should use the MHA OUAC code.** The portfolio should contain a variety of works in different media that represent the applicant's creative abilities and interests. Aptitude in art, academic ability and demonstrated commitment to the discipline are considered in the selection process. In exceptional circumstances, where distance does not allow for an interview, portfolios may be submitted in the form of colour slides or photographs.

➤ **KINESIOLOGY I** {0308}

Students must apply for admission to Level I. Students considering entry into the B.Sc. stream in Kinesiology in Level II are strongly urged to carefully review the course requirements for entry to Science I..

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

1. English U
  2. Biology U
  3. One of Geometry and Discrete Mathematics U or Advanced Functions and Introductory Calculus U
  4. Completion of additional U or M courses to total six credits
- In recent years, an average in the low to mid 80s has been required for an offer of admission.

**NOTES:**

- i) Completion of a *Supplementary Application* is recommended for those students whose average is near the cut-off.
- ii) Please see Level I Science courses for specific Ontario Secondary School prerequisites.

➤ **MATHEMATICS AND STATISTICS I** {0320}

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

1. English U
2. Advanced Functions and Introductory Calculus U
3. Geometry and Discrete Mathematics U
4. Completion of three additional U or M courses to total six credits
5. An average acceptable to the Faculty in the best six U or M credits (which must include the three U courses specified in points 1, 2 and 3 above)

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

➤ **MEDICAL RADIATION SCIENCES I** {0345}

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

1. English U
2. Biology U
3. Chemistry U
4. Advanced Functions and Introductory Calculus U
5. Completion of two additional U or M courses to total six credits
6. An average acceptable to the Faculty in the best six U or M credits (which must include the four U courses specified in points 1, 2, 3 and 4 above).

Physics 12 U is strongly recommended.

➤ **MIDWIFERY I** {6501}

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

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

1. English U
2. One of Biology U or Chemistry U (both are recommended)
3. One U or M course in Social Science (History, Sociology, Psychology, Geography, Law)

## 12 ADMISSION REQUIREMENTS

4. Completion of additional U or M courses to total six credits
5. To be eligible students must obtain a minimum grade of 70% in each of the three required courses listed in points 1, 2, and 3 above AND an overall average of 70% on six Grade 12 U and M courses including the required courses.

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

### > 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 (a level equivalent to at least honours standing in Grade 8 of the Royal Conservatory of Music)
2. Performance (approximately 20 minutes duration) of two or three varied pieces of your choice (approximately Grade 8 honours level), including at least one from the 20th century
3. Ear test appropriate to the Grade 8 performance level
4. Written examination on rudiments of theory (Grade 2 level)
5. Interview

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

### > NURSING I {6390}

#### NURSING CONSORTIUM (Conestoga) {6385}

#### NURSING CONSORTIUM (Mohawk) {6386}

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

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

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

1. English U
2. One of Advanced Functions and Introductory Calculus U, Geometry and Discrete Mathematics U or Mathematics of Data Management U
3. Two of Biology U, Chemistry U or Physics U (Biology is preferred). In 2006/07 Biology U and Chemistry U will be required.
4. Two additional U or M courses to total six credits

The admission average will be calculated on the best six Grade 12 U and M subjects, including the four required subjects. In recent years, an average in the low 80s has been required for an offer of admission at the McMaster site and at least 70% for the Conestoga and Mohawk sites.

### > SCIENCE I {0710}

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

1. English U
2. Advanced Functions and Introductory Calculus U
3. Two of Geometry and Discrete Mathematics U, Biology U, Chemistry U or Physics U
4. Completion of two additional U or M courses to total six credits
5. An average acceptable to the Faculty in the best six credits (which must include the four U courses specified in points 1., 2. and 3. above).

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

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

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

### > SOCIAL SCIENCES I {0720}

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

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

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

Students interested in entering any of the Psychology or Economics degree programs should complete Advanced Functions and Introductory Calculus U.

## B. Other Canadian Provinces and Territories

McMaster welcomes applications from other provinces and territories. Applicants are required to meet the following minimum requirements and must also include the specified subject requirements for their chosen program:

### Alberta, Northwest Territories and Nunavut

Grade 12 high school diploma with five acceptable courses numbered 30 or 31, including English 30 or 31.

### British Columbia and Yukon

Grade 12 high school diploma with four acceptable provincially examinable Grade 12 courses, including English 12. (Certain programs require Calculus in addition to the four provincially examinable courses).

### Manitoba

Grade 12 high school diploma with five acceptable courses numbered 40A or 40S, including two credits of English 40S or both English 40S and French 40S or Anglais 40S and Francais 40S.

### New Brunswick

Grade 12 high school diploma with five acceptable academic courses numbered 120, 121, or 122, including English 122.

### Newfoundland and Labrador

Grade 12 high school diploma with eleven acceptable Grade 12 credits at the 3000 level, including English 3201.

### Nova Scotia

Grade 12 high school diploma with five acceptable Grade 12 courses (university preparatory Academic or Advanced), including English 12.

### Prince Edward Island

Grade 12 high school diploma with five acceptable Grade 12 academic courses numbered 611 or 621, including English 621.

### Quebec

Grade 12 Diploma with six acceptable Grade 12 academic subjects numbered 60-65, including English OR

Year I CEGEP with twelve appropriate academic courses, including two English/anglais 603. Students with Year II or III CEGEP who have achieved the DEC will be considered for advanced credit in their chosen program. The Côte de Rendement (R Score) will be used for admission consideration.

### Saskatchewan

Grade 12 high school diploma with five acceptable academic courses numbered 30, including both English Language Arts A30 and B30.

## Subject Requirements for Level I Programs

In addition to the minimum requirements above, satisfactory completion of the specified subject requirements for the program to which you applied is also required. Please refer to the *Ontario Secondary School Course Equivalents Chart* and the *Subject Requirements For Specific Level I Programs* listed under *Ontario* in this section for more details.

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

## Early Conditional Admission

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

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

Ontario Grade 12	B.C./ Yukon	Alta./ Nunavut	Sask.	Manitoba	++Que. (CEGEP)	Nova Scotia	New Brunswick	P.E.I.	Nfld.
ENGLISH U	English 12	English 30 or 31	English A30 and B30	English 40S (Two Credits, one may be French 40S)	Two English 603s courses	English 12	English 122	English 621	English 3201
ADVANCED FUNCTIONS AND INTRO CALCULUS U ** +	Calculus 12 AP Calculus, if available	Math 31	Calculus 30, if available or AP Calculus	Pre Calculus Math 40S or AP Calculus	Calculus 1 and 2	Pre-Calculus Math 12 or AP Calculus	Advanced Math with Intro to Calculus 120	Math 611	Not Available**
GEOMETRY AND DISCRETE MATHEMATICS U	Principles of Math 12	Pure Math 30	Math B30 and C30	Applied Math 40S	Linear Algebra I	Advanced Math 12	Trigonometry and 3-Space 121/122	Math 621	Math 3204 or 3205
MATHEMATICS OF DATA MANAGEMENT U	Principles of Math 12	Not available*	Not available*	Applied Math 40S	Not available*	Advanced Math 12	Not available*	Not available*	Not available*
CHEMISTRY U	Chemistry 12	Chemistry 30	Chemistry 30	Chemistry 40S	Chemistry I and II coded NYA/NYB	Chemistry 12	Chemistry 121 or 122	Chemistry 621	Chemistry 3203
PHYSICS U	Physics 12	Physics 30	Physics 30	Physics 40S	Physics I and II coded NYA/NYB	Physics 12	Physics 121 or 122	Physics 621	Physics 3204
BIOLOGY U	Biology 12	Biology 30	Biology 30	Biology 40S	Biology I and II coded NYA/NYB	Biology 12	Biology 121 or 122	Biology 621	Biology 3201

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

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

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

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

### C. International Baccalaureate Diploma

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

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

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

Applicants who have completed Advanced Placement Courses will be considered for admission to a Level I program. Applicants who have completed Advanced Placement Examinations in acceptable courses with a minimum grade of 4 may be recommended for up to

18 units of advanced credit, subject to the discretion of the Faculty. An official copy of the final Advanced Placement Examination Results Report from ETS is required as part of the evaluation process.

### E. Other International Secondary School Qualifications

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

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

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

### American High School Curriculum

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

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

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

Applicants from the General Certificate of Education system require:

1. five GCE subjects, at least two of which must be at the Advanced Level with the balance of subjects at the Ordinary Level;
2. Advanced Level subjects appropriate for your chosen program, (refer to *Subject Requirements for Specific Level I Programs* listed under *Ontario* in this section). For Science and Engineering programs, Mathematics and one of Physics or Chemistry must be offered at the Advanced Level;
3. Grades of at least C must be presented in each of the Ordinary and Advanced Level subjects. Some programs will require higher grades.

Possession of the minimum grades does not guarantee admission.

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

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

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

### International Baccalaureate Diploma

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

### Other Countries or Educational Systems

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

## F. Home Schooled Applicants

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

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

1. List of home school credentials including but not limited to structured curriculum completed through ACE (Accelerated Christian Education Program) or other such programs.
2. Portfolio of written work; normally, we will expect to see evidence of appropriate intellectual maturity.
3. Results of standardized tests such as SAT, ACT. For SAT I, we normally recommend a minimum requirement of 1200 combined score. For ACT, we normally recommend a requirement of a minimum composite score of 27.

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

## 2. ADMISSION/TRANSFER FROM POST-SECONDARY INSTITUTIONS

### A. From Universities

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

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

As a transfer student, you must also satisfy the Residence Requirements set out in the *General Academic Regulations* section of this Calendar. The University will not accord to you privileges which would not be granted by your own university.

Grades obtained in courses taken at another university will not be included in McMaster's Cumulative Average, and, therefore, cannot be used to raise your standing.

If you have been required to withdraw from another university and have fulfilled your period of suspension, you may apply for admission. However, you must present a letter of explanation and clarification concerning your past academic performance. You may also be asked to provide academic documentation for proof of further academic achievement which is both current and relevant.

### B. From Colleges of Applied Arts and Technology

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

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

#### > ARTS AND SCIENCE

1. Completion of a three-year diploma.
2. Admission is by selection upon review of college and high school transcripts to determine eligibility.

#### > BUSINESS

1. Completion of a two or three-year diploma.
2. A GPA of 3.2 or better.
3. Successful completion of a Grade 12 Advanced Mathematics course or equivalent.

#### > ENGINEERING

1. Completion of a three-year technology diploma program.
2. A GPA of 3.2 or better.

Technician programs are not recognized for credit toward admission in Engineering I.

#### > BACHELOR OF HEALTH SCIENCES (HONOURS)

1. Completion of a three-year diploma.
2. Admission is by selection upon review of college and high school transcripts to determine eligibility.

#### > HUMANITIES

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

#### > KINESIOLOGY

1. Completion of a three-year diploma.
2. Admission is by selection upon review of college and high school transcripts to determine eligibility.

#### > MIDWIFERY

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

#### > MUSIC

1. Completion of a three year diploma program in Music from Mohawk College.
2. A GPA of 3.0 or better. (Audition will be waived and, depending on grades received, applicants may receive up to 48 units of advanced credit.)

#### > NURSING

1. Completion of an Ontario diploma in Nursing or the equivalent.
2. A GPA of 2.7 or better.
3. Selection will be based on academic qualification and a rating obtained on a questionnaire completed by the applicant. An interview may also be required.

OR

1. Completion of an Ontario diploma in pre-health sciences.
2. A GPA of 2.8 or better.
3. Selection will be based on academic qualification and a rating obtained on a questionnaire completed by the applicant. An interview may also be required.

**> SCIENCE**

1. Completion of a three-year technology diploma program.
  2. A GPA of 3.2 or better.
- Technician programs are not recognized for credit toward admission in Science I.

**> SOCIAL SCIENCES**

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

**> BACHELOR OF TECHNOLOGY**

Please see the *Program for the B.Tech Degree* in the *Faculty of Engineering* section of the Calendar.

### C. University Graduates Applying for a Second Bachelor's Degree

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

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 program in the *Faculty of Science* section, *Second Bachelor's Degree Programs*. If you are a McMaster graduate or potential graduate, you may be able to use the McMaster University Returning Student application. (See *Application Procedures* section of this Calendar.)

### D. Continuing Students

To be eligible to take courses as a Continuing Student 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 through part-time studies), and academic records which are satisfactory to the Department and the Office of the Associate Dean of the appropriate Faculty.

#### McMaster Graduates

If you are a graduate of a McMaster degree program and wish to become a continuing student, you do not need to apply for admission. You may submit a registration.

#### Graduates from Other Universities

As a continuing student with a non-McMaster degree, you need only apply formally for admission in the first instance. In subsequent sessions, you will only be required to register.

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

### E. From Six Nations Polytechnic

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

### F. From Post-Secondary Institutions with Religious Affiliation

Undergraduate general academic studies taken at Bible colleges, theological colleges, and seminaries that are member institutions of the Association of Universities and Colleges of Canada (AUCC), affiliated with an AUCC member institution, or accredited by the Association of Biblical Higher Education (ABHE), the Association of Theological Schools (ATS), the Association of Institutions for Higher Learning in Jewish Education (AIHLJE) or institutions listed by Canadian Information Centre For International Credentials (CICIC) and/or the International Association of Universities (IAU) will be considered for admission and transfer credit based on the following:

#### 1. Applicants from accredited post-secondary institutions with religious affiliation:

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

#### General Notes about Transfer Credit:

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

#### 2. Applicants from non-accredited post-secondary institutions with religious affiliation:

Applicants from a non-accredited post-secondary institution with religious affiliation will be considered for admission based on completion of a grade 12 high school diploma. Applicants will be required to meet the minimum requirements from high school. The course work completed at the post-secondary institution with religious affiliation will not be considered as a basis of admission or for transfer credit.

## 3. OTHER CATEGORIES OF ADMISSION

### A. Mature Students (Part-time Admission)

If you do not qualify for consideration under one of the above categories, McMaster will assess your eligibility as a mature student. You may be considered for limited admission to part-time study, provided all of the following conditions are satisfied:

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

The Faculty of Engineering, the Arts and Science program, Bachelor of Health Sciences program, and Kinesiology program do not admit under the category of mature students. Admission to Level I programs in the Faculty of Science requires satisfactory standing in the Grade 12 U (or OAC) Mathematics and Science requirements, as described in the *Subject Requirements For Specific Level I Programs* in this section of the Calendar. The Faculty of Business requires Grade 11 U Mathematics or its equivalent.

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

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

- i) If you have a Cumulative Average (CA) of at least 3.5 with no failures, you will be allowed to register for full-time study.
- ii) If you have a CA of at least 3.0 with no more than six units of failure, you will be allowed to register in another six units of study and will be reviewed again after completion of these six units (see *Second Review* below).
- iii) If you have failed more than six units, you may not continue at the University.
- iv) If your CA is less than 3.0, you may not continue at the University.

**Second Review:**

- a) If you have a CA of at least 3.5, you will be allowed to register for full-time study.
- b) If you have a CA of less than 3.5, you may not continue at the University.

**B. 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. program, 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. Normally, applicants to the Nursing Occasional Category must meet the same eligibility criteria as Mature Student applicants. For details see the heading *Mature Students (Part-Time Admission)* in this section of the Calendar.

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

**C. Senior Citizens**

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

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

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

You must initially apply through the Ontario Universities' Application Centre (OUAC) and send your Letter of Permission directly to McMaster. Subsequent requests to take courses on a Letter of Permission do not require an application. An updated Letter of Permission from your home institution is required for each new session.

**E. Graduates of McMaster Certificate/Diploma Programs**

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

**F. Post-Degree Students**

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

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

**G. Listeners**

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

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

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

**H. Enrichment Program for Secondary School Students**

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

**I. Former McMaster Degree Students (Returning Students)****Readmission**

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

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

**Reinstatement**

See the *General Academic Regulations* section in this Calendar.

**Second McMaster Degree**

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

**Continuing Studies**

See the heading *Continuing Students* in this section of the Calendar.

**J. Deferral of Admission**

Students whose country of residence is Canada and who received an offer of admission and accepted the offer prior to the specified deadline may apply to defer their entry to McMaster for one year. Each case is evaluated on its own merits. If a deferral is granted, it is conditional upon the student not attending a secondary or post-secondary institution during the deferral period.

All requests for deferral of admission should be made in writing to the Office of the Registrar at McMaster by September 1, 2006 outlining the reasons for the request.

Normally, decisions regarding deferral requests are not made until August or September, after the receipt of all final grades.

**4. TRANSFER CREDITS****A. General Policy on the Transfer of University Course Credits**

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

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



## B. From Colleges of Applied Arts and Technology

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

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

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

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

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

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

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

## C. Advanced Credit

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

## D. Credit in Courses by Special Assessment (Challenge Examinations)

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

Challenge for credit is not intended to give credit for skills or knowledge gained through high school, college or previous university instruction. The special assessment may include one or more of the following: written examinations, papers, essays, submissions of a substantial body of work, or portfolios, or laboratory tests. Credit can be granted only for those courses listed in the current McMaster

calendar. Not all courses in all disciplines are available for challenge. Faculties and departments are free to determine which, if any, of their courses are open for special assessment. Challenges are assessed on a pass/fail basis. The passing grade for a challenge appears on the transcript as COM (Complete) and is not used in computing averages or evaluating honours or scholarship standing, but is counted as a course attempt. Unsuccessful attempts will be noted on the transcript. Special Assessment is not available for a course taken previously and a course may be attempted only once by special assessment.

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

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

## 5. ENGLISH LANGUAGE PROFICIENCY

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

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

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

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

# APPLICATION PROCEDURES

## How to Apply

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

## 1. CATEGORIES OF ADMISSION

### A. Current Ontario High School Students

If you are currently registered as a full-time *day school* student in an Ontario secondary school and wish to begin university studies in September

- Use the Compass101 on-line application at [www.ouac.on.ca/101/](http://www.ouac.on.ca/101/). Please consult with your secondary school guidance office regarding this application process.

### B. All Other Canadian High School Students

If you are currently attending secondary school outside of Ontario or have recently completed a secondary school diploma in any Canadian province or territory

- Use the OUAC 105D on-line application at [www.ouac.on.ca/105/](http://www.ouac.on.ca/105/).

### C. High School Students with International Qualifications

If you are currently attending or have recently completed a secondary school program outside of Canada

- Use the OUAC 105F on-line application at [www.ouac.on.ca/105/](http://www.ouac.on.ca/105/).

### D. University/College Transfer Students

If you are currently registered in or have completed an undergraduate degree program at another university and wish to attend McMaster OR

If you are currently registered in or have completed a college diploma program and wish to attend McMaster

- Use the OUAC 105 on-line application at [www.ouac.on.ca/105/](http://www.ouac.on.ca/105/). Applicants residing in Canada (Canadian citizens, permanent residents or applicants studying in Canada on a student permit or other visa) should use the **105D** form. Applicants currently residing outside of Canada who are not Canadian citizens should use the **105F** form.

### E. Students Applying to Nursing Consortium Programs

If you are interested in applying to McMaster's Nursing (B.Sc.N) program at the Mohawk College or Conestoga College sites

- Apply on-line through the Ontario College Application Services (OCAS) at [www.ocas.on.ca/](http://www.ocas.on.ca/).

### F. Previous McMaster Degree Students (Returning Students)

1. **Readmission:** If you are a former McMaster student who voluntarily withdrew from an undergraduate program more than five years ago (providing you have not attended another university nor received a college diploma since last registered at McMaster). If you are a former Nursing student, you must apply for readmission regardless of the amount of time that has elapsed.

2. **McMaster Second Degree:** If you are a McMaster graduate or potential graduate and wish to pursue a second undergraduate degree (providing you have not attended another university nor received a college diploma since last registered at McMaster).

- Use the *McMaster Returning Student Application* to apply on-line at [registrar.mcmaster.ca/external/chs-retur.htm](http://registrar.mcmaster.ca/external/chs-retur.htm).

3. **Reinstatement:** If you are a former McMaster student who was previously ineligible to continue studies at McMaster (providing you have not attended another university nor received a college diploma since last registered at McMaster).

- Obtain the *Reinstatement Request Form* from the Office of the Registrar, Gilmour Hall, Room 108, McMaster University, Hamilton, Ontario, L8S 4L8.

4. **Continuing Student:** If you are a McMaster graduate and wish to become a Continuing student

- You do not need to apply for admission. Simply submit a Registration.

### G. Visiting Students (Letter of Permission - For Credit at Another University)

If you are currently registered at another university and wish to attend McMaster to take courses on a Letter of Permission for credit at that university

- Use the OUAC 105 on-line application at [www.ouac.on.ca/105/](http://www.ouac.on.ca/105/) to apply for full-time studies.

- Use the *Part-Time Degree Studies* application to apply on-line (to McMaster only) at [registrar.mcmaster.ca/external/chs-partt.htm](http://registrar.mcmaster.ca/external/chs-partt.htm) to apply for part-time studies.

### H. Students Seeking Part-Time Degree Studies at McMaster Only

If you wish to begin undergraduate studies in September, January, May or June or if you wish to take undergraduate courses on a part-time basis (registered in 18 units or less)

- Use the *Part-Time Degree Studies* application to apply on-line (to McMaster only) at [registrar.mcmaster.ca/external/chs-partt.htm](http://registrar.mcmaster.ca/external/chs-partt.htm). (If you wish to apply to other Ontario universities as well, use the OUAC 105 application to apply on-line at [www.ouac.on.ca/105/](http://www.ouac.on.ca/105/).)

### I. Students Seeking Post-Degree Studies

If you wish to register as a post-degree student (taking graduate courses but not proceeding to an advanced degree)

- Download the *Post-Degree Studies Application* from [www.mcmaster.ca/graduate/deptforms.html](http://www.mcmaster.ca/graduate/deptforms.html) or contact the Graduate Studies Office, Gilmour Hall, Room 212, McMaster University, Hamilton, Ontario, L8S 4L8. Use the form to apply to the appropriate academic department(s).

### J. Students Applying to the Medical Program

See the heading *Admission Policy for the Medical Program* in the *Faculty of Health Sciences* section of this Calendar.

## 2. DOCUMENTS

### A. Required Documents

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

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

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

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

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

### B. Retention of Documents

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

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

## 3. DEADLINES

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

### A. FALL/WINTER SESSION (SEPTEMBER 2006 ENTRY)

Undergraduate programs which are not specified below: July 15

- International Applications ..... April 1
- International Documentation ..... April 1
- Domestic Applications ..... July 15
- Domestic Documentation ..... July 15
- Optional Supplementary Applications  
for Level I Programs ..... April 30
- Arts & Science Applications ..... February 10
- Supplementary Applications ..... February 10
- Level III Science Cooperative programs ..... February 1
- Gerontology Applications ..... May 15
- Health Sciences (Honours) Applications ..... February 10
- Supplementary Applications (Lvl I) ..... February 10
- Supplementary Applications (Above Lvl I) ..... April 29
- Health Studies ..... May 15
- Kinesiology ..... May 15
- Labour Studies ..... May 15
- Medicine ..... October 2
- Midwifery Applications ..... February 1
- Official Transcripts ..... February 1
- Midwifery Application Forms\*\* ..... February 1

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

\* Nursing I applicants, with the exception of current secondary school students, need to complete the mandatory supplementary application. The form is available on-line at [www.fhs.mcmaster.ca/nursing/education/undergrad/undergradadmissions.htm](http://www.fhs.mcmaster.ca/nursing/education/undergrad/undergradadmissions.htm).

\*\* The Midwifery application form and application instructions are available at [www.fhs.mcmaster.ca/midwifery/admissions/application.pdf](http://www.fhs.mcmaster.ca/midwifery/admissions/application.pdf).

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

### B. FALL/WINTER SESSION (JANUARY ENTRY)

- All Eligible Programs ..... November 15
- Documentation Deadline ..... December 1

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

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

### D. Reinstatement or Readmission Deadlines

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

Application deadlines for January, May or June entry are as indicated under the corresponding headings above.

### E. Academic Counselling for Admitted Students

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

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

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

### F. Enquiries

Please direct your enquiries about Application Procedures to:

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

# GENERAL ACADEMIC REGULATIONS

## STUDENT ACADEMIC RESPONSIBILITY

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

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

Experience has shown that students who do not follow these guidelines may experience academic consequences such as cancellation of registration in courses, completion of courses that are not counted towards their degree, or delayed graduation.

In addition, students are expected to:

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

## ACADEMIC REGULATIONS

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

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

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

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

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

### 1. UNIVERSITY REGULATIONS

#### Residence Requirements

While most students will complete all their undergraduate work at McMaster University, the minimum requirements set out below apply to students who take part of their work at other institutions.

In order to obtain any four- or five-level, first undergraduate degree, you must complete at least two of the levels (approximately 60 units of work) beyond Level I, including the final level, at McMaster.

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

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

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

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

#### Registration

The purpose of registration is to officially record your program and courses. Information on how to register is available online on the web site of the Office of the Registrar at the following url: <http://registrar.mcmaster.ca/gettingregistered/>. You are responsible for ensuring that your registration information is complete, and that your course selections meet the requirements of your degree. Counselling is available to assist you in course selections.

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

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

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

■ **Changes to Registration:** The last day for adding or dropping courses is approximately one week after classes begin for each term. (Please see the tables in the *Sessional Dates* section for the relevant dates for each term of the academic year.) After the above-mentioned period, you may cancel courses until the last day to withdraw without failure by default. Cancelled courses will be shown on your transcript with the notation CAN (Cancelled). After this date, you will remain registered in courses whether or not you attend classes. Your transcript will show a grade of F for any course not successfully completed.

You are responsible for ensuring that your course selection meets the requirements of your degree. You should review your personal degree audit on the working day following each time you drop or add courses, and contact a student advisor in the Office of the Associate Dean of your Faculty if you have questions. Changes to your course load may also affect your fees and your eligibility for scholarships and financial aid such as OSAP.

■ **Limit on Level I Courses:** In most Faculties, you may not obtain credit in more than 42 units of Level I courses in a three-level program, or more than 48 units in a four-level program.

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

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

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

■ **Repetition of Courses:** Students may repeat courses that have been failed or for which credit has been obtained a number of times, with the exception of the students in the Faculty of Business who may only repeat courses which they have failed. 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, audit the course. You must satisfy the prerequisite for the course, but will not complete assignments nor write the final examinations. You will not be permitted to register for credit in the course after the registration deadline for the session has passed.

■ **Letters of Permission:** If you are in good academic standing at McMaster and you wish to attend another university to take courses for credit towards a McMaster degree, you must obtain permission ahead of time. To do this you must seek a **Letter of Permission** from the Office of the Associate Dean. Please take note of any conditions that might apply, including the requirement of a grade of at least C- for transfer credit. You should note that the grades obtained in courses taken at another university will not be included in the Cumulative Average. Full-time students taking courses 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.

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

■ **Transfer of Credit between Faculties:** Transfer of credit between Faculties is handled by the Office of the Associate Dean to which you wish to transfer. It is possible that full credit may not be given at the time of transfer between Faculties and additional courses may need to be taken.

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

## International Study

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

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

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

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

For information about programs and universities, please contact the Student Exchanges Officer, Gilmour Hall, Room 104.

## 2. ACADEMIC STANDING AND PROGRAM REQUIREMENTS

### Academic Standing

Academic standing is reviewed in May and August each year for students who

1. have attempted at least 18 units of work since the last review; or
2. may be eligible to graduate at the next Convocation; or
3. were admitted under the part-time mature student provision and have attempted the first 12 units of work.

In the review of academic standing, three sets of decisions are made:

1. whether a student may graduate;
2. whether a student may continue at the University; and
3. whether a student may continue in a program.

### Minimum Requirements to Continue at the University

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

### Level I Registration and

### Academic Standing Requirements

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

If you are studying part-time, the Office of the Associate Dean 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 program, 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 program in another Faculty. If, at the end of the next reviewing period, you again do not qualify for admission to a program, you may not continue at the University. If your CA is less than 3.0 you may not continue at the University.

Students in Arts & Science I should refer to the *Arts & Science Program* regulations listed below.

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

## Minimum Requirements for Entering and Continuing in a Program Beyond Level I

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

### > ARTS & SCIENCE PROGRAM

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

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

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

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

### > SCHOOL OF BUSINESS

■ **Business I:** For specific admission requirements to Commerce II see *Program Notes* under the heading *Programs* in the *School of Business* section of this Calendar.

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

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

If you are not admitted to another Faculty you may register in the School of Business as an irregular student for one reviewing period. During that period you cannot take Commerce courses and you will not be eligible for consideration for 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 program outside the School of Business.

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

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

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

■ **Honours B.Com. Program:** You must have a CA of at least 6.0 to enter the Honours B.Com. program in Level III or IV or to continue in the Honours B.Com. program. Once admitted, if your CA is 5.5 to 5.9, you may continue in the Honours B.Com. program, but will be placed on program probation. You may be on program probation for only one reviewing period (as specified in the *Glossary* section of this Calendar). If your CA is 3.5 to 5.4, you may transfer to the B.Com. program. If your CA is less than 3.5, you may not continue at the University. **Regardless of your CA, if you receive more than six units of failure (in required or elective course work) after entry to Level II Commerce, you will not be permitted to continue in a program in the School of Business.**

■ **B.Com. Program:** You must have a CA of at least 4.0 to continue in the B.Com. program. If your CA is 3.5 to 3.9, you are permitted to continue in the B.Com. program on program probation for one reviewing period (as specified in the *Glossary* section of this Calendar). If your CA is less than 3.5, you may not continue at the University. **Regardless of your CA, if you receive more than six units of failure (in required or elective course work) after entry to Level II Commerce, you will not be permitted to continue in a program in the School of Business.**

### > FACULTY OF ENGINEERING

■ **B.Eng. Programs:** To be admitted to a Level II Engineering program, you must have completed all non-elective Engineering I courses with 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 program. If your CA is at least 4.0 and includes one failure since your last review, and you were not placed on probation at the last review, you will be placed on program probation. If your CA is at least 5.0 and includes two failures since your last review, and you were not placed on probation at the last review, you will be placed on program probation. Your probation will be lifted if you complete the year with a Sessional Average of 4.0 with no failures. You may only be on probation twice. If you have a CA of 4.0 to 4.9 with two failures, you may not continue in the Faculty. If you have more than two failures since the last review, you may not continue in the Faculty. If you have a CA of 3.0 to 3.9, you may not continue in the Faculty. If your CA is less than 3.0, you may not continue at the University.

### > FACULTY OF HEALTH SCIENCES

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

### > FACULTIES OF HUMANITIES AND SOCIAL SCIENCES

■ **Honours B.A. Programs; B. Mus. Program; B.A./B.S.W. and B.S.W. Programs:** You must have a CA of at least 6.0 to continue in an Honours program. If your CA is 5.5 to 5.9, you may remain in the Honours program, but will be placed on program probation for one reviewing period. You may be on program probation only once. If your CA is 3.0 to 5.4, you must transfer to another program for which you qualify. If your CA is less than 3.0, you may not continue at the University.

■ **Honours B.Kin. Program:** To be admitted to a Level II Honours Kinesiology program, you must have completed all Kinesiology I program requirements with a Cumulative Average of at least 6.0 including an average of at least 6.0 in KINESIOL 1A06, 1E03, 1H03. If you fail to meet these admission requirements but your C.A. is at least 3.5, you may register in the Level II Kinesiology (General) program. During this time, you will be given the opportunity to complete Kinesiology courses in an attempt to qualify for Honours Kinesiology at your next review. Upon registration in the Honours Kinesiology program, you must have a C.A. of at least 6.0 to continue. If your C.A. is 5.5 to 5.9, you may remain in the Honours program, but will be placed on program probation for one reviewing period. You may be on program probation only once. If, at a subsequent review, your C.A. is 3.0 to 5.4, you must transfer to a non-Kinesiology program for which you qualify or if your C.A. is less than 3.0, you may not continue at the University.

■ **B.A. Programs:** You must have a CA of at least 3.5 to continue in, or graduate from, a three-level B.A. program. If your CA is 3.0 to 3.4, you may remain in the program, but will be placed on academic probation. You may be on academic probation only once. If your CA is less than 3.0, you may not continue at the University.

### > FACULTY OF SCIENCE

■ **Honours B.Sc. Programs:** You must have a CA of at least 6.0 to continue in an Honours B.Sc. program. If your CA is 5.5 to 5.9, you may remain in the Honours B.Sc. program, but will be placed on program probation. You may be on program probation for only one reviewing period. If your CA is 3.0 to 5.4, you must transfer to another program for which you qualify. If your CA falls below 3.0 you may not continue at the University.

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

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

## Reinstatement

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

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

Some Faculties may require a supplementary application form or letters of reference. Consult the appropriate Faculty section in this Calendar. **Reinstatement is not guaranteed.**

If at any review after reinstatement your Cumulative Average falls below 3.5, you will be required to withdraw from the University for a period of at least 12 months.

## Transfer Between Programs

If you wish to transfer from one program to another, you should discuss the possibility with the appropriate Office of the Associate Dean to which you wish to transfer. It is possible that full credit may not be given at the time of transfer between Faculties and additional courses may need to be taken.

## Minors

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

If you wish to receive a Minor, you should check the information under the heading Minor in the appropriate department's listing. McMaster also offers Interdisciplinary Minors in Archaeology and Jewish Studies. (See *Interdisciplinary Minors and Thematic Areas* section.) You will be responsible for ensuring that you register in the required Minor courses. Normally, you must complete a minimum of 24 units in the Minor subject. No more than six of these units can be at Level I, unless otherwise stated in the specific requirements of the minor. At least 18 units must be completed at McMaster.

In the final year of your program, when you file your Graduation Information Card, you must indicate your desire to receive a Minor 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.

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

## Second Bachelor's Degree Programs

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

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

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

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

■ **B. Eng.:** For entry, you must meet the admission requirements for the program. If admitted, you must complete at least 60 units beyond the first degree including all program requirements. (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 program, or courses completed as a Continuing Student, may, with the approval of the Faculty, be applied to the second degree program.
6. You must meet the same standards for continuation and graduation as are applied to students registered in a first degree program.
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 program. i.e. approximately 90 units for a three-level degree and approximately 120 units for a four-level degree.

## Deans' Honour List

Each year outstanding students with a minimum average of 9.5 on at least 30 units (usually their Sessional Average) are named to the Deans' Honour List. Students will be assessed at the reviewing period (either after the Fall/Winter or Summer session) when a minimum of 30 units has been completed since the previous Deans' Honour List review. At each review the assessment will be based on all units completed since the previous Deans' Honour List review.

## Provost's Honour Roll

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

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

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

#### Procedure 1: Petitions for Relief for Missed Term Work

1. A student may submit a Petition for Special Consideration through the Faculty office for relief from the academic consequences of missed term work based on compelling medical, personal or family reasons before or immediately after the work is missed, normally within five working days.
2. If the reason is medical, the approved McMaster University Medical Form must be used. The student must be seen by a doctor at the earliest possible date, normally on or before the date of the missed work and the doctor must verify the duration of the illness. Relief will not be available for minor illnesses.
3. If the reason is non-medical, appropriate documentation with verifiable origin covering the relevant dates must be submitted, normally within five working days.
4. In deciding whether or not to grant a petition, factors such as the following may be taken into account: the adequacy of the supporting documentation including the timing in relation to the due date of the missed work and the degree of the student's incapacitation.
5. After the third Petition for Special Consideration a student will be asked to meet with the Associate Dean (or delegate).
6. The University reserves the right to require students to obtain medical documentation from the Campus Health Centre.
7. It is the student's responsibility to check with the Faculty office for a decision on the petition.  
If the petition is granted, the Faculty office will notify the instructor(s) recommending relief.
8. The student must contact the instructor promptly to discuss the appropriate relief.
9. It is the prerogative of the instructor of the course to determine the appropriate relief for missed term work in his/her course.

#### Procedure 2: Petitions for Deferred Examinations

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

#### Procedure 3: Petitions for Missed Deferred Examinations

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

#### Appeals of Petitions for Special Consideration (Procedures 1-3 above)

In accordance with the Student Appeal Procedures, decisions made on Petitions for Special Consideration are final and cannot be appealed except if a student feels his/her human rights have been violated, in which case there is an appeal to the Senate Board for Student Appeals.

### 4. EXAMINATIONS

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

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

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

See the *Sessional Dates* section of this Calendar.

#### Examinations Conducted by the Office of the Registrar

- **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 *Petition for Special Consideration* form with supporting documentation of illness, personal or family reasons, to the Office of the Associate Dean of your Faculty normally within five working days of the missed examination.
- If you are late for an examination, report immediately to the presider in your examination location or to the Examinations Section of the Office of the Registrar.
- If you miss or leave an examination for any other reason, report immediately to the Office of the Associate Dean of your Faculty. You will be advised whether you can write your examination before the end of the examination schedule, or whether you must apply for special consideration by submitting documentation to the Office of the Associate Dean of your Faculty.



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

- a conflict with religious obligations
- a conflict between two Registrar-scheduled examinations
- a schedule with three examinations in one calendar day or three consecutive examinations

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

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

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

**Deferred Examinations**

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

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

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

For further information, please see *Petitions for Deferred Examinations* in this section of the Calendar or refer to the web site at: <http://registrar.mcmaster.ca/internal/examt/deferexam.htm>

**5. GRADING SYSTEM**

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

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

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

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

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

Course Grade	Grade Points		Course Units		
A-	10	x	6	=	60
C+	6	x	3	=	18
B	8	x	6	=	48
B+	9	x	3	=	27
<b>Total</b>			<b>18</b>		<b>153</b>

To calculate Average: 153 / 18 = 8.5

◆ Since September 1982, the grading scale has been:

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

**6. UNDERGRADUATE ACADEMIC AWARDS**

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

**7. GRADUATION**

Graduation *With Distinction* standing may be awarded if a minimum CA of 9.5 is achieved in a degree program.

The following Cumulative Averages are required to graduate:

- B.A. — 3.5
- B.A. (Honours) — 5.0
- B.A. /B.S.W. and B.S.W. — 6.0
- B.Arts Sc. and B.Arts Sc. (Honours) — 5.0
- B.Com. — 4.0
- B.Com. (Honours) — 5.0
- B.Eng., B.Eng.Biosciences, B.Eng.Mgt., B.Eng.Society — 4.0
- B.H.Sc. (Honours) — 5.0
- B.Kin. (Honours) — 5.0
- B.Kin. Major — 4.0
- B.Mus. (Honours) — 5.0
- B.Sc. — 3.5
- B.Sc. (Honours) — 5.0
- B.Tech. — 3.5

Please see the graduation regulations for individual Health Sciences programs in the *Faculty of Health Sciences* section. If, at the time of graduation, you fail to meet the requirements for an Honours degree, you may seek to transfer to another program.

If you are registered in Level III of an Honours program and wish to transfer to a three-level degree program to be eligible for graduation at the next Convocation, you must apply to the appropriate Office of the Associate Dean by March 1 for Spring Convocation, and by September 1 for Fall Convocation. If permission is granted, you must complete a **Graduation Information Card**.

During the session in which you expect to complete your graduation requirements, you must complete a Graduation Information Card online at <http://registrar.mcmaster.ca/internal/convocation/> by mid-February for Spring Convocation and by mid-July for Fall Convocation. Deadline dates appear in the *Sessional Dates* section of this Calendar.

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

You must take the degree at the Convocation **immediately** following the completion of the appropriate degree work.

## 8. 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**

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

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

There is no charge for transcripts. However charges to have transcripts faxed or couriered from McMaster will be applied. Current fees for faxes and courier services can be found on our web site at <http://registrar.mcmaster.ca/internal/services/transrequest.htm>. Fees are due at the time that transcripts are ordered. All mail or fax requests must include either a cheque, money order, or credit card number with the expiry date, name and signature of card owner (Visa and MasterCard, only).

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

### Retention Policy

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

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

If you are not accepted, or if you fail to 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).

### Notification of Disclosure of Personal Information to Statistics Canada

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

In order to carry out such studies, Statistics Canada asks all colleges and universities to provide data on students and graduates. Institutions collect and provide to Statistics Canada student identification information (student's name, student ID number, Social Insurance Number), student contact information (address and telephone number), student demographic characteristics, enrolment information, previous education and labour force activity.

The Federal *Statistics Act* provides the legal authority for Statistics Canada to obtain access to personal information held by educational institutions. The information may be used only for statistical purposes, and the confidentiality provisions of the *Statistics Act* prevent the information being released in any way that would identify a student.

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

### Collection of Personal Information

Under the authority of the *McMaster University Act, 1976*, and by applying to McMaster or by enrolling in a program at the University, students expressly acknowledge and agree that the collection, retention, use and disclosure of relevant personal information is necessary for McMaster University to:

- establish a record of the student's performance in programs and courses;
- to assist the University in the academic and financial administration of its affairs;
- to provide the basis for awards and government funding; and
- to establish the student's status as a member of relevant student governmental organizations.

Similarly, and in compliance with McMaster University's access to information and protection of privacy policies and Canadian and Ontario privacy laws, the University provides personal information to:

- the Canadian and Ontario government for the purposes of reporting purposes; and
- to appropriate student government organizations for the purposes of allowing such organizations to communicate with its membership and providing student government-related services consistent with the enrolment by a student at the University.

By applying and/or enrolling at McMaster University the student expressly consents to this collection, retention, use and disclosure of such personal information in this manner. Questions regarding the collection or use of personal information should be directed to the University Secretary, Gilmour Hall, Room 210, McMaster University.

## SENATE POLICY STATEMENTS

The University has defined its expectations of students in both the academic and non-academic life of the University community, and developed procedures to ensure that all members of the community receive equitable treatment. An electronic version of the following policies is available at the following address: <http://www.mcmaster.ca/policy>.

The policies consist of:

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

The following provides a summary of the major policies which pertain to students. Complete versions of the policies may be obtained from the University Secretariat, Room 210, Gilmour Hall.

### Academic Integrity and Academic Dishonesty

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

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

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

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

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

- copying or the use of unauthorized aids in tests, examinations and laboratory reports,
- plagiarism, i.e., the submission of work that is not one's own or for which previous credit has been obtained, unless the previously submitted work was presented as such to the instructor of the second course and was deemed acceptable for credit by the instructor of that course,

- aiding and abetting another student's dishonesty,
- giving false information for the purposes of gaining admission or credit,
- giving false information for the purposes of obtaining deferred examinations or extension of deadlines, and
- forging or falsifying McMaster University documents.

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

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

### Student Appeal Procedures

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

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

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

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

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

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

### Student Code of Conduct

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

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

### Alcohol Policy and Residence Community Alcohol Policy

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

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

### Statement on Human Rights

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

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

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

### Sexual Harassment Policy

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

### Anti-Discrimination Policy

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

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

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

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

### Guidelines for Student Evaluation

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

### Student Records

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

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

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

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

The operating procedures 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 have to be fulfilled before your registration is completed.

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

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

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

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

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

## UNDERGRADUATE FEES

If you are a full-time student, fees cover your portion of the tuition cost, registration, library, 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 2005-2006. The fee schedules for 2006-2007 are available on the internet at <http://www.mcmaster.ca/bms/finance/student/> in the spring of 2006.

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

### Base Per Unit Tuition Per Faculty

Faculty/Program	Canadian/Permanent Resident Status	Visa Status
➤ Arts & Science	137.77 per unit	415.00 per unit
➤ Business and Commerce	150.88	415.00
➤ Engineering	162.76	518.80
➤ Eng. Mgt. II, IV	164.85	566.59
➤ Eng. Mgt. III, V	162.76	518.80
➤ Health Sciences (Honours)	137.77	415.00
➤ Humanities	137.77	365.00
➤ Kinesiology and Social Sciences	137.77	365.00
➤ Medical Radiation Sciences	137.77	415.00
➤ Nursing	137.77	415.00
➤ Science	137.77	415.00

### Supplementary Fees

#### STUDENTSTAKING 1 to 17 UNITS PAY (PER UNIT):

Athletics and Recreation Activity Fee	\$4.28
Administrative Services Fee	1.00

#### McMaster Association of Part-Time Students Fees:

Organization Fee	\$5.00
Total Charge per unit	\$10.28

#### Nursing Students Add:

Learning Resource Fee	\$7.65
Immunization Fee	\$20.00
Respiratory Mask Fitting Fee	\$18.00

### STUDENTS TAKING 18 UNITS 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	\$96.30
Student Health Service	49.27
Ontario Public Interest Research Group (OPIRG)	6.50

**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	\$102.49
Health Plan Premium*	45.00
Dental Plan Premium*	95.00
H.S.R. Bus Pass	67.93
WUSC Student Refugee Fee	1.27
Ancillary Fee for CFMU-FM	15.04
Ancillary Fee for MARMOR Yearbook	7.83
Incite Publication	0.82
Sub Total	\$487.45

\*NOTE: Students who can prove comparable coverage may opt out of the McMaster Students Union Health Plan by filling out a form at the McMaster Students Union Information Centre (The Compass, Main Floor, McMaster University Student Centre) before the end of September.

#### Plus:

- McMaster Student Union's University Student Centre Building fee (\$2.76 per unit), to a maximum of \$82.80
- Student Services Fee (\$3.76 per unit), to a maximum of \$112.80.
- Administrative Services Fee (\$1.00 per unit), to a maximum of \$30.00.
- Athletics and Recreation Building Fee (\$2.09 per unit), to a maximum of \$62.70.

#### And Faculty Specific Society/Support Fees as Follows:

Arts & Science	28.00
Bachelor of Health Sciences (Honours)	26.00
Commerce	184.00
Engineering	132.00
Humanities	15.28
Medical Radiation Science Collaborative Fee	80.00
Nursing	206.34
Science	35.00
Social Sciences/Kinesiology	50.00

### Canadian Citizens and Landed Immigrant Students

(Examples of fees for full academic load.)

	Tuition Fee*	Supplementary Fees	Total Fees
➤ Arts & Science	4,133.10	803.75	4,936.85
➤ Business and Commerce	4,526.40	959.75	5,486.15
➤ Engineering and Eng. Mgt. III, V	5,371.08	907.75	6,278.83
➤ Eng. Mgt. II, IV	4,945.50	907.75	5,853.25
➤ Health Sciences (Honours)	4,133.10	801.75	4,934.85
➤ Humanities	4,133.10	791.03	4,924.13
➤ Kinesiology and Social Sciences	4,133.10	825.75	4,958.85
➤ Medical Radiation Sciences	4,133.10	890.75	5,023.85
➤ Medicine I	14,445.00	605.54	15,050.54
➤ Medicine II, III	14,445.00	605.54	15,050.54
➤ Midwifery	4,234.48	263.57	4,498.05
➤ Nursing	4,133.10	982.09	5,115.19
➤ Science	4,133.10	810.75	4,943.85

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

**Visa Students**

(Examples of fees for full academic load.)

	Tuition Fee*	Supplementary Fees	Total Fees
➤ Arts & Science	12,450.00	803.75	13,253.75
➤ Business and Commerce	12,450.00	959.75	13,409.75
➤ Engineering and Eng. Mgt. III, V	17,120.40	907.75	18,028.15
➤ Eng. & Mgt. II, IV	16,997.70	907.75	17,905.45
➤ Health Sciences (Honours)	12,450.00	801.75	13,251.75
➤ Humanities	10,950.00	791.03	11,741.03
➤ Kinesiology and Social Sciences	10,950.00	825.75	11,775.75
➤ Medical Radiation Sciences	12,450.00	890.75	13,340.75
➤ Nursing	12,450.00	982.09	13,432.09
➤ Science	12,450.00	810.75	13,260.75

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

**Student Health Services Fees**

The supplementary student health services fee of \$49.27 supports the on-campus clinic facilities, which provide the services of doctors and nurses. The McMaster Students Union Health Plan Premium fee of \$45.00 includes reimbursement of expenses resulting from an accident incurred during the academic year, where such expenses are not recoverable under the Ontario Health Insurance Plan. The McMaster Students Union Dental Plan Premium fee of \$95.00 provides a dental plan for all full-time undergraduates students enrolled in 18 units or more.

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

**NOTE:** Students who can prove comparable coverage may opt out of the McMaster Students Union Health Plan and/or Dental Plan by filling out a form at the McMaster Students Union Information Centre (The Compass, Main Floor, McMaster University Student Centre) before the end of September.

**Co-op Fees**

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

**Listeners**

You may register as a Listener in some degree and certificate/diploma courses. A Listener simply audits the course and does not receive a grade. Listener status is not available in limited enrolment classes. The Listener fee is one-half of the standard tuition fee. For any degree course, written permission to attend must be obtained from the course instructor before registration is finalized by the Centre for Continuing Education. Listeners withdrawing from a course may do so without penalty up to five working days before the first session. After that and before the second class, an administrative fee of \$60.00 applies. There is no refund after the second class.

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

**Persons Aged 65+**

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

**RESIDENCE AND MEAL PLAN FEES****Regular Session**

If you live on campus, your residence fees cover the period, from Labour Day weekend to 5 p.m. on the day following your final April examination, and excludes the December holiday break.

The fees below are those for 2005-2006.

**RESIDENCES**

	Full Payment	Installment Payment
<b>Traditional Residences</b>		
•Single	4,265.00	2,433.00
•Double/Triple	3,975.00	2,288.00
•Quad	3,750.00	2,175.00
•Bunk and Loft Apartment	3,220.00	1,910.00
•Bates Apartment Room Suite	4,720.00	2,660.00
•Mary E. Keyes Suite Room	4,935.00	2,768.00

**MEAL PLANS**

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

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

The fees below are those for 2005-2006.

**Group A Full Meal Plan**

(Available to all residence students)

	Full Payment	Installment Payment
•Light	2,300.00	1,150.00
•Small	2,525.00	1,263.00
•Regular	2,725.00	1,363.00
•Large	2,925.00	1,463.00
•X-Large	3,125.00	1,563.00

**Group B Reduced Meal Plan**

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

	Full Payment	Installment Payment
•Light	1,650.00	825.00
•Small	1,875.00	938.00
•Regular	2,075.00	1,038.00
•Large	2,275.00	1,138.00
•X-Large	2,475.00	1,238.00

For more information on meal plans visit our web page at <http://hospitality.mcmaster.ca> or contact Mac Express, Commons Building, Room 128, telephone (905) 525-9140, ext. 27448, email [express@mcmaster.ca](mailto:express@mcmaster.ca).

For information regarding applying to residence visit the Housing web page at <http://housing.mcmaster.ca> or contact Residence Admissions, Commons Building, Room 101, telephone (905) 525-9140, ext. 24342, email [resnote@mcmaster.ca](mailto:resnote@mcmaster.ca).

**Summer Residence**

McMaster University offers residence accommodation for summer students and casual guests from early May to late August each year.

For further information, contact Conference Services, McKay Residence, Room 124, telephone (905) 525-9140, ext. 24781.

**PAYMENT OF FEES**

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

- Funding Options
- Payment Plans
- Payment Methods

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

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

Cheques can be made payable to **McMaster University**. Any cheque not accepted and returned by the bank will be subject to an additional administrative charge of \$32.00 for the first occurrence and an additional \$10.00 for each subsequent occurrence.

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

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

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

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

**Refunds**

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

**MISCELLANEOUS FEES**

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

**Academic User Fees**

- Applications for re-admission ..... 50.00
- Applications to Part-Time Studies ..... 50.00
- Certification of Enrolment Fee ..... No fee
- Contribution to Psycho-Educational Assessment ..... 200.00
- Deferred Examination on campus\* ..... No fee
- Examination Reread (Refunded if grade is changed) .. 50.00
- Letter of Permission ..... No fee
- Notarizing Fee for Academic Documents ..... No fee
- Photocopying of Examination Script ..... 10.00
- Replacement of Diploma ..... 30.00
- Replacement of Student I.D. Card ..... 30.00
- Replacement of Student I.D. Card/computer proximity chip ..... 40.00
- Transcript (per copy) ..... No fee
- Transcript Evaluation ..... 60.00

\* Students writing deferred examinations at another centre are responsible for payment of fees which may be assessed by the other examination centre.

**Financial/Administrative User Fees**

- Certificate Replacement Fee
  - Income Tax Receipt/Education Credit Certificate ..... No fee
- Certification of Fee Payment ..... No fee
- Meal Plan Withdrawal Fee ..... 50.00
- Fine for Meal Card Misuse ..... 25.00
- Returned Cheque Charge (NSF, Stopped Payment)
  - First Occurrence ..... 32.00
  - Each Subsequent Occurrence (Additional) ..... 10.00
- Late Payment Agreement Fee ..... 50.00
- Late Payment Fee ..... 32.00
- Payment Agreement Default Fee ..... 32.00
- Deferment Fee ..... 32.00
- Default Fee Monthly Payment Plan ..... 32.00
- Reinstatement Fee ..... 100.00
- Locker Rental Small ..... 20.00
- Locker Rental Wide ..... 25.00
- Library Charges
  - Overdue Recalled Books (per day) ..... 2.00
  - Overdue Reserve Material (per hour) ..... 2.00
  - Replacement Cost, plus Fine: up to ..... 100.00
  - Returned Books After Billing ..... 10.00

**EXPENSES**

**Costs Other Than Fees**

**For Students in Clinical Courses**

You must buy uniforms, shoes and uniform accessories, for clinical practice.

If you are a Nursing student, your uniform and accessories are ordered under the direction of the School of Nursing. The approximate cost is \$100.00. Level I Nursing students are also required to purchase a stethoscope at approximately \$100.00.

**Registration Examinations**

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

**Insurance of Personal Property on University Premises**

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

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

**Death and Dismemberment Insurance**

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

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

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

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

# ARTS & SCIENCE PROGRAM

WEB ADDRESS: <http://www.mcmaster.ca/artsci>

Commons Building, Room 105

Ext. 24655, 23153

## Director

P.G. Sutherland/B.Sc., M.S., Ph.D.

## Program Administrator

D. Crnac/B.A.

The Arts & Science Program has been designed for students who wish to use their university years to further their intellectual growth through study of significant achievements in both arts and sciences and in practice of methods of inquiry. The program also allows for substantial specialization in a discipline or area through the use of electives. The philosophy of the Arts & Science Program can be expressed by quoting A.N. Whitehead:

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

— The Aims of Education and Other Essays, 1929

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

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

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

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

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

## ACADEMIC REGULATIONS

### STUDENT ACADEMIC RESPONSIBILITY

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

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

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

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

Registration in Level I of the Arts & Science Program is limited to approximately 60 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 (3CE6, 3CF3, 3CG3, etc.) and are described in the program listing as *upper-level Inquiry*. See the course listing for topic designations. ARTS&SCI 1C06 must be completed in Level I. One upper-level inquiry seminar is required and is normally taken in Level II or III.

### COMBINED HONOURS

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

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

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

### INTERNATIONAL/CANADIAN EXCHANGE PROGRAMS

**One calendar year before study abroad:** Interested students should consult the Director, Arts & Science Program.

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

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

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

CENTRE FOR STUDENT DEVELOPMENT

INTERNATIONAL STUDENT SERVICES

GILMOUR HALL, ROOM 104

TELEPHONE: (905) 525-9140, EXTENSION 24748



**ARTS & SCIENCE PROGRAM****B.Arts Sc. (Honours)****{2027}****Notes**

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

**REQUIREMENTS****LEVEL I: 30 UNITS**

- 24 units ARTS&SCI 1A06, 1B06, 1C06, 1D06  
 6 units BIOLOGY 1A03, 1AA3 (BIOLOGY requirement must be completed by the end of Level II)  
 1 course SCIENCE 1A00

**LEVEL II: 30 UNITS**

- 18 units ARTS&SCI 2A06, 2D06, 2R06  
 6 units Electives or Upper-level Inquiry (Inquiry may be taken in Level III)  
 6 units Electives or BIOLOGY 1A03, 1AA3 (if not completed in Level I)

**LEVEL III: 30 UNITS**

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

**LEVEL IV: 30 UNITS**

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

**ARTS & SCIENCE AND ANOTHER SUBJECT**

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

**Combined Honours Programs, Arts & Science and:**

Anthropology	{2027010}
Art History	{2027029}
Biochemistry	{2027040}
Biology	{2027050}
Biology (Biodiversity Specialization)	{2027812}
Chemistry	{2027070}
Classics	{2027130}
Comparative Literature	{2027142}
Computer Science	{2027145}
Economics-Option A	{2027151}
Economics-Option B	{2027152}
English	{2027200}
Environmental Science	{2027211}
French - Program A	{2027230}
French - Program B	{2027231}
Geography	{2027240}
Gerontology	{2027265}
Health Studies	{2027273}
History	{2027290}
Mathematics	{2027320}
Multimedia	{2027294}
Peace Studies	{2027417}
Philosophy	{2027420}
Physics	{2027440}
Political Science	{2027450}
Psychology	{2027460}
Religious Studies	{2027475}
Sociology	{2027520}
Theatre & Film Studies	{2027551}
Women's Studies	{2027642}

# DeGROOTE SCHOOL OF BUSINESS

## (FACULTY OF BUSINESS)

WEB ADDRESS: <http://www.degroote.mcmaster.ca>

EMAIL ADDRESS: [buscom@mcmaster.ca](mailto:buscom@mcmaster.ca)

DeGroot School of Business, Room 104  
Ext. 24433

### Dean of Business

Paul K. Bates

### Associate Dean of Business, Academic

M. Head/B.Math., M.B.A., Ph.D.

### Director, Undergraduate Programs

N. Bontis/B.A., Ph.D.

### Manager, Undergraduate Programs/Commerce II Student Advisor

D. Ellis

### Administrator, Business I Program/Business I Student Advisor

M. Dizdarevic/B.A. D.D. (On leave)

L. Hill (Acting)

### Undergraduate Student Advisor, Levels III and IV

B. Pegg/B.A.

The School of Business offers two programs, each of which spans four levels of study. The Honours Commerce program, which leads to the Honours Bachelor of Commerce (Honours B.Com.) degree, allows substantial concentration in business subjects beyond the essential core of studies. The Commerce program, which leads to the Bachelor of Commerce (B.Com.) degree, contains essential grounding in business subjects and promotes the broadening of horizons through studies in Social Sciences, Humanities and Science. These programs are referred to collectively as the Commerce programs.

In addition, the School of Business and the Faculty of Engineering offer eight five-level joint programs for the Bachelor of Engineering and Management (B.Eng.Mgt.) degree. These programs provide a full course of study in Engineering and include a complete core of business subjects. Details concerning the B.Eng.Mgt. programs and their academic regulations are given in the *Faculty of Engineering* section of this Calendar.

Also, the School of Business participates in the Committee of Instruction and offers courses for programs in Labour Studies which are described in the *Faculty of Social Sciences* section of this Calendar.

## THE COMMERCE PROGRAMS

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

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

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

## INTERNATIONAL/CROSS-CULTURAL/LANGUAGE MENU

In its revised programs, the School of Business is stressing the importance of breadth of knowledge. Students are required to take courses in a variety of business disciplines, thus giving them a sound understanding of business functions and their relationships. They also obtain exposure to international and cross-cultural issues. This will provide them with the knowledge needed for the world of global organizations. Prior to graduation, students are required to successfully complete **two courses** from an International/Cross-Cultural/Language menu. **NOTE:** Students who participate in an official McMaster University exchange are required to successfully complete one course from an International/Cross-Cultural/Language menu prior to graduation. Students must satisfy the normal prerequisites for the courses listed on the menu. Students follow the menu requirements of the Calendar in force when they enter Business I, however, when a later Calendar expands the menu options, students may choose from those additional courses as well. **The menu for 2006-2007 is as follows:**

All Anthropology courses except ANTHROP 1A03 if completed as part of the Business I requirements.

All courses in the Faculty of Humanities open to Commerce students, with the exception of all Multimedia courses, PHILOS 2N03 and English courses other than those listed below.

All Indigenous Studies courses

All Political Science courses, except POL SCI 1G06, 3F03, 3FF3, 3JJ3, 3S03, 4O06

All Religious Studies courses

ECON 2C03	Asian-Pacific Economies
ECON 2F03	The Political Economy of Development
ECON 2L03	Peace, Human Security and Economic Development

ECON 3H03	International Monetary Economics
ECON 3HH3	International Trade
ECON 3I03	Economic History of the United States
ECON 3LL3	History of Economic Theory
ECON 3T03	Topics in Economic Development
ENGLISH 1B03	Cultural Studies and Visual Culture
ENGLISH 1BB3	Cultural Studies and Consumer Culture
ENGLISH 2C03	Contemporary Canadian Fiction
ENGLISH 2F03	Studies in American Literature
ENGLISH 2J03	Contemporary Popular Culture
ENGLISH 3BB3	The Cyborg in Fiction and Critical Theory
ENGLISH 3D03	Science Fiction
ENGLISH 3EE3	African American Fiction
ENGLISH 3Y03	Children's Literature
GEO 1HS3	Geography of the Human Environment (if not completed as part of the Business I requirements)

GEO 1HU3	Urban Economic Geography
GEO 3HJ3	Geography of Japan
GEO 3HR3	Geography of a Selected World Region
GEO 3HZ3	Urban Social Geography
KINESIOL 3SS3	Body, Mind, Spirit
SOCIOL 2E06	Racial and Ethnic Group Relations
SOCIOL 3Z03	Ethnic Relations

All courses included under the Peace Studies minor (see *Minor in Peace Studies* in the *Faculty of Humanities* section of this Calendar)

## FULL-TIME/PART-TIME STUDIES

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

## CONTINUING STUDENTS

Graduates of McMaster's Commerce programs or one of the Engineering and Management programs may take, as part-time students, Level III and IV Commerce courses (not previously taken, to a maximum of 18 units), excluding COMMERCE 4AG3\*, 4AH3\*, 4AI3\*. (See *Continuing Students* in the *Admission Requirements* section of the Calendar.)

\*These courses are available as ACC 500, ACC 501, ACC 502, through the School of Business, subject to sufficient enrolments and availability of qualified instructors.

**Other than those graduates specified above, Commerce courses are not open to Continuing Students.**

#### SECOND UNDERGRADUATE DEGREE

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

#### CREDIT TOWARDS PROFESSIONAL DESIGNATIONS

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

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

#### MINOR

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

## ACADEMIC REGULATIONS

### STUDENT ACADEMIC RESPONSIBILITY

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

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

#### QUALIFYING FOR HONOURS COMMERCE

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

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

#### CHANGE OF PROGRAM

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

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

#### WORKLOAD

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

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

#### DEFERRED EXAMINATIONS

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

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

#### REPEATED COURSES

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

#### LEVEL I COURSES

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

#### LEVEL OF REGISTRATION

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

#### READMISSION

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

Application for readmission must be made in writing to the Undergraduate Admissions Policy and Reviewing Committee by June 30 for entry in September. This application should explain why the applicant would expect to succeed in the Program if readmitted. Forms for this purpose may be obtained from the Academic Programs Office in the DeGroote School of Business, Room 104.

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

Former Commerce students who have not been registered in a Commerce Program within the past five years, including those who were in good standing at the time of their most recent registration, must apply for readmission through the Office of the Registrar.

**REINSTATEMENT**

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

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

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

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

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

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

**FORMER COMMERCE STUDENTS**

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

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

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

**INQUIRIES RE: ACADEMIC REGULATIONS**

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

**COMMERCE INTERNSHIP PROGRAM**

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

**EXCHANGE PROGRAMS**

There are a number of official exchange Programs offered to undergraduate students registered in the School of Business. The countries involved are: Australia, Denmark, England, France,

Japan, the Netherlands, Norway, Mexico and Singapore. Official exchange Programs offer students the most inexpensive means of studying abroad as students participating in these exchanges avoid the foreign student fees by paying fees to McMaster. All students must be in good standing with a Cumulative Average of at least 6.0 to be eligible to participate in an exchange. In most cases, students who participate in exchange Programs go abroad for Level III of their Program. Information is available from Prof. M. Malik, Director, International Exchange Programs, in the DeGroot School of Business, Room 228.

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

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

**CENTRE FOR STUDENT DEVELOPMENT  
INTERNATIONAL STUDENT SERVICES  
GILMOUR HALL, ROOM 104**

**TELEPHONE: (905) 525-9140, EXTENSION 24748**

**PROGRAMS****PROGRAM NOTES**

1. Students in Business I are not eligible to take upper Level Commerce course work.
2. Students have only one opportunity to be reviewed for entry to Commerce II. Other options may be pursued through the Academic Programs Office.
3. To be considered for entry into Commerce II a Business I student must have met all of the following:
  - a) achieved a CA of at least 5.0 on the 30 units of course work for Business I (on first attempts only);
  - b) successfully completed on first attempts only all Business I required courses (ECON 1A06 or both ECON 1B03 and 1BB3; COMMERCE 1E03 or 1S03; COMP SCI 1BA3; MATH 1A03 or 1M03; and one of ANTHROP 1A03, GEO 1HS3, PSYCH 1A03 or SOCIOL 1A06). For students without Grade 12 Advanced Functions and Introductory Calculus U (or equivalent) or whose credit in same is older than five years, MATH 1K03 must be taken before MATH 1A03 or 1M03; students without Grade 12 Mathematics of Data Management U (or equivalent) or whose credit in same is older than five years must take STATS 1L03;
  - c) have no more than six units of failure in the elective component of Business I courses;
  - d) have successfully completed ECON 2X03 if registered in this course in Business I. (ECON 2X03 is not required for admission to Commerce II. Students who elect to register in ECON 2X03 in Business I and who do not successfully complete the course, will not be permitted to enter Commerce II.)
4. Refer to *Workload* under the *Academic Regulations* section in the *School of Business* for information on full-time and part-time Business I course loads.
5. Students seeking a minor in Mathematics and Statistics must take MATH 1A03 and should refer to the *Faculty of Science* section of this Calendar for the requirements for a minor in Mathematics and Statistics. **Students neither seeking this minor nor planning on a transfer to the Faculty of Science, are advised to take MATH 1M03.**
6. Transfer students may be admitted to Commerce II from other universities or from other Faculties within McMaster University. Transfer students will be expected to complete COMMERCE 1E03 or 1S03, and one of ANTHROP 1A03, GEO 1HS3, PSYCH 1A03 or SOCIOL 1A06 as part of the degree requirements. Academic requirements for admission of transfer students will be more demanding than those for Business I students.
7. Admission to either of the Commerce Programs beyond Commerce Level II is not possible.

**Business I****{0725}****REQUIREMENTS****LEVEL I: 30 UNITS**

Students admitted to Business I must complete 30 units as follows:

- 3 units COMMERCE 1E03
- 3-6 units from ANTHROP 1A03, GEO 1HS3, PSYCH 1A03, SOCIOL 1A06
- 3 units COMP SCI 1BA3
- 6 units from ECON 1A06, 1B03, 1BB3
- 3 units from MATH 1A03, 1M03 (See Note 5 above.)
- 0-3 units MATH 1K03 (for those without Grade 12 Advanced Functions and Introductory Calculus U or equivalent or whose credit in same is older than five years)
- 0-3 units STATS 1L03 (for those without Grade 12 Mathematics of Data Management U or equivalent or whose credit in same is older than five years)
- 3-12 units Electives to total 30 units. See also the *International/Cross-Cultural/Language Menu* in this section of the Calendar.

**Commerce II****{2140}****REQUIREMENTS****LEVEL II: 30 UNITS**

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

**Honours Commerce (Honours B.Com.) {2141}**

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

**REQUIREMENTS****LEVEL III: 30 UNITS**

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

**LEVEL IV: 30 UNITS**

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

**Commerce (B.Com.)****{2140}**

Requirements for continuation in the B.Com. Program are specified in the *General Academic Regulations* section of this Calendar.

**REQUIREMENTS****LEVEL III: 30 UNITS**

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

**LEVEL IV: 30 UNITS**

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

**Minor in Business****NOTES**

1. The minor is not open to students registered in any Commerce or Engineering and Management Program.
2. Enrolment in each of the Commerce courses comprising the Business minor, (excluding students registered in Engineer-

ing and Management, Commerce and Labour Studies students enrolled in COMMERCE 2BA3 and 3BC3 and students admitted to the minor in Finance and the minor in Accounting and Financial Management Services) is limited to 40 students who are registered in a four- or five-level McMaster degree Program. Places in these courses will be allocated on a first-come, first-served basis.

3. **Effective September 1999**, COMMERCE 2AA3, 2FA3 and 2MA3 will also require completion of ECON 1A06 or 1B03 with a **minimum grade of B-** as a prerequisite.
4. For purposes of the Business Minor, KINESIOL 3L03 will be accepted as a substitute for COMMERCE 2BA3; ECON 2B03, STATS 1CC3, 2MB3, 3J04, 3N03 or 3Y03 will be accepted as a substitute for COMMERCE 2QA3. ECON 2I03 will be accepted as a substitute for COMMERCE 2FA3.

**REQUIREMENTS****24 units total**

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

**Minor in Finance**

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

**NOTES**

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

**REQUIREMENTS****33 units total**

- 6 units from ECON 1A06, 1B03, 1BB3
- 3 units from ECON 2G03 (See Note 4 above.)
- 6 units ECON 2B03, 2H03 (See Note 4 above.)
- 9 units COMMERCE 2AA3, 2FA3 (or ECON 2I03), 3FA3
- 9 units from COMMERCE 3FB3, 3FC3, 4FA3, 4FD3, 4FE3, 4FF3, 4FG3, 4FH3, 4FJ3, 4FK3, 4FL3, 4FX3

**Minor in Accounting and Financial Management Services**

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

**NOTES**

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

**REQUIREMENTS****33 units total**

- 6 units from ECON 1A06, 1B03, 1BB3
- 3 units from ECON 2G03, 2X03 (See Note 4 above.)
- 6 units from ECON 2B03, 2H03 (See Note 4 above.)
- 12 units COMMERCE 2AA3, 2AB3, 3AB3, 3AC3
- 6 units from COMMERCE 4AA3, 4AC3, 4AD3

# FACULTY OF ENGINEERING

WEB ADDRESS: <http://www.eng.mcmaster.ca>

John Hodgins Engineering Building, Room A214

Ext. 24646

## Dean of Engineering

M. Elbestawi/B.Sc., M.Eng., Ph.D., P.Eng.

## Associate Dean of Engineering

P.M. Smith/B.Eng.Mgt., M.Eng., Ph.D., P.Eng.

## Director of Engineering I

S. Masten, B.S., M.S.E., Ph.D., P.E.

## Academic Assistant to the Associate Dean

J. Zywna

## Undergraduate Student Advisors

J. Hopkins

S.D. Verhage, (Manufacturing Engineering Technology)

M. White/B.Sc.

Engineering is a profession concerned with the creation of new and improved systems, processes and products to serve human needs. The central focus of engineering is design, an art entailing the exercise of ingenuity, imagination, knowledge, skill, discipline and judgment based on experience. The practice of professional engineering requires a mastery of engineering methodology together with a sensitivity to the physical potential of materials, to the logic of mathematics, to the constraints of human, physical and financial resources, to the minimization of risk, and to the protection of the public and the environment.

**For information concerning the Bachelor of Technology program, please see the Program for B.Tech. Degree section of this Calendar.**

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

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

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

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

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

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

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

- Chemical Engineering and Bioengineering

All programs have limitations on enrolment. Students are admitted to the program following successful completion of Level I. Admission procedures and criteria can be obtained from the Office of the Associate Dean of Engineering.

McMaster baccalaureate degree programs in Engineering are accredited by the Canadian Engineering Accreditation Board (CEAB) of the Canadian Council of Professional Engineers, except the Chemical Engineering and Bioengineering, Electrical and Biomedical Engineering, Mechatronics Engineering, Software Engineering and Game Design programs which will be examined for the first time at the next accreditation. Provincial Engineering Associations accept the accreditation as a major requirement for admission to the qualification Professional Engineer. The B.Eng., B.Eng.Biosciences, B.Eng.Mgt. and B. Eng.Society programs are honours degree programs.

At McMaster, Engineering students take a common Level I program comprising Mathematics, Materials, Physics, Chemistry, Engineering Graphics, Introduction to Professional Engineering and Design, Computation and complementary studies electives. The specialized programs are entered at Level II. Students interested in the Engineering and Management programs must take ECON 1B03 as one of their electives in Level I. Students interested in one of the Engineering and Society programs are advised to choose the six units complementary studies in Level I to be consistent with their chosen focus of the program.

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

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

In addition to ENGINEER 4A03, or equivalent, and 4B03, complementary studies electives are required in all B.Eng. programs. Of these, three units must be selected from courses that are designated as being above Level I (<http://www.eng.mcmaster.ca/electives/electvs2.htm>).

The Associate Dean of Engineering must authorize each student's complementary studies elective courses. An approved list is published each spring and is available from the Associate Dean's office (<http://www.eng.mcmaster.ca/electives/electvs.htm>). Engineering I students should refer to the *Degrees and Programs* section of this Calendar to determine which Level I Complementary Studies electives are possible (<http://www.eng.mcmaster.ca/electives/lv1elec.htm>).

**Technical Electives** are Engineering or Applied Science courses in subjects relevant to the particular B.Eng. program. A list is available in each Engineering Department office.

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

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

## ENGINEERING CO-OP PROGRAM

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

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

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

## Engineering Co-op Fees

An annual Engineering Co-op fee will be charged for students registered in an Engineering Co-op Program. Each work term: ENGINEER 2EE0, 3EE0, 4EE0, 4EA0 and 4EB0, 4EC0 will also be assigned a corresponding Co-op fee.

**EXCHANGE PROGRAMS**

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

**ACADEMIC REGULATIONS FOR B.ENG. PROGRAMS**

**STUDENT ACADEMIC RESPONSIBILITY**

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

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

A student in Engineering I 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 program. Students must register for all outstanding work of one level before attempting work for a higher level.

**REPEATED COURSES**

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

**LEVEL OF REGISTRATION**

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

**FALL/WINTER SESSION WORKLOAD**

The Faculty of Engineering has set a minimum Fall/Winter session workload of 37 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 students must register in the full load of work prescribed by program and level. No more than 21 units in one term will be approved.

**REINSTATEMENT TO ENGINEERING**

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

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

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

**PROGRAM CHANGES**

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

**LEVEL I PROGRAM {0730}**

WEB ADDRESS: <http://www.eng.mcmaster.ca/engineering1/>

**ENGINEERING I: 37 UNITS**

- 3 units CHEM 1E03
- 10 units ENGINEER 1A00, 1C03, 1D04, 1P03
- 3 units MATLS 1M03
- 9 units MATH 1H03, 1N03, 1NN3
- 6 units PHYSICS 1D03, 1E03
- 6 units approved complementary studies electives. (See *Elective Courses Available to Level I Students* in the *Degrees, Programs and Courses* section of this Calendar.)

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

**Admission to Level II Engineering Programs**

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

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

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

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

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

**Chemical Engineering Co-op (B.Eng.)**

**ADMISSION**

See *Admission to Level II Engineering Programs*.

**NOTES**

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

**PROCESS SYSTEMS ENGINEERING (PSE) STREAM:**

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

**POLYMER MATERIALS AND MANUFACTURING (PMM) STREAM:**

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

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

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

**LEVEL II: 36 UNITS**

- 15 units CHEM ENG 2A04, 2D04, 2F04, 2G03  
 6 units CHEM 1AA3, 2A03  
 6 units MATH 2M06  
 3 units STATS 3N03  
 6 units approved complementary studies electives

**LEVEL III: 38 UNITS**

- 29 units CHEM ENG 3D03, 3E04, 3G04, 3K04, 3L02, 3M04, 3O04, 3P04  
 9 units 3-6 units from CHEM 2E03; or both CHEM 2OA3 and 2OB3  
 3-6 units from BIOCHEM 2EE3, CHEM ENG 3Q03, CHEM 3I03

**LEVEL IV: 37-38 UNITS**

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

**Chemical Engineering and Management (B.Eng.Mgt.)** {4080325}

**Chemical Engineering and Management Co-op (B.Eng.Mgt.)**

**ADMISSION**

See Admission to Level II Engineering Programs.

**NOTES**

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

**PROCESS SYSTEMS ENGINEERING (PSE) STREAM:**

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

**POLYMER MATERIALS AND MANUFACTURING (PMM) STREAM:**

- **Required Courses:** CHEM ENG 3Q03, 4B03, 4C03, 4L02 (PMM laboratories completed), 4W04 (with approved PMM project), 4X03, ENGINEER 2O03 (or MATLS 1M03). Other courses may be substituted with permission of the Department Chair.

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

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

**LEVEL II: 36 UNITS**

- 15 units CHEM ENG 2A04, 2D04, 2F04, 2G03  
 3 units CHEM 1AA3  
 3 units COMMERCE 2AA3  
 6 units ECON 1BB3, 2X03  
 6 units MATH 2M06  
 3 units STATS 3N03 or 3Y03

**LEVEL III: 38 UNITS**

- 25 units CHEM ENG 3D03, 3E04, 3G04, 3K04, 3L02, 3M04, 3O04  
 3 units approved complementary studies electives (above Level I)  
 9 units COMMERCE 2AB3, 2FA3, 2MA3  
 1 unit ENGN MGT 3AA1

**LEVEL IV: 35-39 UNITS**

- 4 units CHEM ENG 3P04  
 3 units from CHEM ENG 4K03, 4M03, 4T03, 4X03, ENGINEER 4U03  
 12 units COMMERCE 2BA3, 3FA3, 3MC3, 4QA3  
 3 units from ENGINEER 4A03, 4H03  
 1 unit ENGN MGT 4A01  
 3 units CHEM 2A03  
 3-6 units CHEM 2E03; or both CHEM 2OA3 and 2OB3  
 3 units from BIOCHEM 2EE3, CHEM ENG 3Q03, CHEM 3I03, MATLS 1M03 (or ENGINEER 2O03)  
 3-4 units Level III or IV technical electives from approved list or permission of the Department of Chemical Engineering

**LEVEL V: 37-38 UNITS**

- 10 units CHEM ENG 4L02, 4N04, 4W04  
 6 units COMMERCE 3BC3, 4PA3  
 3 units ENGN MGT 5B03  
 9 units from CHEM ENG 4B03, 4E03, 4G03, 4K03, 4M03, 4T03, 4X03, ENGINEER 4U03  
 6 units Commerce electives selected from Level III or IV Commerce or COMMERCE 2QB3  
 3-4 units Level III or IV technical electives from approved list or permission of the Department of Chemical Engineering

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

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

**ADMISSION**

See Admission to Level II Engineering Programs.

**NOTES**

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

**PROCESS SYSTEMS ENGINEERING (PSE) STREAM:**

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

**POLYMER MATERIALS AND MANUFACTURING (PMM) STREAM:**

- **Required Courses:** CHEM ENG 3Q03, 4B03, 4C03, 4L02 (PMM laboratories completed), 4W04 (with approved PMM project), 4X03, ENGINEER 2O03 (or MATLS 1M03). Other courses may be substituted with permission of the Department Chair.

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

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

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

**LEVEL II: 33-36 UNITS**

- 15 units CHEM ENG 2A04, 2D04, 2F04, 2G03  
 3 units CHEM 1AA3  
 6 units ENGSOCY 2X03, 2Y03  
 6 units MATH 2M06  
 3-6 units Engineering and Society focus electives

**LEVEL III: 32-38 UNITS**

- 17 units CHEM ENG 3D03, 3K04, 3L02, 3M04, 3O04  
 3 units CHEM 2A03  
 3-6 units CHEM 2E03; or both CHEM 2OA3 and 2OB3  
 3 units ENGSOCY 3Y03  
 3 units STATS 3N03 or 3Y03  
 3-6 units Engineering and Society focus electives

**LEVEL IV: 36-40 UNITS**

- 12 units CHEM ENG 3E04, 3G04, 3P04  
 6 units from CHEM ENG 4K03, 4M03, 4T03, 4X03, ENGINEER 4U03  
 6 units ENGSOCY 3X03, 3Z03  
 6 units from BIOCHEM 2EE3, CHEM ENG 3Q03, CHEM 3I03, MATLS 1M03 (or ENGINEER 2O03)  
 3-6 units Engineering and Society focus electives  
 3-4 units Level III or IV technical electives from approved list or permission of the Department of Chemical Engineering



**LEVEL V: 34-35 UNITS**

- 10 units CHEM ENG 4L02, 4N04, 4W04
- 9 units from CHEM ENG 4B03, 4E03, 4G03, 4K03, 4M03, 4T03, 4X03, ENGINEER 4U03
- 6 units ENGSOCTY 4X03, 4Z03
- 3-4 units Level III or IV technical electives from approved list or permission of the Department of Chemical Engineering
- 6 units Engineering and Society focus electives

**Chemical Engineering and Bioengineering (B.Eng.Biosci.)** {4080043}

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

**ADMISSION**

See Admission to Level II Engineering Programs.

**NOTE**

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

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

**LEVEL II: 36 UNITS**

- 15 units CHEM ENG 2A04, 2D04, 2F04, 2G03
- 3 units CHEM 1AA3
- 3 units BIOLOGY 1A03
- 6 units HTH SCI 2L03, 2LL3
- 6 units MATH 2M06
- 3 units STATS 3N03

**LEVEL III: 37-40 UNITS**

- 24 units BIOLOGY 2EE3, CHEM ENG 3D03, 3G04, 3K04, 3L02, 3M04, 3O04
- 3 units CHEM 2A03
- 3-6 units CHEM 2E03; or both CHEM 2OA3 and 2OB3
- 3 units BIOCHEM 2EE3
- 3 units approved complementary studies electives (above Level I)

**LEVEL IV: 37-38 UNITS**

- 19 units CHEM ENG 3BK3, 3BM3, 3E04, 3P04, 4L02, 4LL3
- 3 units BIOCHEM 3G03
- 3 units from ENGINEER 4A03, 4H03
- 6 units from CHEM 3I03, CHEM ENG 3Q03, MATLS 1M03 (or ENGINEER 2O03)
- 3 units approved complementary studies electives (above Level I)
- 3-4 units Level III or IV technical electives from approved list or permission of the Department of Chemical Engineering

**LEVEL V: 38-39 UNITS**

- 11 units CHEM ENG 4N04, 4T03, 4W04
- 12 units from CHEM ENG 4B03, 4C03, 4E03, 4G03, 4K03, 4M03, 4X03, 4Z03
- 3 units ENGINEER 4U03
- 6 units approved technical electives from biosciences or bio-engineering
- 3 units approved complementary studies electives (above Level I)
- 3-4 units Level III or IV technical electives from approved list or permission of the Department of Chemical Engineering

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

**Structural/Geotechnical Engineering Stream** {41110}

**Water/Environmental Engineering Stream** {4130}

**Civil Engineering Co-op (B.Eng.)**

**Structural/Geotechnical Engineering Stream**

**Water/Environmental Engineering Stream**

**ADMISSION**

See Admission to Level II Engineering Programs.

**NOTES**

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

2. As well as completing the academic requirements as specified in this Calendar, students in a Co-op program must complete the following courses prior to graduation.
  - ENGINEER 1EE0, 2EE0, 3EE0 and 4EE0, or
  - ENGINEER 1EE0, 2EE0 and 4EA0, or
  - ENGINEER 1EE0 and 4EB0, or
  - ENGINEER 1EE0 and 4EC0
3. Level IV Civil Engineering courses must be selected in accordance with regulations which require a minimum content of 10 units of engineering design and synthesis. Before the end of Level III, students must complete a Civil Engineering electives form, and ensure that it has been approved by the Department before completing Level IV Registration.
4. To meet the capstone project requirement, all students in their final level must take or complete one of the following project courses: CIV ENG 4C04 or 4R04.

**LEVEL II: 37 UNITS**

- 24 units CIV ENG 2A02, 2C04, 2E03, 2I03, 2J04, 2O04, 2Q04
- 4 units ENGINEER 2P04
- 6 units MATH 2M06
- 3 units **S/G Stream:** ENGINEER 2C03  
**W/E Stream:** CHEM ENG 2B03

**LEVEL III: 38 UNITS**

- 25 units CIV ENG 3A03, 3B03, 3C03, 3G03, 3J04, 3K03, 3M03, 3P03
- 4 units STATS 3J04
- 3 units approved complementary studies electives
- 6 units **S/G Stream:** CIV ENG 3R03, 3S03  
**W/E Stream:** CIV ENG 3L03, 3U03

**LEVEL IV: 34-36 UNITS**

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

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

**Structural/Geotechnical Engineering Stream** {4110325}

**Water/Environmental Engineering Stream** {4130325}

**Civil Engineering and Management Co-op (B.Eng.Mgt.)**

**Structural/Geotechnical Engineering Stream**

**Water/Environmental Engineering Stream**

**ADMISSION**

See Admission to Level II Engineering Programs.

**NOTES**

1. Students entering Level II can choose between a Structural/Geotechnical Engineering Stream (**S/G Stream**) and a Water/Environmental Engineering Stream (**W/E Stream**).
2. As well as completing the academic requirements as specified in this Calendar, students in a Co-op program must complete the following courses prior to graduation.
  - ENGINEER 1EE0, 2EE0, 3EE0 and 4EE0, or
  - ENGINEER 1EE0, 2EE0 and 4EA0, or
  - ENGINEER 1EE0 and 4EB0, or
  - ENGINEER 1EE0 and 4EC0
3. Level V Civil Engineering courses must be selected in accordance with regulations which require a minimum content of 10 units of engineering design and synthesis. Before the end of Level IV, students must complete a Civil Engineering electives form, and ensure that it has been approved by the Department before completing Level V Registration.
4. To meet the capstone project requirement, all students in their final level must take or complete one of the following project courses: CIV ENG 4C04 or 4R04.

**LEVEL II: 39 UNITS**

17 units	CIV ENG 2A02, 2C04, 2I03, 2J04, 2O04
6 units	COMMERCE 2AA3, 2MA3
3 units	ECON 2X03
4 units	ENGINEER 2P04
6 units	MATH 2M06
3 units	<b>S/G Stream:</b> ENGINEER 2C03
	<b>W/E Stream:</b> CHEM ENG 2B03

**LEVEL III: 39 UNITS**

19 units	CIV ENG 2E03, 2Q04, 3A03, 3B03, 3G03, 3M03
9 units	COMMERCE 2AB3, 2BA3, 2FA3
3 units	ECON 1BB3
4 units	STATS 3J04
3 units	approved complementary studies electives (above Level I)
1 unit	ENGN MGT 3AA1

**LEVEL IV: 35 UNITS (2006-2007 ONLY)**

19 units	CIV ENG 3A03, 3B03, 3C03, 3J04, 3K03, 3P03
12 units	COMMERCE 3BC3, 3FA3, 3MC3, 4QA3
3 units	Commerce electives selected from Level III and IV Commerce or COMMERCE 2QB3
1 unit	ENGN MGT 4A01

**LEVEL IV: 35 UNITS (EFFECTIVE 2007-2008)**

13 units	CIV ENG 3C03, 3J04, 3K03, 3P03
12 units	COMMERCE 3BC3, 3FA3, 3MC3, 4QA3
3 units	Commerce electives selected from Level III and IV Commerce or COMMERCE 2QB3
1 unit	ENGN MGT 4A01
6 units	<b>S/G Stream:</b> CIV ENG 3R03, 3S03
	<b>W/E Stream:</b> CIV ENG 3L03, 3U03

**LEVEL V: 36-37 UNITS**

3 units	COMMERCE 4PA3
3 units	Commerce electives selected from Level III and IV Commerce or COMMERCE 2QB3
3 units	ENGN MGT 5B03
3 units	from ENGINEER 4A03, 4H03
4 units	from CIV ENG 4C04, 4R04
20-21 units	<b>S/G Stream:</b> from approved list of Level IV Civil Engineering technical electives
	<b>W/E Stream:</b> from approved list of Level III and IV Civil Engineering technical electives

**Civil Engineering and Society (B.Eng. Society)****Structural/Geotechnical Engineering Stream {41 10535}****Water/Environmental Engineering Stream {41 30535}****Civil Engineering and Society Co-op (B.Eng. Society)****Structural/Geotechnical Engineering Stream****Water/Environmental Engineering Stream****ADMISSION**

See *Admission to Level II Engineering Programs.*

**NOTES**

- Students entering Level II can choose between a Structural/Geotechnical Engineering Stream (**S/G Stream**) and a Water/Environmental Engineering Stream (**W/E Stream**).
- As well as completing the academic requirements as specified in this Calendar, students in a Co-op program must complete the following courses prior to graduation.
  - ENGINEER 1EE0, 2EE0, 3EE0 and 4EE0, or
  - ENGINEER 1EE0, 2EE0 and 4EA0, or
  - ENGINEER 1EE0 and 4EB0, or
  - ENGINEER 1EE0 and 4EC0
- Level V Civil Engineering courses must be selected in accordance with regulations which require a minimum content of 10 units of engineering design and synthesis. Before the end of Level IV, students must complete a Civil Engineering electives form, and ensure that it has been approved by the Department before completing Level V Registration.
- To meet the capstone project requirement, all students in their final level must take or complete one of the following project courses: CIV ENG 4C04 or 4R04.
- A minimum of 18 units of focus elective courses is required for the program. (This does not include the six units of complementary studies elective in Level I.)

**LEVEL II: 39 UNITS**

17 units	CIV ENG 2A02, 2C04, 2I03, 2J04, 2O04
4 units	ENGINEER 2P04
6 units	MATH 2M06
6 units	ENGSOCTY 2X03, 2Y03
3 units	Engineering and Society focus electives
3 units	<b>S/G Stream:</b> ENGINEER 2C03
	<b>W/E Stream:</b> CHEM ENG 2B03

**LEVEL III: 32-35 UNITS**

19 units	CIV ENG 2E03, 2Q04, 3A03, 3B03, 3G03, 3M03
4 units	STATS 3J04
3 units	ENGSOCTY 3Y03
6-9 units	Engineering and Society focus electives

**LEVEL IV: 31-34 UNITS (2006-2007 ONLY)**

19 units	CIV ENG 3A03, 3B03, 3C03, 3J04, 3K03, 3P03
3 units	ENGSOCTY 3Z03
3 units	ENGSOCTY 3X03
6-9 units	Engineering and Society focus electives

**LEVEL IV: 31-34 UNITS (EFFECTIVE 2007-2008)**

13 units	CIV ENG 3C03, 3J04, 3K03, 3P03
6 units	ENGSOCTY 3X03, 3Z03
6-9 units	Engineering and Society focus electives
6 units	<b>S/G Stream:</b> CIV ENG 3R03, 3S03
	<b>W/E Stream:</b> CIV ENG 3L03, 3U03

**LEVEL V: 36-37 UNITS**

3 units	ENGINEER 4B03
6 units	ENGSOCTY 4X03, 4Z03
3 units	Engineering and Society focus electives
4 units	from CIV ENG 4C04, 4R04
20-21 units	<b>S/G Stream:</b> from approved list of Level IV Civil Engineering technical electives
	<b>W/E Stream:</b> from approved list of Level III and IV Civil Engineering technical electives

**Computer Engineering (B.Eng.) {41 44}****Computer Engineering Co-op (B.Eng.)****ADMISSION**

See *Admission to Level II Engineering Programs.*

**NOTE**

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

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

**LEVEL II: 40 UNITS**

16 units	COMP ENG 2DI4, 2DP4, 2SH4, 2SI4
17 units	ELEC ENG 2CI5, 2CJ4, 2EI5, 2FH3
4 units	MATH 2P04
3 units	approved complementary studies electives (above Level I)

**LEVEL III: 38 UNITS (2006-2007 ONLY)**

11 units	COMP ENG 3DQ4, 3DR4, 3SK3
20 units	ELEC ENG 3EJ4, 3FI4, 3TP4, 3TQ4, 3TR4
3 units	MATH 3K03
4 units	SFWR ENG 3K04

**LEVEL III: 34 UNITS (EFFECTIVE 2007-2008)**

11 units	COMP ENG 3DQ4, 3DR4, 3SK3
16 units	ELEC ENG 3EJ4, 3TP4, 3TQ4, 3TR4
3 units	MATH 3K03
4 units	SFWR ENG 3K04

**LEVEL IV: 36-39 UNITS (2006-2007 ONLY)**

21 units	COMP ENG 4DK4, 4DL4, 4DM4, 4DN4, 4OI5
6-8 units	technical electives from Computer Engineering or Electrical Engineering Level III or IV
3-4 units	approved Level III or IV technical electives of the Faculty of Engineering
3 units	ENGINEER 4B03
3 units	from ENGINEER 4A03, 4H03

**LEVEL IV: 36-38 UNITS (EFFECTIVE 2007-2008)**

- 21 units COMP ENG 4DK4, 4DM4, 4DN4, 4DS4, 4OI5
- 3 units ENGINEER 4B03
- 3 units from ENGINEER 4A03, 4H03
- 3 units SFWR ENG 3SH3
- 3-4 units technical electives from Computer Engineering or Electrical Engineering Level III or IV
- 3-4 units approved Level III or IV technical electives of the Faculty of Engineering

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

**Computer Engineering and Management Co-op (B.Eng.Mgt.)**

**ADMISSION**

See Admission to Level II Engineering Programs.

**NOTE**

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

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

**LEVEL II: 38 UNITS**

- 3 units COMMERCE 2AA3
- 8 units COMP ENG 2SH4, 2SI4
- 6 units ECON 1BB3, 2X03
- 12 units ELEC ENG 2CI5, 2CJ4, 2FH3
- 2 units ENGN MGT 2AA2
- 4 units MATH 2P04
- 3 units approved complementary studies electives (above Level I)

**LEVEL III: 36 UNITS (2006-2007 ONLY)**

- 12 units COMMERCE 2AB3, 2BA3, 2FA3, 2MA3
- 17 units ELEC ENG 2EI5, 3FI4, 3TP4, 3TQ4
- 4 units COMP ENG 2DP4
- 1 unit ENGN MGT 3AA1
- 3 units MATH 3K03
- 3 units approved complementary studies electives (above Level I)

**LEVEL III: 37 UNITS (EFFECTIVE 2007-2008)**

- 12 units COMMERCE 2AB3, 2BA3, 2FA3, 2MA3
- 13 units ELEC ENG 2EI5, 3TP4, 3TQ4
- 8 units COMP ENG 2DI4, 2DP4
- 1 unit ENGN MGT 3AA1
- 3 units MATH 3K03

**LEVEL IV: 39 UNITS (2006-2007 ONLY)**

- 9 units COMMERCE 3BC3, 3FA3, 3MC3
- 8 units COMP ENG 3DQ4, 3DR4
- 12 units ELEC ENG 3EJ4, 3TQ4, 3TR4
- 1 unit ENGN MGT 4A01
- 3 units STATS 3Y03
- 3 units from ENGINEER 4A03, 4H03
- 3 units Commerce electives selected from Level III and IV Commerce or COMMERCE 2QB3

**LEVEL IV: 39 UNITS (EFFECTIVE 2007-2008)**

- 8 units ELEC ENG 3EJ4, 3TR4
- 8 units COMP ENG 3DQ4, 3DR4
- 4 units SFWR ENG 3K04
- 9 units COMMERCE 3BC3, 3FA3, 3MC3
- 3 units STATS 3Y03
- 1 unit ENGN MGT 4A01
- 3 units from ENGINEER 4A03, 4H03
- 3 units Commerce electives selected from Level III and IV Commerce or COMMERCE 2QB3

**LEVEL V: 37 UNITS (2006-2007 ONLY)**

- 6 units COMMERCE 4PA3, 4QA3
- 24 units COMP ENG 3SK3, 4DK4, 4DL4, 4DM4, 4DN4, 4OI5
- 4 units ENGN MGT 4A01, 5B03
- 3 units Commerce electives selected from Level III and IV Commerce or COMMERCE 2QB3

**LEVEL V: 39 UNITS (2007-2008 ONLY)**

- 6 units COMMERCE 4PA3, 4QA3
- 24 units COMP ENG 3SK3, 4DK4, 4DM4, 4DN4, 4DS4, 4OI5
- 3 units from ENGINEER 4A03, 4H03
- 3 units ENGN MGT 5B03
- 3 units Commerce electives selected from Level III and IV Commerce or COMMERCE 2QB3

**LEVEL V: 39 UNITS (EFFECTIVE 2008-2009)**

- 6 units COMMERCE 4PA3, 4QA3
- 24 units COMP ENG 3SK3, 4DK4, 4DM4, 4DN4, 4DS4, 4OI5
- 3 units SFWR ENG 3SH3
- 3 units ENGN MGT 5B03
- 3 units Commerce electives selected from Level III and IV Commerce or COMMERCE 2QB3

**Computer Engineering and Society (B.Eng.Society) {4144535}**

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

**ADMISSION**

See Admission to Level II Engineering Programs.

**NOTES**

1. A minimum of 18 units of focus elective courses is required for the program. (This does not include the six units of complementary studies elective in Level I.)
2. As well as completing the academic requirements as specified in this Calendar, students in a Co-op program must complete the following courses prior to graduation:
  - ENGINEER 1EE0, 2EE0, 3EE0 and 4EE0, or
  - ENGINEER 1EE0, 2EE0 and 4EA0, or
  - ENGINEER 1EE0 and 4EB0, or
  - ENGINEER 1EE0 and 4EC0

**LEVEL II: 37 UNITS**

- 12 units COMP ENG 2DI4, 2SH4, 2SI4
- 12 units ELEC ENG 2CI5, 2CJ4, 2FH3
- 6 units ENGSOCTY 2X03, 2Y03
- 4 units MATH 2P04
- 3 units Engineering and Society focus electives

**LEVEL III: 39 UNITS (2006-2007 ONLY)**

- 7 units COMP ENG 2DP4, 3SK3
- 13 units ELEC ENG 2EI5, 3FI4, 3TP4
- 6 units ENGSOCTY 3Y03, 3Z03
- 3 units MATH 3K03
- 4 units SFWR ENG 3K04
- 6 units Engineering and Society focus electives

**LEVEL III: 35 UNITS (EFFECTIVE 2007-2008)**

- 7 units COMP ENG 2DP4, 3SK3
- 9 units ELEC ENG 2EI5, 3TP4
- 6 units ENGSOCTY 3Y03, 3Z03
- 3 units MATH 3K03
- 4 units SFWR ENG 3K04
- 6 units Engineering and Society focus electives

**LEVEL IV: 35 UNITS (2006-2007 ONLY)**

- 8 units COMP ENG 3DJ4, 3DR4
- 12 units ELEC ENG 3EJ4, 3TQ4, 3TR4
- 3 units ENGINEER 4B03
- 6 units ENGSOCTY 3X03, 3Z03
- 6 units Engineering and Society focus electives

**LEVEL IV: 32-35 UNITS (EFFECTIVE 2007-2008)**

- 8 units COMP ENG 3DQ4, 3DR4
- 12 units ELEC ENG 3EJ4, 3TQ4, 3TR4
- 3 units ENGINEER 4B03
- 3 units ENGSOCTY 3X03
- 6-9 units Engineering and Society focus electives

**LEVEL V: 33-37 UNITS (2006-2007 ONLY)**

- 21 units COMP ENG 4DK4, 4DL4, 4DM4, 4DN4, 4OI5
- 6 units ENGSOCTY 4X03, 4Z03
- 3-6 units Engineering and Society focus electives
- 3-4 units technical electives from an approved list of Computer Engineering or Electrical Engineering Level III or IV

**LEVEL V: 36-37 UNITS (EFFECTIVE 2007-2008)**

- 21 units COMP ENG 4DK4, 4DM4, 4DN4, 4DS4, 4OI5  
 6 units ENGSOCTY 4X03, 4Z03  
 3 units SFWR ENG 3SH3  
 3 units Engineering and Society focus electives  
 3-4 units technical electives from an approved list of Computer Engineering or Electrical Engineering Level III or IV

**Electrical Engineering (B.Eng.) {4170}****Electrical Engineering Co-op (B.Eng.)****ADMISSION**

See Admission to Level II Engineering Programs.

**NOTE**

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

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

**LEVEL II: 37 UNITS**

- 25 units ELEC ENG 2CI5, 2CJ4, 2DI4, 2EI5, 2FH3, 2SI4  
 4 units COMP ENG 2SH4  
 8 units MATH 2P04, 2Q04

**LEVEL III: 34 UNITS (2006-2007 ONLY)**

- 7 units COMP ENG 2DP4, 3SK3  
 24 units ELEC ENG 3EJ4, 3FI4, 3PI4, 3TP4, 3TQ4, 3TR4  
 3 units MATH 3K03

**LEVEL III: 37 UNITS (EFFECTIVE 2007-2008)**

- 7 units COMP ENG 2DP4, 3SK3  
 24 units ELEC ENG 3EJ4, 3FK4, 3PI4, 3TP4, 3TQ4, 3TR4  
 3 units MATH 3K03  
 3 units approved complementary studies electives (above Level I)

**LEVEL IV: 36-39 UNITS (2006-2007 ONLY)**

- 5 units ELEC ENG 4OI5  
 16 units from COMP ENG 4DK4, 4DL4, 4DM4, 4TL4, ELEC ENG 4BD4, 4BE4, 4CL4, 4FJ4, 4PL4, 4TK4  
 3 units ENGINEER 4B03  
 6-8 units technical electives from an approved list of Computer Engineering or Electrical Engineering Level III or IV  
 3-4 units technical electives (from Level III and IV of the Faculty of Engineering)  
 3 units from ENGINEER 4A03, 4H03

**LEVEL IV: 37-39 UNITS (EFFECTIVE 2007-2008)**

- 5 units ELEC ENG 4OI5  
 3 units ENGINEER 4B03  
 4 units SFWR ENG 3M04  
 16 units from COMP ENG 4DK4, 4DM4, 4DS4, 4TL4, ELEC ENG 4BD4, 4BE4, 4CL4, 4FJ4, 4PL4, 4TK4  
 3-4 units technical electives from an approved list of Computer Engineering or Electrical Engineering Level III or IV  
 3-4 units technical electives (from Level III or IV of the Faculty of Engineering)  
 3 units from ENGINEER 4A03, 4H03

**Electrical and Biomedical Engineering (B.Eng.) {4171}****Electrical and Biomedical Engineering Co-op (B.Eng.)****ADMISSION**

See Admission to Level II Engineering Programs.

**NOTE**

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

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

**LEVEL II: 39 UNITS**

- 18 units ELEC ENG 2CI5, 2CJ4, 2EI5, 2SI4  
 4 units COMP ENG 2SH4  
 8 units MATH 2P04, 2Q04  
 3 units BIOLOGY 1A03  
 3 units CHEM 1AA3  
 3 units approved complementary studies electives (above Level I)

**LEVEL III: 40 UNITS**

- 17 units ELEC ENG 2FH3, 3BA3, 3BB3, 3EJ4, 3TP4  
 4 units from COMP ENG 2DI4, ELEC ENG 2DI4  
 4 units COMP ENG 2DP4  
 3 units MATH 3K03  
 6 units CHEM 2OA3, 2OB3  
 6 units HTH SCI 2L03, 2LL3

**LEVEL IV: 38-39 UNITS (2006-2007 ONLY)**

- 8 units COMP ENG 2DP4, 4TL4  
 27 units ELEC ENG 3TQ4, 3TR4, 4BC3, 4BD4, 4BE4, 4BF3, 4BI5  
 3-4 units technical electives from an approved list of Computer Engineering or Electrical Engineering Level III or IV

**LEVEL IV: 37 UNITS (EFFECTIVE 2007-2008)**

- 4 units COMP ENG 4TL4  
 27 units ELEC ENG 3TQ4, 3TR4, 4BC3, 4BD4, 4BE4, 4BF3, 4BI5  
 3 units from ENGINEER 4A03, 4H03  
 3 units ENGINEER 4B03

**Electrical Engineering and Management (B.Eng.Mgt.) {4170325}****Electrical Engineering and Management Co-op (B.Eng.Mgt.)****ADMISSION**

See Admission to Level II Engineering Programs.

**NOTE**

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

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

**LEVEL II: 39 UNITS**

- 3 units COMMERCE 2AA3  
 6 units ECON 1BB3, 2X03  
 4 units COMP ENG 2SH4  
 16 units ELEC ENG 2CI5, 2CJ4, 2FH3, 2SI4  
 2 units ENGN MGT 2AA2  
 8 units MATH 2P04, 2Q04

**LEVEL III: 40 UNITS (2006-2007 ONLY)**

- 12 units COMMERCE 2AB3, 2BA3, 2FA3, 2MA3  
 7 units COMP ENG 2DP4, 3SK3  
 17 units ELEC ENG 2EI5, 3FI4, 3TP4, 3TQ4  
 1 unit ENGN MGT 3AA1  
 3 units MATH 3K03

**LEVEL III: 40 UNITS (EFFECTIVE 2007-2008)**

- 12 units COMMERCE 2AB3, 2BA3, 2FA3, 2MA3  
 7 units COMP ENG 2DP4, 3SK3  
 17 units ELEC ENG 2DI4, 2EI5, 3TP4, 3TQ4  
 1 unit ENGN MGT 3AA1  
 3 units MATH 3K03

**LEVEL IV: 39 UNITS (2006-2007 ONLY)**

- 9 units COMMERCE 3BC3, 3FA3, 3MC3  
 4 units COMP ENG 2DP4  
 16 units ELEC ENG 3EJ4, 3PI4, 3TQ4, 3TR4  
 3 units from ENGINEER 4A03, 4H03  
 1 unit ENGN MGT 4A01  
 3 units STATS 3Y03  
 3 units Commerce electives selected from Level III and IV Commerce or COMMERCE 2QB3

**LEVEL IV: 39 UNITS (2007-2008 ONLY)**

- 9 units COMMERCE 3BC3, 3FA3, 3MC3
- 4 units COMP ENG 2DP4
- 12 units ELEC ENG 3EJ4, 3PI4, 3TR4
- 4 units SFWR ENG 3M04
- 3 units from ENGINEER 4A03, 4H03
- 1 unit ENGN MGT 4A01
- 3 units STATS 3Y03
- 3 units Commerce electives selected from Level III and IV  
Commerce or COMMERCE 2QB3

**LEVEL IV: 39 UNITS (EFFECTIVE 2008-2009)**

- 9 units COMMERCE 3BC3, 3FA3, 3MC3
- 16 units ELEC ENG 3EJ4, 3FK4, 3PI4, 3TR4
- 4 units SFWR ENG 3M04
- 3 units from ENGINEER 4A03, 4H03
- 1 unit ENGN MGT 4A01
- 3 units STATS 3Y03
- 3 units Commerce electives selected from Level III and IV  
Commerce or COMMERCE 2QB3

**LEVEL V: 37 UNITS (2006-2007 ONLY)**

- 6 units COMMERCE 4PA3, 4QA3
- 5 units ELEC ENG 4OI5
- 4 units ENGN MGT 4A01, 5B03
- 3 units COMP ENG 3SK3
- 3 units Commerce electives selected from Level III and IV  
Commerce or COMMERCE 2QB3
- 16 units from COMP ENG 4DK4, 4DL4, 4DM4, 4TL4, ELEC  
ENG 4BD4, 4BE4, 4CL4, 4FJ4, 4PL4, 4TK4

**LEVEL V: 39-40 UNITS (2007-2008 ONLY)**

- 6 units COMMERCE 4PA3, 4QA3
- 3 units COMP ENG 3SK3
- 16 units from COMP ENG 4DK4, 4DM4, 4DS4, 4TL4, ELEC  
ENG 4BD4, 4BE4, 4CL4, 4FJ4, 4PL4, 4TK4
- 5 units ELEC ENG 4OI5
- 3 units ENGN MGT 5B03
- 3 units Commerce electives selected from Level III and IV  
Commerce or COMMERCE 2QB3
- 3-4 units optional technical electives (from Level III and IV of  
the Faculty of Engineering)

**LEVEL V: 39-40 UNITS (EFFECTIVE 2008-2009)**

- 6 units COMMERCE 4PA3, 4QA3
- 16 units from COMP ENG 4DK4, 4DM4, 4DS4, 4TL4, ELEC  
ENG 4BD4, 4BE4, 4CL4, 4FJ4, 4PL4, 4TK4
- 5 units ELEC ENG 4OI5
- 3 units ENGN MGT 5B03
- 3 units approved complementary studies electives (above  
Level I)
- 3 units Commerce electives selected from Level III and IV  
Commerce or COMMERCE 2QB3
- 3-4 units technical electives (from Level III and IV of the Faculty  
of Engineering)

**Electrical Engineering and Society (B.Eng.Society) {4170535}**

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

**ADMISSION**

See Admission to Level II Engineering Programs.

**NOTES**

1. A minimum of 18 units of focus elective courses is required for the program. (This does not include the six units of complementary studies elective in Level I.)
2. As well as completing the academic requirements as specified in this Calendar, students in a Co-op program must complete the following courses prior to graduation:
  - ENGINEER 1EE0, 2EE0, 3EE0 and 4EE0, or
  - ENGINEER 1EE0, 2EE0 and 4EA0, or
  - ENGINEER 1EE0 and 4EB0, or
  - ENGINEER 1EE0 and 4EC0

**LEVEL II: 38 UNITS**

- 4 units COMP ENG 2SH4
- 17 units ELEC ENG 2CI5, 2CJ4, 2DI4, 2SI4
- 6 units ENGSOCTY 2X03, 2Y03
- 8 units MATH 2P04, 2Q04
- 3 units Engineering and Society focus electives

**LEVEL III: 35-41 UNITS**

- 7 units COMP ENG 2DP4, 3SK3
- 12 units ELEC ENG 2EI5, 2FH3, 3TQ4
- 6 units ENGSOCTY 3Y03, 3Z03
- 3 units MATH 3K03
- 4 units SFWR ENG 3M04
- 3-9 units Engineering and Society focus electives

**LEVEL IV: 36 UNITS (2006-2007 ONLY)**

- 20 units ELEC ENG 3EJ4, 3FI4, 3PI4, 3TQ4, 3TR4
- 4 units COMP ENG 2DP4
- 3 units ENGSOCTY 3X03
- 6 units Engineering and Society focus electives
- 3 units ENGINEER 4B03

**LEVEL IV: 35 UNITS (EFFECTIVE 2007-2008)**

- 20 units ELEC ENG 3EJ4, 3FK4, 3PI4, 3TP4, 3TR4
- 3 units ENGSOCTY 3X03
- 9 units Engineering and Society focus electives
- 3 units ENGINEER 4B03

**LEVEL V: 36-40 UNITS (2006-2007 ONLY)**

- 5 units ELEC ENG 4OI5
- 6 units ENGSOCTY 4X03, 4Z03
- 16 units from COMP ENG 4DK4, 4DL4, 4DM4, 4TL4, ELEC  
ENG 4BD4, 4BE4, 4CL4, 4FJ4, 4PL4, 4TK4
- 6-9 units Engineering and Society focus electives
- 3-4 units technical electives from an approved list of Computer  
Engineering or Electrical Engineering Level III or IV

**LEVEL V: 36-37 UNITS (EFFECTIVE 2007-2008)**

- 5 units ELEC ENG 4OI5
- 6 units ENGSOCTY 4X03, 4Z03
- 16 units from COMP ENG 4DK4, 4DM4, 4DS4, 4TL4, ELEC  
ENG 4BD4, 4BE4, 4CL4, 4FJ4, 4PL4, 4TK4
- 6 units Engineering and Society focus electives
- 3-4 units technical electives from an approved list of Computer  
Engineering or Electrical Engineering Level III or IV

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

- Interdisciplinary Engineering Stream {4194}**
- Nuclear Engineering and Energy Systems Stream {4191}**
- Nano- and Micro-Devices Stream {4192}**
- Photonics Engineering Stream {4193}**

**Engineering Physics Co-op (B.Eng.)**

- Interdisciplinary Engineering Stream**
- Nuclear Engineering and Energy Systems Stream**
- Nano- and Micro-Devices Stream**
- Photonics Engineering Stream**

**ADMISSION**

See Admission to Level II Engineering Programs.

**NOTES**

1. The Department of Engineering Physics offers a common core with four streams of study:
  - Interdisciplinary Engineering (**I Stream**)
  - Nano- and Micro-Devices (**M Stream**)
  - Nuclear Engineering and Energy Systems (**N Stream**)
  - Photonics Engineering (**P Stream**)
 Level II is common to all streams. All students entering Level II will be enrolled in the Interdisciplinary Engineering Stream. Students entering Level III choose one of the four streams offered in Engineering Physics.
2. As well as completing the academic requirements as specified in this Calendar, students in a Co-op program must complete the following courses prior to graduation:
  - ENGINEER 1EE0, 2EE0, 3EE0 and 4EE0, or
  - ENGINEER 1EE0, 2EE0 and 4EA0, or
  - ENGINEER 1EE0 and 4EB0, or
  - ENGINEER 1EE0 and 4EC0

**LEVEL II: 39 UNITS**

- 4 units ENGINEER 2P04  
 18 units ENG PHYS 2A04, 2E04, 2H04, 2S03, 2QM3  
 8 units MATH 2P04, 2Q04  
 3 units PHYSICS 2D03  
 6 units approved complementary studies electives. (Three units must be above Level I.)

**LEVEL III: 38-40 UNITS**

- 8 units ENG PHYS 3F04, 3W04  
 9 units MATH 3C03, 3D03, 4Q03  
 6 units from PHYSICS 3B06, 3BA3, 3BB3  
 3 units approved complementary studies electives  
 12-14 units Stream specific:  
**I Stream** ENG PHYS 3D03, 3E03, 3PN3; 3 units from ENG PHYS 3A03, 3ES3, 3MD3  
**M Stream** ENG PHYS 3E03, 3MD3, 3PN3; 3 units approved technical electives  
**N Stream** CHEM ENG 2A04, 3O04, ENG PHYS 3D03, 3ES3  
**P Stream** ENG PHYS 3A03, 3E03, 3G03, 3PN3

**LEVEL IV: 35-39 UNITS (2006-2007 ONLY)**

- 10 units ENG PHYS 4A06, 4U04  
 3 units approved complementary studies electives  
 22-26 units Stream specific:  
**I Stream** ENG PHYS 4L04, 4MD4, 4S04; 12-14 units of approved Level III or IV technical electives  
**M Stream** ENG PHYS 4E03, 4F03, 4MD4, 4Z03; 11-13 units of approved Level III or IV technical electives  
**N Stream** ENG PHYS 4D03, 4ES3, 4L04, 4NE3; 9-11 units of approved Level III or IV technical electives  
**P Stream** ELEC ENG 3TR4; ENG PHYS 4K03, 4S04; ELEC ENG 3F14 or PHYSICS 4B03; 10-12 units of approved Level III or IV technical electives

**LEVEL IV: 35-39 UNITS (EFFECTIVE 2007-2008)**

- 3 units ENGINEER 4B03  
 10 units ENG PHYS 4A06, 4U04  
 22-26 units Stream specific:  
**I Stream** ENG PHYS 4L04, 4MD4, 4S04; 12-14 units of approved Level III or IV technical electives  
**M Stream** ENG PHYS 4F03, 4MD4, 4Z03; 14-16 units of approved Level III or IV technical electives  
**N Stream** ENG PHYS 4D03, 4ES3, 4L04, 4NE3; 9-11 units of approved Level III or IV technical electives  
**P Stream** ELEC ENG 3TR4; ENG PHYS 4K03, 4S04; ELEC ENG 3FK4 or PHYSICS 4B03; 10-12 units of approved Level III or IV technical electives

**Engineering Physics and Management (B.Eng.Mgt.)**Interdisciplinary Engineering Stream **{4194325}**Nuclear Engineering and **{4191325}**

Energy Systems Stream

Nano- and Micro-Devices Stream **{4192325}**Photonics Engineering Stream **{4193325}****Engineering Physics and Management Co-op (B.Eng.Mgt.)**

Interdisciplinary Engineering Stream

Nuclear Engineering and

Energy Systems Stream

Nano- and Micro-Devices Stream

Photonics Engineering Stream

**ADMISSION**

See Admission to Level II Engineering Programs.

**NOTE**

1. The Department of Engineering Physics offers a common core with four streams of study:  
 • Interdisciplinary Engineering (**I Stream**)  
 • Nano- and Micro-Devices (**M Stream**)  
 • Nuclear Engineering and Energy Systems (**N Stream**)  
 • Photonics Engineering (**P Stream**)

Level II and III are common to all streams in a five-level program. All students entering Level II will be enrolled in the Interdisciplinary Engineering Stream. Students entering Level IV choose one of the four streams offered in Engineering Physics. All students in Level V in 2006-2007 will be registered in the Interdisciplinary Engineering Stream.

2. As well as completing the academic requirements as specified in this Calendar, students in a Co-op program must complete the following courses prior to graduation:  
 • ENGINEER 1EE0, 2EE0 and 4EA0, or  
 • ENGINEER 1EE0, 2EE0, 3EE0 and 4EE0, or  
 • ENGINEER 1EE0 and 4EB0, or  
 • ENGINEER 1EE0 and 4EC0

**LEVEL II: 39 UNITS**

- 6 units COMMERCE 2AA3, 2MA3  
 3 units ENGN MGT 2AA2, 3AA1  
 4 units ENGINEER 2P04  
 15 units ENG PHYS 2A04, 2E04, 2H04, 2QM3  
 8 units MATH 2P04, 2Q04  
 3 units PHYSICS 2D03

**LEVEL III: 38 UNITS**

- 9 units COMMERCE 2AB3, 2BA3, 2FA3  
 6 units ECON 1BB3, 2X03  
 11 units ENG PHYS 2S03, 3F04, 3W04  
 6 units MATH 3C03, 3D03  
 6 units from PHYSICS 3B06, 3BA3, 3BB3

**LEVEL IV: 38-40 UNITS**

- 12 units COMMERCE 3BC3, 3FA3, 3MC3, 4QA3  
 1 unit ENGN MGT 4A01  
 4 units ENG PHYS 4U04  
 3 units MATH 4Q03  
 3 units approved complementary studies electives (above Level I)  
 3 units Commerce elective selected from Level III and IV Commerce or COMMERCE 2QB3

12-14 units Stream specific:

- I Stream** ENG PHYS 3D03, 3E03, 3PN3; 3 units from ENG PHYS 3A03, 3ES3, 3MD3  
**M Stream** ENG PHYS 3E03, 3MD3, 3PN3; 3 units approved Level III or IV technical electives  
**N Stream** CHEM ENG 2A04, 3O04, ENG PHYS 3D03, 3ES3  
**P Stream** ENG PHYS 3A03, 3E03, 3G03, 3PN3

**LEVEL V: 37-38 UNITS (2006-2007 ONLY)**

- 3 units COMMERCE 4PA3  
 3 units ENGN MGT 5B03  
 6 units ENG PHYS 4A06  
 19-20 units approved Level III or IV technical electives, of which 10 units must be selected from the following courses:  
 ENG PHYS 3G03, 3PN3, 4D03, 4E03, 4F03, 4L04, 4S04, PHYSICS 4D06  
 6 units Commerce electives selected from Level III and IV Commerce or COMMERCE 2QB3

**LEVEL V: 37-41 UNITS (EFFECTIVE 2007-2008)**

- 3 units COMMERCE 4PA3  
 3 units ENGN MGT 5B03  
 6 units ENG PHYS 4A06  
 3 units Commerce electives selected from Level III and IV Commerce or COMMERCE 2QB3

22-26 units Stream specific:

- I Stream** ENG PHYS 4L04, 4MD4, 4S04; 12-14 units of approved Level III or IV technical electives  
**M Stream** ENG PHYS 4F03, 4MD4, 4Z03; 14-16 units of approved Level III or IV technical electives  
**N Stream** ENG PHYS 4D03, 4ES3, 4L04, 4NE3; 9-11 units of approved Level III or IV technical electives  
**P Stream** ELEC ENG 3TR4; ENG PHYS 4K03, 4S04; ELEC ENG 3FK4 or PHYSICS 4B03; 10-12 units of approved Level III or IV technical electives

**Engineering Physics and Society (B.Eng.Society)**  
**Interdisciplinary Engineering Stream (4194535)**  
**Nuclear Engineering and Energy Systems Stream (4191535)**  
**Nano- and Micro-Devices Stream (4192535)**  
**Photonics Engineering Stream (4193535)**

**Engineering Physics and Society Co-op (B.Eng.Society)**  
**Interdisciplinary Engineering Stream**  
**Nuclear Engineering and Energy Systems Stream**  
**Nano- and Micro-Devices Stream**  
**Photonics Engineering Stream**

**ADMISSION**

See Admission to Level II Engineering Programs.

**NOTES**

- The Department of Engineering Physics offers a common core with four streams of study:
  - Interdisciplinary Engineering (I Stream)
  - Nano- and Micro-Devices (M Stream)
  - Nuclear Engineering and Energy Systems (N Stream)
  - Photonics Engineering (P Stream)
 Levels II and III are common to all streams in a five-level program. All students entering Level II will be enrolled in the Interdisciplinary Engineering Stream. Students entering Level IV choose one of the four streams offered in Engineering Physics. All students in Level V in 2006-2007 will be registered in the Interdisciplinary Engineering Stream.
- A minimum of 18 units of focus elective courses is required for the program. (This does not include the six units of complementary studies elective in Level I.)
- As well as completing the academic requirements as specified in this Calendar, students in a Co-op program must complete the following courses prior to graduation:
  - ENGINEER 1EE0, 2EE0, 3EE0 and 4EE0, or
  - ENGINEER 1EE0, 2EE0 and 4EA0, or
  - ENGINEER 1EE0 and 4EB0, or
  - ENGINEER 1EE0 and 4EC0

**LEVEL II: 39 UNITS**

4 units ENGINEER 2P04  
 15 units ENG PHYS 2A04, 2E04, 2H04, 2QM3  
 6 units ENGSOCTY 2X03, 2Y03  
 8 units MATH 2P04, 2Q04  
 3 units PHYSICS 2D03  
 3 units Engineering and Society focus electives

**LEVEL III: 35 UNITS**

11 units ENG PHYS 2S03, 3F04, 3W04  
 3 units ENGSOCTY 3Y03  
 9 units MATH 3C03, 3D03, 4Q03  
 6 units from PHYSICS 3B06, 3BA3, 3BB3  
 6 units Engineering and Society focus electives

**LEVEL IV: 34-36 UNITS**

4 units ENG PHYS 4U04  
 6 units ENGSOCTY 3X03, 3Z03  
 3 units ENGINEER 4B03  
 9 units Engineering and Society focus electives  
 12-14 units Stream specific:

**I Stream** ENG PHYS 3D03, 3E03, 3PN3; 3 units from ENG PHYS 3A03, 3ES3, 3MD3  
**M Stream** ENG PHYS 3E03, 3MD3, 3PN3; 3 units approved Level III or IV technical electives  
**N Stream** CHEM ENG 2A04, 3O04, ENG PHYS 3D03, 3ES3  
**P Stream** ENG PHYS 3A03, 3E03, 3G03, 3PN3

**LEVEL V: 36-41 UNITS (2006-2007 ONLY)**

3 units ENGINEER 4B03  
 6 units ENG PHYS 4A06  
 6 units ENGSOCTY 4X03, 4Z03  
 18-20 units approved Level III or IV technical electives, of which 10 units must be selected from the following courses:  
 ENG PHYS 3G03, 3PN3, 4D03, 4E03, 4F03, 4L04, 4S04, PHYSICS 4D06  
 3-6 units Engineering and Society focus electives

**LEVEL V: 34-38 UNITS (EFFECTIVE 2007-2008)**

6 units ENG PHYS 4A06  
 6 units ENGSOCTY 4X03, 4Z03  
 22-26 units Stream specific:  
**I Stream** ENG PHYS 4L04, 4MD4, 4S04; 12-14 units of approved Level III or IV technical electives  
**M Stream** ENG PHYS 4F03, 4MD4, 4Z03; 14-16 units of approved Level III or IV technical electives  
**N Stream** ENG PHYS 4D03, 4ES3, 4L04; 4NE3; 9-11 units of approved Level III or IV technical electives  
**P Stream** ELEC ENG 3TR4; ENG PHYS 4K03, 4S04; ELEC ENG 3FK4 or PHYSICS 4B03; 10-12 units of approved Level III or IV technical electives

**Materials Engineering (B.Eng.) {4315}**

**Materials Engineering Co-op (B.Eng.)**

**ADMISSION:**

See Admission to Level II Engineering Programs.

**NOTES**

- Students entering Level III can choose between the Materials Engineering stream, the Computational Materials Engineering stream and the Nanomaterials Engineering stream. In addition, the Materials Engineering stream is designed to permit choices of electives in Levels III and IV which will allow in-depth study of various types of modern engineering materials, i.e. electronic, metallurgical and polymeric materials. The following combinations of electives are suggested for specific areas of specialization.
  - Metallurgy MATLS 4C03, 4D03
  - Polymer CHEM ENG 3Q03, MATLS 4P03
  - Electronic Materials ENG PHYS 4E03, MATLS 3Q03
- As well as completing the academic requirements as specified in this Calendar, students in a Co-op program must complete the following courses prior to graduation:
  - ENGINEER 1EE0, 2EE0, 3EE0 and 4EE0, or
  - ENGINEER 1EE0, 2EE0 and 4EA0, or
  - ENGINEER 1EE0 and 4EB0, or
  - ENGINEER 1EE0 and 4EC0

**LEVEL II: 38 UNITS**

5 units CHEM 1AA3, 2WW2  
 4 units CHEM ENG 2A04  
 7 units ENGINEER 2MM3, 2P04  
 13 units MATLS 2B03, 2D03, 2H04, 2X03  
 6 units, MATH 2M06  
 3 units approved complementary studies electives

**LEVEL III: (MATERIALS ENGINEERING STREAM) 36-38 UNITS**

21 units MATLS 3B03, 3C04, 3E04, 3F03, 3M03, 3T04  
 3 units MATH 3I03  
 9-11 units from CHEM 2E03, CHEM ENG 3O04, 3Q03, MATLS 3Q03, 4D03, 4P03  
 3 units approved complementary studies electives

**LEVEL IV: (MATERIALS ENGINEERING STREAM) 36-37 UNITS**

3 units from ENGINEER 4A03, 4H03  
 6 units ENGINEER 4B03, 4J03  
 8 units MATLS 4A02, 4J04, 4L02  
 4 units from MATLS 4K04, 4Z04  
 3 units STATS 3Y03  
 3 units approved complementary studies electives (above Level I)  
 9-10 units approved Level III or IV technical electives, which must include CHEM ENG 3O04 if not completed

**Materials Engineering - {4318}**

**Computational Materials**

**Engineering Stream (B.Eng.)**

**Materials Engineering Co-op -**

**Computational Materials**

**Engineering Stream (B.Eng.)**

**LEVEL III: 39 UNITS**

21 units MATLS 3B03, 3C04, 3E04, 3F03, 3M03, 3T04  
 3 units from MATLS 3A03, 3N03  
 3 units MATH 3I03  
 3 units STATS 3Y03  
 3 units PHYSICS 2G03  
 3 units from CHEM 2E03, MATLS 3Q03, MATH 2E03, 2T03  
 3 units approved complementary studies electives

**LEVEL IV: 34 UNITS**

- 3 units from ENGINEER 4A03, 4H03  
 6 units ENGINEER 4B03, 4J03  
 8 units MATLS 4A02, 4J04, 4L02  
 3 units from MATLS 3A03, 3N03 (whichever not completed at Level III)  
 4 units from MATLS 4K04, 4Z04  
 4 units CHEM ENG 3O04  
 3 units from BIOCHEM 4Y03, CHEM ENG 3Q03, MATLS 4F03, 4H03, PHYSICS 3S03, 4S03  
 3 units approved complementary studies electives (above Level I).

**Materials Engineering - {4320}****Nanomaterials Stream (B.Eng)****Materials Engineering Co-op - Nanomaterials Stream (B.Eng.)****LEVEL III: 36-37 UNITS**

- 24 units MATLS 3B03, 3C04, 3E04, 3F03, 3M03, 3Q03, 3T04  
 3 units MATH 3I03  
 3 units STATS 3Y03  
 3-4 units from CHEM 2E03, CHEM ENG 3O04, 3Q03, 4Z03, MATLS 4D03, 4P03  
 3 units approved complementary studies electives

**LEVEL IV: 36-37 UNITS**

- 3 units from ENGINEER 4A03, 4H03  
 6 units ENGINEER 4B03, 4J03  
 11 units MATLS 4A02, 4F03, 4J04, 4L02  
 4 units from MATLS 4K04, 4Z04  
 3 units from MATLS 4G03, 4H03  
 6-7 units approved Level III or IV technical electives which must include CHEM ENG 3O04 if not completed  
 3 units approved complementary studies electives (above Level I)

**Materials Engineering and Management (B.Eng.Mgt.) {4315325}****Materials Engineering and Management Co-op (B.Eng.Mgt.)****ADMISSION**

See Admission to Level II Engineering Programs.

**NOTE**

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

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

**LEVEL II: 35 UNITS**

- 2 units CHEM 2WW2  
 3 units COMMERCE 2MA3  
 6 units ECON 1BB3, 2X03  
 2 units ENGN MGT 2AA2  
 3 units ENGINEER 2MM3  
 6 units MATH 2M06  
 13 units MATLS 2B03, 2D03, 2H04, 2X03

**LEVEL III: 38 UNITS**

- 4 units CHEM ENG 2A04  
 3 units CHEM 1AA3  
 9 units COMMERCE 2AA3, 2BA3, 2FA3  
 1 unit ENGN MGT 3AA1  
 4 units ENGINEER 2P04  
 11 units MATLS 3C04, 3F03, 3T04  
 3 units MATH 3I03  
 3 units STATS 3Y03

**LEVEL IV: (MATERIALS ENGINEERING STREAM) 36-37 UNITS**

- 4 units CHEM ENG 3O04  
 12 units COMMERCE 2AB3, 3BC3, 3FA3, 3MC3  
 3 units from ENGINEER 4A03, 4H03  
 1 unit ENGN MGT 4A01

- 10 units MATLS 3B03, 3E04, 3M03  
 3 units approved complementary studies electives (above Level I)  
 3-4 units approved Level III or IV technical electives

**LEVEL V: (MATERIALS ENGINEERING STREAM) 36-37 UNITS**

- 6 units COMMERCE 4PA3, 4QA3  
 3 units ENGINEER 4J03  
 3 units ENGN MGT 5B03  
 8 units MATLS 4A02, 4J04, 4L02  
 4 units from MATLS 4K04, 4Z04  
 6 units Commerce selected from Level III and IV Commerce or COMMERCE 2QB3  
 6-7 units approved technical electives

**Materials Engineering and Management - Computational Materials Engineering Stream (B.Eng.Mgt.) {4318325}****Materials Engineering and Management Co-op - Computational Materials Engineering Stream (B.Eng.Mgt.)****LEVEL IV: 36 UNITS**

- 4 units CHEM ENG 3O04  
 12 units COMMERCE 2AB3, 3BC3, 3FA3, 3MC3  
 3 units from ENGINEER 4A03, 4H03  
 1 unit ENGN MGT 4A01  
 10 units MATLS 3B03, 3E04, 3M03  
 3 units from MATLS 3A03, 3N03  
 3 units approved complementary studies electives (above Level I)

**LEVEL V: 36 UNITS**

- 6 units COMMERCE 4PA3, 4QA3  
 3 units ENGINEER 4J03  
 3 units ENGN MGT 5B03  
 8 units MATLS 4A02, 4J04, 4L02  
 3 units from MATLS 3A03, 3N03 (whichever not completed at Level IV)  
 4 units from MATLS 4K04, 4Z04  
 6 units Commerce selected from Level III and IV Commerce or COMMERCE 2QB3  
 3 units from BIOCHEM 4Y03, CHEM ENG 3Q03, MATLS 4F03, 4H03, PHYSICS 3S03, 4S03

**Materials Engineering and Management - Nanomaterials Stream (B.Eng.Mgt.) {4320325}****Materials Engineering and Management Co-op - Nanomaterials Stream (B.Eng.Mgt.)****LEVEL IV: 36 UNITS**

- 4 units CHEM ENG 3O04  
 12 units COMMERCE 2AB3, 3BC3, 3FA3, 3MC3  
 3 units from ENGINEER 4A03, 4H03  
 1 unit ENGN MGT 4A01  
 13 units MATLS 3B03, 3E04, 3M03, 3Q03  
 3 units approved complementary studies electives (above Level I)

**LEVEL V: 36-37 UNITS**

- 6 units COMMERCE 4PA3, 4QA3  
 3 units ENGINEER 4J03  
 3 units ENGN MGT 5B03  
 11 units MATLS 4A02, 4F03, 4J04, 4L02  
 4 units from MATLS 4K04, 4Z04  
 6 units Commerce selected from Level III and IV Commerce or COMMERCE 2QB3  
 3-4 units approved Level III or IV technical electives (MATLS 4G03, 4H03 are recommended if offered.)



**Materials Engineering and Society (B.Eng.Society) {4315535}**

**Materials Engineering and Society Co-op (B.Eng.Mgt.)**

**ADMISSION**

See Admission to Level II Engineering Programs.

**NOTES**

1. A minimum of 18 units of focus elective courses is required for the program. (This does not include the six units of complementary studies elective in Level I.)
2. As well as completing the academic requirements as specified in this Calendar, students in a Co-op program must complete the following courses prior to graduation:
  - ENGINEER 1EE0, 2EE0, 3EE0 and 4EE0, or
  - ENGINEER 1EE0, 2EE0 and 4EA0, or
  - ENGINEER 1EE0 and 4EB0, or
  - ENGINEER 1EE0 and 4EC0

**LEVEL II: 33-36 UNITS**

- 2 units CHEM 2WW2
- 3 units ENGINEER 2MM3
- 6 units ENGSOCTY 2X03, 2Y03
- 13 units MATLS 2B03, 2D03, 2H04, 2X03
- 6 units MATH 2M06
- 3-6 units Engineering and Society focus electives

**LEVEL III: 34-37 UNITS**

- 4 units CHEM ENG 2A04
- 3 units CHEM 1AA3
- 4 units ENGINEER 2P04
- 3 units ENGSOCTY 3Y03
- 11 units MATLS 3C04, 3F03, 3T04
- 3 units MATH 3I03
- 3 units STATS 3Y03
- 3-6 units Engineering and Society focus electives

**LEVEL IV: (MATERIALS ENGINEERING STREAM) 32-36 UNITS**

- 4 units CHEM ENG 3O04
- 6 units ENGSOCTY 3X03, 3Z03
- 10 units MATLS 3B03, 3E04, 3M03
- 6-9 units Engineering and Society focus electives
- 6-7 units approved Level III or IV technical electives

**LEVEL V: (MATERIALS ENGINEERING STREAM) 33-37 UNITS**

- 6 units ENGINEER 4B03, 4J03
- 6 units ENGSOCTY 4X03, 4Z03
- 8 units MATLS 4A02, 4J04, 4L02
- 4 units from MATLS 4K04, 4Z04
- 6-7 units approved technical electives
- 3-6 units Engineering and Society focus electives

**Materials Engineering and Society - Computational Materials Engineering Stream (B.Eng.Society) {4318535}**

**Materials Engineering and Society Co-op - Computational Materials Engineering Stream (B.Eng.Society)**

**NOTE**

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

**LEVEL IV: 32-35 UNITS**

- 4 units CHEM ENG 3O04
- 6 units ENGSOCTY 3X03, 3Z03
- 10 units MATLS 3B03, 3E04, 3M03
- 3 units from MATLS 3A03, 3N03
- 6-9 units Engineering and Society focus electives
- 3 units from BIOCHEM 4Y03, CHEM ENG 3Q03, MATLS 3Q03, 4F03, 4H03, PHYSICS 3S03, 4S03

**LEVEL V: 33-36 UNITS**

- 6 units ENGINEER 4B03, 4J03
- 6 units ENGSOCTY 4X03, 4Z03
- 8 units MATLS 4A02, 4J04, 4L02
- 3 units from MATLS 3A03, 3N03 (whichever not completed at Level IV)

- 4 units from MATLS 4K04, 4Z04
- 3 units from BIOCHEM 4Y03, CHEM ENG 3Q03, MATLS 4F03, 4H03, PHYSICS 3S03, 4S03
- 3-6 units Engineering and Society focus electives

**Materials Engineering and Society - Nanomaterials Stream (B.Eng.Society) {4320535}**

**Materials Engineering and Society Co-op - Nanomaterials Stream (B.Eng.Society)**

**NOTE**

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

**LEVEL IV: 32-36 UNITS**

- 4 units CHEM ENG 3O04
- 6 units ENGSOCTY 3X03, 3Z03
- 13 units MATLS 3B03, 3E04, 3M03, 3Q03
- 6-9 units Engineering and Society focus electives
- 3-4 units approved Level III or IV technical electives (MATLS 4G03, 4H03 are recommended if offered.)

**LEVEL V: 32-36 UNITS**

- 6 units ENGINEER 4B03, 4J03
- 6 units ENGSOCTY 4X03, 4Z03
- 11 units MATLS 4A02, 4F03, 4J04, 4L02
- 4 units from MATLS 4K04, 4Z04
- 2-3 units approved technical electives (MATLS 4G03, 4H03 are recommended if offered.)
- 3-6 units Engineering and Society focus electives

**Mechanical Engineering (B.Eng.) {4330}**

**Mechanical Engineering Co-op (B.Eng.)**

**ADMISSION**

See Admission to Level II Engineering Programs.

**NOTES**

1. Level IV Mechanical Engineering students must choose one of the following option areas and complete sufficient units of the listed required courses and technical electives.

**PROGRAM OPTION COMPULSORY COURSES:**

- **GENERAL:** two of MECH ENG 3D03, 4B03, 4E03, 4Q03, 4S03, 4Z03
- **MECHANICS AND DESIGN:** MECH ENG 4Q03; three of MATLS 4T03, MECH ENG 4B03, 4E03, 4H03, 4I03, 4K03, 4L03, 4T03, 4Z03
- **MANUFACTURING:** MECH ENG 4Q03; three of CHEM ENG 4X03, ENGINEER 4J03, MATLS 4T03, MECH ENG 4B03, 4D03, 4E03, 4H03, 4K03, 4T03, 4Z03
- **THERMOFLUIDS AND ENERGY SYSTEMS:** MECH ENG 3D03, 4S03; two of CHEM ENG 4X03, MECH ENG 4I03, 4J03, 4Q03, 4T03, 4U03
- **APPROVED TECHNICAL ELECTIVES:** any of the required courses listed above, plus CHEM ENG 4T03, CIV ENG 3K03, COMMERCE 4QA3

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

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

**LEVEL II: 36 UNITS**

- 6 units MATH 2M06
- 27 units MECH ENG 2B03, 2C03, 2D03, 2P04, 2Q04, 2W04, 3A03, 3C03
- 3 units approved English literature (Term I)

**LEVEL III: 36 UNITS**

- 6 units ENGINEER 2MM3, 3N03
- 3 units MATLS 3M03
- 3 units MATH 3I03
- 21 units MECH ENG 3E05, 3F04, 3M02, 3O04, 3R03, 4R03
- 3 units STATS 3Y03

**LEVEL IV: 35 UNITS**

- 3 units ENGINEER 4B03  
 3 units from ENGINEER 4A03, 4H03  
 3 units approved complementary studies electives (above Level I)  
 11 units MECH ENG 4M06, 4P02, 4V03  
 15 units approved technical electives, including 6-12 units from required option courses. (See Note above.)

**Mechanical Engineering and Management (B.Eng.Mgt.) {4330325}****Mechanical Engineering and Management Co-op (B.Eng.Mgt.)****ADMISSION**

See *Admission to Level II Engineering Programs.*

**NOTES**

1. Level V Mechanical Engineering and Management students must choose one of the following option areas and complete sufficient units of the listed required courses and technical electives.

**PROGRAM OPTION COMPULSORY COURSES:**

- **GENERAL:** two of MECH ENG 3D03, 4B03, 4E03, 4Q03, 4S03, 4Z03
  - **MECHANICS AND DESIGN:** MECH ENG 4Q03; three of MATLS 4T03, MECH ENG 4B03, 4E03, 4H03, 4I03, 4K03, 4L03, 4T03, 4Z03
  - **MANUFACTURING:** MECH ENG 4Q03; three of CHEM ENG 4X03, ENGINEER 4J03, MATLS 4T03, MECH ENG 4B03, 4D03, 4E03, 4H03, 4K03, 4T03, 4Z03
  - **THERMOFLUIDS AND ENERGY SYSTEMS:** MECH ENG 3D03, 4S03; two of CHEM ENG 4X03, MECH ENG 4I03, 4J03, 4Q03, 4T03, 4U03
  - **APPROVED TECHNICAL ELECTIVES:** any of the required courses listed above, plus CHEM ENG 4T03, CIV ENG 3K03, COMMERCE 4QA3
2. As well as completing the academic requirements as specified in this Calendar, students in a Co-op program must complete the following courses prior to graduation:
- ENGINEER 1EE0, 2EE0, 3EE0 and 4EE0, or
  - ENGINEER 1EE0, 2EE0 and 4EA0, or
  - ENGINEER 1EE0 and 4EB0, or
  - ENGINEER 1EE0 and 4EC0

**LEVEL II: 37 UNITS**

- 9 units COMMERCE 2AA3, 2BA3, 2MA3  
 6 units ECON 1BB3, 2X03  
 6 units MATH 2M06  
 14 units MECH ENG 2D03, 2P04, 2W04, 3C03  
 2 units ENGN MGT 2AA2

**LEVEL III: 37 UNITS**

- 3 units COMMERCE 2FA3  
 1 unit ENGN MGT 3AA1  
 3 units ENGINEER 2MM3  
 3 units MATH 3I03  
 24 units MECH ENG 2B03, 2C03, 2Q04, 3A03, 3F04, 3O04, 3R03  
 3 units STATS 3Y03

**LEVEL IV: 35 UNITS**

- 12 units COMMERCE 2AB3, 3BC3, 3FA3, 3MC3  
 1 unit ENGN MGT 4A01  
 3 units MATLS 3M03  
 13 units MECH ENG 3E05, 3M02, 4R03, 4V03  
 6 units from required option courses or approved technical electives

**LEVEL V: 35 UNITS**

- 6 units COMMERCE 4PA3, 4QA3  
 6 units Commerce electives selected from Level III or IV Commerce or COMMERCE 2QB3  
 3 units ENGN MGT 5B03  
 3 units from ENGINEER 4A03, 4H03  
 3 units approved complementary studies electives (above Level I)  
 8 units MECH ENG 4M06, 4P02  
 6 units from required option courses or approved technical electives. (See Note above.)

**Mechanical Engineering and Society (B.Eng.Society) {4330535}****Mechanical Engineering and Society Co-op (B.Eng.Society)****ADMISSION**

See *Admission to Level II Engineering Programs.*

**NOTES**

1. Level V Mechanical Engineering and Society students must choose one of the following option areas and complete sufficient units of the listed required courses and technical electives.

**PROGRAM OPTION COMPULSORY COURSES:**

- **GENERAL:** two of MECH ENG 3D03, 4B03, 4E03, 4Q03, 4S03, 4Z03
  - **MECHANICS AND DESIGN:** MECH ENG 4Q03; three of MATLS 4T03, MECH ENG 4B03, 4E03, 4H03, 4I03, 4K03, 4L03, 4T03, 4Z03
  - **MANUFACTURING:** MECH ENG 4Q03; three of CHEM ENG 4X03, ENGINEER 4J03, MATLS 4T03, MECH ENG 4B03, 4D03, 4E03, 4H03, 4K03, 4T03, 4Z03
  - **THERMOFLUIDS AND ENERGY SYSTEMS:** MECH ENG 3D03, 4S03; two of CHEM ENG 4X03, MECH ENG 4I03, 4J03, 4Q03, 4T03, 4U03
  - **APPROVED TECHNICAL ELECTIVES:** any of the required courses listed above, plus CHEM ENG 4T03, CIV ENG 3K03, COMMERCE 4QA3
2. As well as completing the academic requirements as specified in this Calendar, students in a Co-op program must complete the following courses prior to graduation:
- ENGINEER 1EE0, 2EE0, 3EE0 and 4EE0, or
  - ENGINEER 1EE0, 2EE0 and 4EA0, or
  - ENGINEER 1EE0 and 4EB0, or
  - ENGINEER 1EE0 and 4EC0
3. A minimum of 18 units of focus elective courses is required for the program. (This does not include the six units of complementary studies elective in Level I.)

**LEVEL II: 33-36 UNITS**

- 6 units ENGSOCTY 2X03, 2Y03  
 6 units MATH 2M06  
 18 units MECH ENG 2C03, 2D03, 2P04, 2Q04, 2W04  
 3-6 units Engineering and Society focus electives

**LEVEL III: 32-35 UNITS**

- 3 units ENGSOCTY 3Y03  
 3 units ENGINEER 2MM3  
 3 units MATH 3I03  
 20 units MECH ENG 2B03, 3A03, 3C03, 3F04, 3O04, 3R03  
 3-6 units Engineering and Society focus electives

**LEVEL IV: 34-37 UNITS**

- 3 units ENGINEER 3N03  
 3 units MATLS 3M03  
 3 units STATS 3Y03  
 6 units ENGSOCTY 3X03, 3Z03  
 13 units MECH ENG 3E05, 3M02, 4R03, 4V03  
 3 units from required option courses or approved technical electives  
 3-6 units Engineering and Society focus electives

**LEVEL V: 32-35 UNITS**

- 6 units ENGSOCTY 4X03, 4Z03  
 3 units ENGINEER 4B03  
 8 units MECH ENG 4M06, 4P02  
 3-6 units Engineering and Society focus electives  
 12 units from required option courses or approved technical electives. (See Note 1 above.)

**Mechatronics Engineering (B.Eng.) {4332}**

**Subject to approval by the Ministry of Training, Colleges and Universities, beginning in the 2006-2007 academic year, a B.Eng. program in Mechatronics Engineering will be offered.**

**ADMISSION**

See *Admission to Level II Engineering Programs.*

**LEVEL II: 34 UNITS**

- 6 units MATH 2M06  
 6 units SFWR ENG 2MX3, 2S03  
 8 units ENG PHYS 2A04, 2E04  
 7 units MECH ENG 2B03, 2Q04  
 7 units ENGINEER 2MM3, 2P04

**LEVEL III: 36 UNITS (EFFECTIVE 2007-2008)**

- 16 units SFWR ENG 3DX3, 3F03, 3I03, 3K04, 3X03
- 8 units MECHTRON 3TA4, 3TB4
- 3 units SFWR ENG 3SH3
- 6 units ENGINEER 3K03, 3N03
- 3 units STATS 3N03

**LEVEL IV: 36 UNITS (EFFECTIVE 2008-2009)**

- 3 units SFWR ENG 4AA3
- 6 units MECHTRON 4TB6
- 6 units MECH ENG 4B03, 4K03
- 6 units ENGINEER 4A03, 4B03
- 6 units approved technical electives from list A
- 3 units approved technical electives from list B
- 3 units approved complementary studies electives (above Level I)

**Software Engineering (B.Eng.) {4517}**

**Software Engineering Co-op (B.Eng.)**

**ADMISSION**

See Admission to Level II Engineering Programs.

**NOTE**

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

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

**LEVEL II: 37 UNITS**

- 6 units MATH 2M06
- 22 units SFWR ENG 2AA4, 2C03, 2DA3, 2DM3, 2FA3, 2MX3, 2S03
- 3 units from STATS 3N03, 3Y03
- 6 units approved complementary studies electives. (Three units must be above Level I.)

**LEVEL III: 38 UNITS**

- 6 units ENGINEER 3K03, 4A03
- 32 units SFWR ENG 3A04, 3BB4, 3DX3, 3E03, 3F03, 3GA3, 3I03, 3RA3, 3S03, 3X03

**LEVEL IV: 33 UNITS (2006-2007 ONLY)**

- 3 units ENGINEER 4B03
- 21 units SFWR ENG 4AA3, 4C03, 4D03, 4E03, 4G06, 4O03
- 6 units from SFWR ENG 4F03, 4J03, 4TE3
- 3 units approved technical electives

**LEVEL IV: 33 UNITS (EFFECTIVE 2007-2008)**

- 3 units ENGINEER 4B03
- 24 units SFWR ENG 4AA3, 4C03, 4D03, 4E03, 4G06, 4M03, 4O03
- 6 units from SFWR ENG 4F03, 4J03, 4TE3

**Software Engineering and Management (B.Eng.Mgt.) {4517325}**

**Software Engineering and Management Co-op (B.Eng.Mgt.)**

**ADMISSION**

See Admission to Level II Engineering Programs.

**NOTE**

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

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

**LEVEL II: 39 UNITS**

- 6 units COMMERCE 2AA3, 2MA3
- 3 units ECON 1BB3
- 2 units ENGN MGT 2AA2
- 6 units MATH 2M06
- 22 units SFWR ENG 2AA4, 2C03, 2DA3, 2DM3, 2FA3, 2MX3, 2S03

**LEVEL III: 36 UNITS**

- 6 units COMMERCE 2BA3, 2FA3
- 1 unit ENGN MGT 3AA1
- 3 units ENGINEER 3K03
- 29 units SFWR ENG 3A04, 3BB4, 3DX3, 3E03, 3F03, 3GA3, 3RA3, 3S03, 3X03

**LEVEL IV: 37 UNITS**

- 15 units COMMERCE 2AB3, 3BC3, 3FA3, 3MC3, 4QA3
- 3 units ECON 2X03
- 1 unit ENGN MGT 4A01
- 9 units SFWR ENG 4AA3, 4D03, 4M03
- 3 units from STATS 3N03, 3Y03
- 3 units from SFWR ENG 4F03, 4J03, 4TE3
- 3 units approved complementary studies electives (above Level I)

**LEVEL V: 33 UNITS (2006-2007 ONLY)**

- 3 units COMMERCE 4PA3
- 3 units from ENGINEER 4A03, 4H03
- 3 units ENGN MGT 5B03
- 12 units SFWR ENG 4C03, 4E03, 4G06
- 3 units from SFWR ENG 4F03, 4J03, 4O03, 4TE3
- 3 units approved complementary studies electives (above Level I)
- 6 units Commerce electives selected from Level III and IV Commerce or COMMERCE 2QB3

**LEVEL V: 33 UNITS (EFFECTIVE 2007-2008)**

- 3 units COMMERCE 4PA3
- 3 units from ENGINEER 4A03, 4H03
- 3 units ENGN MGT 5B03
- 15 units SFWR ENG 4C03, 4E03, 4G06, 4O03
- 3 units from SFWR ENG 4F03, 4J03, 4TE3
- 6 units Commerce electives selected from Level III and IV Commerce or COMMERCE 2QB3

**Software Engineering and Society (B.Eng.Society) {4517535}**

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

**ADMISSION**

See Admission to Level II Engineering Programs.

**NOTES**

1. A minimum of 18 units of focus elective courses is required for the program. (This does not include the 6 units of complementary studies elective in Level I.)
2. As well as completing the academic requirements as specified in this Calendar, students in a Co-op program must complete the following courses prior to graduation:
  - ENGINEER 1EE0, 2EE0, 3EE0 and 4EE0, or
  - ENGINEER 1EE0, 2EE0 and 4EA0, or
  - ENGINEER 1EE0 and 4EB0, or
  - ENGINEER 1EE0 and 4EC0

**LEVEL II: 37 UNITS**

- 6 units ENGSOCTY 2X03, 2Y03
- 6 units MATH 2M06
- 22 units SFWR ENG 2AA4, 2C03, 2DA3, 2DM3, 2FA3, 2MX3, 2S03
- 3 units Engineering and Society focus electives

**LEVEL III: 35-38 UNITS**

- 3 units ENGSOCTY 3Y03
- 29 units SFWR ENG 3A04, 3BB4, 3DX3, 3E03, 3F03, 3GA3, 3RA3, 3S03, 3X03
- 3-6 units Engineering and Society focus electives

**LEVEL IV: 30-33 UNITS (2006-2007 ONLY)**

- 6 units ENGINEER 3K03, 4B03
- 6 units ENGSOCTY 3X03, 3Z03
- 3 units SFWR ENG 4AA3
- 3 units from STATS 3N03, 3Y03
- 3 units approved Science electives
- 3 units approved technical electives
- 6-9 units Engineering and Society focus electives

**LEVEL IV: 30-33 UNITS (EFFECTIVE 2007-2008)**

- 6 units ENGINEER 3K03, 4B03
- 6 units ENGSOCTY 3X03, 3Z03
- 6 units SFWR ENG 4AA3, 4M03
- 3 units from STATS 3N03, 3Y03
- 3 units approved technical electives
- 6-9 units Engineering and Society focus electives

**LEVEL V: 33-36 UNITS**

- 6 units ENGSOCTY 4X03, 4Z03
- 18 units SFWR ENG 4C03, 4D03, 4E03, 4G06, 4O03
- 6 units from SFWR ENG 4F03, 4J03, 4TE3
- 3-6 units Engineering and Society focus electives

**Software Engineering and Game Design (B.Eng.)****{4518}****ADMISSION**

See *Admission to Level II Engineering Programs.*

**LEVEL II: 37 UNITS**

- 6 units MATH 2M06
- 6 units MMEDIA 1BE3, 2BE3
- 22 units SFWR ENG 2AA4, 2C03, 2DA3, 2DM3, 2FA3, 2MX3, 2S03
- 3 units from STATS 3N03, 3Y03

**LEVEL III: 38 UNITS**

- 3 units MMEDIA 2HE3
- 35 units SFWR ENG 3A04, 3BB4, 3DX3, 3E03, 3F03, 3GA3, 3GB3, 3GC3, 3RA3, 3S03, 3X03

**LEVEL IV: 33 UNITS (EFFECTIVE 2007-2008)**

- 6 units ENGINEER 4A03, 4B03
- 3 units MMEDIA 3EE3
- 21 units SFWR ENG 3I03, 4C03, 4D03, 4GA3, 4GC3, 4GP6
- 3 units from SFWR ENG 4E03, 4F03, 4J03, 4M03, 4O03, 4TE3

**PROGRAM FOR THE B.TECH. DEGREE**

The Bachelor of Technology (B.Tech.) program provides a degree-level technological education that is distinct from that offered in B.Eng. programs. The program is more oriented to applications in specific technologies, with less emphasis on broader mathematical and scientific foundations than a corresponding engineering program. Graduates will have considerably more breadth and depth in their area of technology than graduates of college technology diploma programs.

For degree completion programs, a second objective is to provide a path for college diploma graduates to gain an education leading to a university degree.

**CURRICULUM**

The programs are being offered in two specific versions: A four-year **integrated** program with entry directly from high school leading to both a Diploma in Technology from Mohawk College and a Bachelor of Technology from McMaster; and A two-year **degree-completion** program for graduates of the Mohawk College three-year Diploma in Technology (or graduates of similar programs at other Colleges) leading to a Bachelor of Technology from McMaster.

**INTEGRATED PROGRAM**

Three integrated programs will be offered:

- Process Automation Technology - conversion of existing Bachelor of Applied Technology program currently offered by Mohawk College
- Automotive and Vehicle Technology
- Biotechnology

Only the first of the above will be offered in 2006-2007; the curricula for the other two programs are being developed for implementation in 2007.

The integrated programs will be full-time and require four years to completion with eight semesters of course-work; they will also include three mandatory four-month co-op placements (i.e. after semesters two, four and six) and a Capstone Project (during semesters seven and eight). Those who successfully complete the program will be awarded both a McMaster degree and a Mohawk diploma; it will be possible to exit after three years with a diploma from Mohawk College.

**DEGREE COMPLETION PROGRAMS**

Three degree-completion programs will be offered, starting in the fall of 2006:

- Manufacturing Technology - conversion of the existing joint McMaster-Mohawk Bachelor of Technology program,
- Civil Engineering Infrastructure Technology (for Civil Engineering Technology and Architectural Technology diploma graduates); and
- Computing and Information Technology (for Software Engineering and Network Engineering and Security Analyst diploma graduates).

Detailed information regarding the curriculum for the degree completion programs will be available in the PDF version of the 2006-2007 Undergraduate Calendar at the following url: <http://registrar.mcmaster.ca/calendar/year2006> later in the Spring of 2006.

**ADMISSION REQUIREMENTS**

The degree completion programs will accept students who have diplomas in related technologies from Mohawk College or similar diploma programs at other Ontario Colleges. While many students will be accepted immediately after having completed a diploma program, preference will be given to individuals who have had significant technological employment experience after completing a diploma. Applicants with educational backgrounds equivalent to those completing Ontario college diplomas, e.g. overseas technology diploma or degree graduates, will be considered on an individual basis.

The integrated program in Process Automation Technology will accept students directly from high school using the following admission requirements:

OSSD, or equivalent, including:

1. English Grade 12U; and
2. Five other Grade 12U/M credits (Physics, Chemistry and Mathematics are strongly recommended).

Mature applicants will be considered on an individual basis.

For 2006, students applying to enter the integrated program in Process Automation Technology will apply to Mohawk College and will enroll in the first year program (semesters one and two) at Mohawk College. Those who successfully complete the first year program (with a grade of over 60% in each of the courses) will be transferred to McMaster University for the remainder of their program. The admissions process for 2007 onwards will be determined as part of the preparation of the Automotive and Vehicle Technology and Biotechnology programs, which are both to be implemented in 2007.

**Students currently in the Bachelor of Technology Degree Program in Manufacturing Engineering Technology should contact the School of Technology for advice on course selection and continuation in the degree program.**

# FACULTY OF HEALTH SCIENCES

WEB ADDRESS: <http://www.fhs.mcmaster.ca>

## Dean and Vice-President

J. G. Kelton/M.D., F.R.C.P. (C.)

## Associate Dean Research (Acting)

J. Gauldie/Ph.D, F.R.S.C., F.R.C.P.(E)

## Associate Vice-President Academic and Associate Dean Education

S.D. Denburg/B.A., M.A., Ph.D.

## Associate Dean (Nursing)

C. Tompkins/B.Sc.N., M.Ed., Ph.D., R.N.

For information concerning Health Sciences education programs and admission requirements, contact:

### Office of the Registrar

McMaster University

Gilmour Hall, Room 108

Hamilton, Ontario, L8S 4L8

Telephone (905) 525-4600

## OVERVIEW

The concept of Health Sciences Education is based on the view that health is a broad subject encompassing both the problems of ill health and the impact of biology, environment and lifestyle on health. Each health professional has specific educational requirements, but by learning together in shared facilities there exists an opportunity to establish effective interprofessional working relationships.

The programs in the Faculty attempt to meet these goals through a variety of learning approaches. Emphasis is placed on problem-based, small group learning experiences. Other approaches to learning, including interdisciplinary educational experiences, are used where appropriate.

In July 1974, the School of Nursing and the School of Medicine were brought together to form the Faculty of Health Sciences. In 1989, the School of Physiotherapy and Occupational Therapy (School of Rehabilitation Science) was added and in 1993 the Midwifery Education Program was established. The Faculty offers the following undergraduate degree programs: Doctor of Medicine (MD), Bachelor of Science in Nursing (B.Sc.N.), Bachelor of Health Sciences (Honours) (B.H.Sc. Honours), Bachelor of Health Science (B.H.Sc.) in Midwifery. In addition to its undergraduate programs, the Faculty of Health Sciences also has responsibility for Residency Programs in Postgraduate Medical Education.

Through the School of Graduate Studies, the Faculty offers the Medical Sciences program leading to the M.Sc. and Ph.D. degrees in the following research areas: Cell Biology and Metabolism; Hemostasis, Thromboembolism, Atherosclerosis; Molecular Virology and Immunology; Neuroscience and Behavioural Sciences; Physiology/Pharmacology; and Reproductive Biology and Human Genetics. M.Sc. and Ph.D. programs in Clinical Health Sciences (Health Research Methodology) and Clinical Health Sciences (Nursing) are available through Medical Sciences. A professional master's degree program in Rehabilitation Science (Occupational Therapy and Physiotherapy) has been established and replaces the respective baccalaureate-level professional programs.

Interprofessional programs, postprofessional in nature and leading to an academic diploma, include: Child Life Studies; Clinical Behavioural Sciences; Environmental Health; and Occupational Health and Safety.

The Faculty of Health Sciences collaborates with the Division of Health Sciences at Mohawk College in educational programs for other health professions based at the College.

Research programs encompassing the broad spectrum of health have been established, including basic and applied research and various aspects of health-care delivery. The graduate programs in medical sciences are related to the various areas of health research.

The Health Sciences Centre at McMaster provides educational and research facilities for medicine, nursing and other health professions. It includes a teaching hospital (the McMaster Site of

Hamilton Health Sciences) with extensive ambulatory clinics for primary and specialized aspects of patient care. The building has been designed to bring into close proximity the programs for the various health professions and to integrate the facilities for education, research and patient care in the Faculty of Health Sciences.

In addition to the Health Sciences Centre, education, research and clinical programs are based at other Hamilton Health Sciences sites (Chedoke, General, Henderson), St. Joseph's Centre for Mountain Health Services, St. Joseph's Hospital, St. Peter's Hospital, Hamilton Regional Cancer Centre and the Health Sciences Education Centre, Mohawk College. Extensive use is made of a variety of community agencies. A satellite program has been developed with institutions in Northwestern Ontario. In accordance with the plan to coordinate the development of specialized health services among the Hamilton and District hospitals, the Postgraduate Education programs in medicine have been developed on a regional basis.

## UNDERGRADUATE HEALTH PROFESSIONAL EDUCATION PROGRAMS

### ADMISSION AND REGISTRATION

Application to any program in the Faculty of Health Sciences implies acceptance on the part of the applicant of the admission policies and procedures, and the methods by which applicants are chosen for the Health Sciences programs.

Registration in any program in the Faculty of Health Sciences implies acceptance on the part of the student of the objectives of that program and the methods by which progress toward the achievement of those objectives is evaluated.

The following describes the regulations governing admission and registration in the Health Sciences programs, and should be considered in conjunction with specific admission requirements described on the following pages for the Bachelor of Health Sciences (Honours) program (B.H.Sc. Honours), School of Medicine (MD), the Midwifery program (B.H.Sc.), the School of Nursing (B.Sc.N.).

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

Program	Deadline
• Bachelor of Health Sciences (Honours) (B.H.Sc. Honours)	February 10
• Medicine (MD)	Registration with OMSAS..... September 15
	Final application deadline..... October 2
• Midwifery (B.H.Sc.)	February 1
• Nursing (B.Sc.N.)	Applicants directly from Ontario Secondary Schools..... May 1
	Diploma Registered Nurses..... February 15
	Post Diploma Practical Nurses..... February 15
	Nurse Practitioner Certificate..... March 1
	Applicants with Other Qualifications..... February 15
	Transfers from other degree Nursing programs
• McMaster Site	June 30
• Mohawk and Conestoga Site	May 15
• Child Life Studies Diploma Program	March 1
• Diploma Program in Clinical Behavioural Sciences	July 1

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

As places in the degree programs of the Faculty of Health Sciences are limited, admission is by selection, and possession of published minimum requirements does not guarantee admission. The University, therefore, reserves the right to grant admission to a limited number of students, and to refuse readmission to any student whose academic performance or general conduct has been unsatisfactory, or who has withdrawn from the program for a period in excess of one academic year.

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

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

**FALSIFICATION OF ADMISSION INFORMATION**

An applicant supplying documentation or evidence which, at the time, or subsequently, is found to be falsified will be withdrawn from consideration. Any student admitted to the program having submitted false evidence will be withdrawn.

**HEALTH REGULATIONS FOR ADMISSION**

Before registration, students must file with the University evidence of a recent health examination, immunization screening and chest X-ray. More detailed medical information will be required upon acceptance into the program.

**CLINICAL COURSE REQUIREMENTS**

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

**INFORMATION AND ACADEMIC COUNSELLING**

In certain programs, a faculty member is selected for each student in the September of entry to a degree program and provides each student with advice on evaluations, electives and other educational needs throughout the program. In the MD program, the advisor is also responsible for the collation of all evaluations and completion of the final transcript. Changes in advisors may be entertained as each student becomes acquainted with Faculty well enough to choose his or her own advisor. The academic advisory role for B.Sc.N. students is fulfilled by the Coordinator of Studies (Nursing). Students are also encouraged to consult individual faculty members regarding career planning.

**TRANSPORTATION**

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

**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 PROGRAMS

**CHILD LIFE STUDIES FULL-TIME DIPLOMA PROGRAM**

This is an eight-month applied professional program in the Faculty of Health Sciences, focusing on the development of knowledge and skills for individuals working with infants, children, youth and families in a health care setting and community based programs.

The learning objectives are:

1. to examine and review the growth and development of infants, children and youth, incorporating communication, play, expression of feelings, discovery and mastery of the environment, behaviour management, and parent/child relationships; and
2. to examine the child life role in assessment, intervention, prevention, advocacy and documentation in situations critical to the child's development, at times of acute and chronic illness and potentially traumatic or life-changing events.

Coursework involves small group learning, case studies and self-directed learning. Two eight-week internship placements in children's hospitals and community settings are a requirement of this program.

A related university degree with an overall B average is required, as well as relevant experience. Admission is based on the assessed strengths of each applicant as determined by the application package and interviews. Applications must be submitted by March 1 of each year for the study period beginning in September. Information outlining application requirements can be obtained by contacting the Child Life Studies program office at (905) 525-9140, ext. 22795 or by email at [fennl@mcmaster.ca](mailto:fennl@mcmaster.ca) or at <http://www.fhs.mcmaster.ca/childlife>.

**Part-time Multidisciplinary Distance Learning Courses**

The Child Life Studies on-line educational program offers a variety of research-based courses related to supporting the psychosocial needs of children, youth and families through health care experi-

ence and life changing events. For a current listing of courses, schedules and registration fees, visit the web site at <http://www.fhs.mcmaster.ca/childlife> or call (905) 525-9140, ext. 22795.

**DIPLOMA PROGRAM IN CLINICAL BEHAVIOURAL SCIENCES**

The Clinical Behavioural Sciences (CBS) Post-Baccalaureate Diploma and Selected Studies Program is offered through the Department of Psychiatry and Behavioural Neurosciences. This part-time program is designed to expand the knowledge and skills of allied health professionals by demonstrating a variety of approaches to understanding clinical problems. The aim is to enable health workers to more effectively carry out the mandate of their professional designations. Single courses vary from 10 to 20 weeks in length. A small group learning format is used.

Applicants 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 2E12) by July for September courses and by November for January and April courses. Personal interviews will be arranged if required. Upon completion of this diploma, students may be granted up to 24 units of credit towards an undergraduate degree at McMaster University, as determined by the Faculty to which they are applying. For additional information visit the CBS web site at <http://www.fhs.mcmaster.ca/cbs>. Applications can be obtained by contacting the CBS Office at (905) 525-9140 ext. 22706.

**DIPLOMA PROGRAM IN ENVIRONMENTAL HEALTH**

The diploma program is a distance education program offered through the McMaster Institute of Environment and Health. Students are required to register on a full-time basis from September to April committing one day a week for self-directed learning, one hour per week for on-line tutorials and one day a week for completion of assigned work. The program is designed to provide new and/or upgraded skills and knowledge in the environmental health area to individuals with a degree or certification in a recognized field. It is suitable for 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 come from a variety of disciplinary backgrounds. 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 will also be considered.

Applications, a Transcript Assessment Fee, original transcripts and a letter of interest must be submitted by the end of June for the study period starting in September. Applications can be obtained by contacting the McMaster Institute of Environment and Health at (905) 525-9140, ext 27559. Applicants will be notified of admissions decisions in July. Further information is available on our web site (<http://www.mcmaster.ca/mieh>).

**DIPLOMA PROGRAM IN OCCUPATIONAL HEALTH AND SAFETY**

The Program in Occupational Health and Environmental Medicine offers a diploma program designed to provide basic instruction in the principles of occupational health and safety. Students can enrol in the program on a full-time or a part-time basis. The full-time program starts in September catering to those who wish to complete the course in three months. The part-time program is designed for students within commuting distance from Hamilton wishing to continue their normal employment while enrolled in the program. The part-time program also begins in September and continues through to the end of April, one day per week, but includes two extended periods of full-time study each lasting two weeks.

While special consideration will be given to those already in the occupational health field, interested individuals without such experience 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 March 31 each year for the course beginning in September. Applications can be obtained by contacting the Program in Occupational Health and Environmental Medicine at (905) 525-9140, ext. 22333 or emailing Jean Bodnar at [bodnarj@mcmaster.ca](mailto:bodnarj@mcmaster.ca). Further information can be obtained on our web site (<http://www.fhs.mcmaster.ca/pohem>).

# THE BACHELOR OF HEALTH SCIENCES (HONOURS) PROGRAM {2276}

WEB ADDRESS: <http://www.fhs.mcmaster.ca/bhsc>

Michael G. DeGroot Centre for Learning and Discovery, Room 3308  
Ext. 22815

Assistant Dean, Bachelor of Health Sciences (Honours)

D.G. Harnish/B.Sc., M.Sc., Ph.D., 3M Teaching Fellow

Program Administrator

T. M. Basilio

## Program Overview

This program, first offered in September 2000, is an innovative interdisciplinary program in which students take responsibility for their learning and in which there is recognition that both the knowledge and skill sets developed by students are integral parts of preparing for either further study or entry into the workforce. The principles of independent learning and an emphasis on both content and process are central to the provision of education within the Faculty of Health Sciences, and are reflected in this program. In addition, this program reflects the established tradition within the Faculty of understanding health from biological, behavioural and population-based perspectives. The program will draw on individuals from within the Faculty of Health Sciences and the larger university community to provide students with exposure to basic and applied researchers as well as health care practitioners, enabling students to learn about and experience the study of health from these various perspectives. The program will utilize both a small group, inquiry-based format as well as traditional lecture, lab, and tutorial based teaching formats to provide students with a solid knowledge base in health related sciences as well as the skills necessary to critically evaluate and synthesize health related information.

The program is designed to emphasize flexibility, recognizing that students may use this program to prepare for a variety of post graduate options including graduate work in medical sciences, professional schools and entry into the workforce. Beyond the first year students may select to focus on one perspective of health and develop relative expertise in this area, while other students may find that their needs are better met by pursuing a broader based program of study through their senior years.

The program begins in Level I and leads to the degree Bachelor of Health Sciences (Honours) upon successful completion of Level IV. The four-level program offers opportunity for specialization through electives and through individual study or thesis courses.

Registration in Level I of the program is limited to approximately 160 students, with expansion to 180 students at Level II.

## PROGRAM GOALS

The overall goal of the program is to educate students in such a way that upon graduation students have a firm foundation in the health sciences, and the skills necessary to learn and adapt in subsequent educational or occupational environments.

### > KNOWLEDGE

To acquire a broad knowledge base that reflects the Faculty's commitment to studying health from biological, behavioural and population-based perspectives. This should include an understanding of the structure, function and behaviour of the human body, the environmental determinants of health and the ways that these factors interact to result in disease or illness.

### > SKILLS

To acquire and apply the following skills as a student and member of society:

1. Self directed learning skills: The ability to identify gaps in one's own knowledge that prevent solving a problem, to formulate a plan that uses appropriate educational resources, and to obtain and synthesize the information needed to solve that problem.
2. Critical thinking skills: The ability to evaluate the merit of information obtained in various ways and to present information in a way that shows evidence of a critical, reflective approach to information and problems.

3. Synthesizing skills: The ability to understand that most problems can be analyzed from a number of perspectives, to identify these perspectives and to formulate solutions that are comprehensive and adequate reflections of various levels of analysis.
4. Communication skills: the ability to communicate an issue in oral and written form, both effectively and concisely.

### > PERSONAL QUALITIES

Individuals who successfully complete this program should be prepared to accept responsibility for a life-long process of learning and personal and professional growth. They should respect the various approaches to the study of health, and the beliefs associated with these studies, and should be open to new ways of learning and understanding. They should understand that health care is a collaborative process and be capable of working collegially with others, while being prepared to contribute to the well-being of those around them.

## Admission Procedures and Requirements

The following are the requirements for admission in the academic year 2005-2006. Please note that the admission policy may be reviewed annually and the admission requirements may be changed in future years. As places in this program are limited, the admission process is competitive. Possession of the minimum requirements does not guarantee admission to the program.

Application to the B.H.Sc. (Honours) Program of the Faculty of Health Sciences implies acceptance of the admission policies, procedures and methods by which applicants are chosen.

## Admission Procedures

### APPLICANTS FROM ONTARIO SECONDARY SCHOOLS

Applicants currently completing Grade 12 U or M courses apply through the:

**Ontario Universities' Application Centre (OUAC)**

170 Research Lane,

Guelph, ON, N1G 5E2

<http://www.ouac.on.ca>

Application forms are available in secondary school guidance offices. Applications for all studies beginning in September must be received by OUAC no later than **February 10**. Secondary schools will forward mid-term and final transcripts directly to OUAC in support of applications.

Applicants are required to complete a mandatory Supplementary Application Form which must be received in the B.H.Sc. (Honours) Program Office by **February 10, 2006 (for September 2006 admission)**. Supplementary Applications are to be submitted electronically via the web at: [http://www.fhs.mcmaster.ca/bhsc/supp/supp\\_app.htm](http://www.fhs.mcmaster.ca/bhsc/supp/supp_app.htm).

### Applicants with Qualifications Equivalent to Ontario Secondary School

Applicants from other provinces should contact the Ontario Universities' Application Centre (OUAC) for an application package for admission consideration. Please refer to the OUAC address above. Applicants must also have their official transcripts forwarded to the Admissions Office, McMaster University, Gilmour Hall, Room 108, 1280 Main Street West, Hamilton, Ontario, L8S 4L8. Applicants are also required to complete a mandatory Supplementary Application Form which must be received in the B.H.Sc. (Honours) Program Office by **February 10, 2006 (for September 2006 admission)**. Supplementary Applications are to be submitted electronically via the web at: [http://www.fhs.mcmaster.ca/bhsc/supp/supp\\_app.htm](http://www.fhs.mcmaster.ca/bhsc/supp/supp_app.htm).

Applicants from other countries should contact the Office of International Affairs at <http://www.mcmaster.ca/oia> or (905) 525-9140, ext 24211 for details.

### Transfer Applicants

Transfer applicants from McMaster University are required to complete a Program Application for Current Level I Students online via MUGSI during early March to early April and a mandatory Supplementary Application by April 28th.

Applicants from other post-secondary institutions are required to apply through the Ontario Universities' Application Centre (OUAC) (please refer to the OUAC address above) and complete a mandatory Supplementary Application by April 28th. Supplementary Applications are to be submitted electronically via the web at: [http://www.fhs.mcmaster.ca/bhsc/supp/supp\\_app.htm](http://www.fhs.mcmaster.ca/bhsc/supp/supp_app.htm).

## Admission Requirements

### Applicants from Ontario Secondary Schools

The selection method for Ontario Secondary School applicants is by academic qualifications and a mandatory Supplementary Application. The majority of Level I offers of admission are made in Round 2 (mid-late May). A minimum of 88% is required for consideration. In Round 2, the following grade information will be used:

- Semester schools: all final Grade 12 U and/or M courses from first semester or prior years, and second semester mid-term grades for Grade 12 U and/or M courses.
- Non-semester schools: second term grades for full-year Grade 12 U and/or M courses.

Offers based on interim and/or mid-term grades will be conditional upon maintaining satisfactory performance on final grades.

Supplementary Applications are to be submitted electronically via the web at: [http://www.fhs.mcmaster.ca/bhsc/supp/supp\\_app.htm](http://www.fhs.mcmaster.ca/bhsc/supp/supp_app.htm). A review of the mandatory Supplementary Application is a very important component of the admission selection process. Applicants who do not complete the supplementary application are not considered for admission.

### Requirements

The following are the minimum Grade 12 U and/or M requirements under the Ontario Secondary School curriculum:

- English U;
- Biology U;
- Chemistry U;
- Advanced Functions and Introductory Calculus U;
- One U or M course from Social Sciences (Geography, History, Law, Psychology, Sociology) or Humanities (Art, Drama, English, French, Music, other languages);
- One additional U or M course in any other subject area to total six courses.

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

### Applicants with Qualifications Equivalent to Ontario Secondary School

Applicants from other provinces and countries must achieve the equivalent to the qualifications listed in the Grade 12 U or M course requirements in their secondary school graduation year with the exception of out-of-province students in jurisdictions that do not offer the equivalent of Grade 12 Advanced Functions and Introductory Calculus U. If this course is unavailable, a course equivalent to Grade 12 Mathematics of Data Management U is acceptable.

### Transfer Applicants

Transfer applicants will be admitted to the B.H.Sc. (Honours) Program from other programs at McMaster and from other post-secondary institutions. The process will be competitive and will be based on the student's academic qualifications and a Supplementary Application. Enrolment is limited. Students interested in being considered for admission to Level II of the B.H.Sc. (Honours) Program must have completed the equivalent of six units of university Level I Biology and six units of university Level I Chemistry. A cumulative average of at least 7.0 (minimum overall average of B-) will be required for admission.

## Curriculum

### NOTE

While registration in HTH SCI 4X03 will occur in Level IV, students will begin studies in Level I. Detailed course information is available at <http://www.fhs.mcmaster.ca/bhsc/courses/procourses.htm>

### REQUIREMENTS

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

#### LEVEL I: 30 UNITS

- 6 units HTH SCI 1106
- 6 units CHEM 1A03, 1AA3
- 6 units HTH SCI 1E06
- 3 units HTH SCI 1G03
- 1 course SCIENCE 1A00
- 9 units Electives

#### LEVEL II: 30 UNITS

- 3 units HTH SCI 2A03
- 3 units HTH SCI 2E03
- 3 units HTH SCI 2F03
- 3 units HTH SCI 2FF3
- 3 units HTH SCI 2G03
- 3 units HTH SCI 2J03
- 3 units HTH SCI 2K03
- 9 units Electives

#### LEVEL III: 30 UNITS

- 3 units HTH SCI 3E03
- 3 units HTH SCI 3G03
- 3 units HTH SCI 3GG3
- 3 units HTH SCI 3H03
- 18 units Electives

#### LEVEL IV: 30 UNITS

- 6-9 units HTH SCI 4A09 or 4B06
- 3 units HTH SCI 4X03 (See Note above.)
- 18-21 units Electives

## Bursaries

B.H.Sc. (Honours) students are eligible to apply for one of the following bursaries provided they are Canadian citizens and demonstrate financial need. Bursary application forms are available online through MUGSI via *My Financial Aid* menu and the quick link *Bursary Application Form* from mid-October to mid-November. Bursaries are intended to offset provincial financial assistance. The following bursaries have been generously donated to assist Bachelor of Health Sciences (Honours) students in financial need:

- Ruth Murray Memorial B.H.Sc. Bursary
- Loucks Family and Friends B.H.Sc. Bursary
- Ron and Gina Fraser Bursary

There are many other bursaries provided through the central campus bursary program, which will be disbursed to students in the Fall each year. For further information about bursaries, please contact Teresa Basilio, (905) 525-9140 ext. 22786.

## Academic Regulations

### STUDENT ACADEMIC RESPONSIBILITY

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

In addition to the regulations in the *General Academic Regulations* section of this Calendar, the following Program regulations apply.

### MINOR

A minor is an option available to a student enrolled in a four- or five-level program. A minor consists of a minimum of 24 units in the minor subject. No more than six of these units can be at Level I, unless otherwise stated in the specific requirements of the minor. A student is responsible for registering for courses to be applied towards a minor using elective units only. In the case of cross-listed courses, students must ensure that they register in the appropriate subject for the minor designation. Those who have the necessary requirements may apply for recognition of that minor when they graduate. If recognition for a minor is granted, this recognition will be recorded on the student's transcript. Minors cannot be revoked once approved. Students may return for a second degree in the subject in which they have obtained a minor, but only at the Honours level. For further information please refer to *Minors* in the *General Academic Regulations* section in this Calendar.

### CONTINUATION IN THE PROGRAM

Students must have a CA of 6.0 to continue in the program. If a CA of 5.5 to 5.9 is obtained, a student may remain in the program but will be placed on program probation for one reviewing period. A student may be on program probation only once.

If a CA of 3.5 to 5.4 is obtained, a student must transfer to another program for which he/she qualifies, or register in the B.H.Sc. (Honours) Program as an irregular student for one reviewing period. During that period a student cannot take B.H.Sc. (Honours) Program courses. At the end of that period a student may apply for readmission to the B.H.Sc. (Honours) Program.



If a CA of 3.0 to 3.4 is obtained, a student will be placed on academic probation. A student may continue in the program for one reviewing period as an irregular student but cannot take B.H.Sc. (Honours) Program courses. The purpose of this period is to prepare a student for a program outside the B.H.Sc. (Honours) Program. A student may be on academic probation only once.

If a CA of less than 3.0 is obtained, a student may not continue at the University.

#### WORKLOAD

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

#### LETTERS OF PERMISSION

Students enrolled in the B.H.Sc. (Honours) Program may apply to the Office of the Assistant Dean to take courses at another university on a Letter of Permission. Request for Letter of Permission Forms are available from the B.H.Sc. web site at [http://www.fhs.mcmaster.ca/bhsc/pdf\\_files/permission\\_form.pdf](http://www.fhs.mcmaster.ca/bhsc/pdf_files/permission_form.pdf). Students must achieve a grade of at least C- to receive credit.

Students are responsible to forward the transcript from the other university directly to the Assistant Dean (MDCL-3308). If a grade of C- or better is attained, the transcript designation reads *COM* indicating complete, or *NC* indicating not complete if less than a C- grade is attained.

Courses taken at another university cannot be used to satisfy the university's minimum residence requirements, will not be included in the calculation of the Cumulative or Sessional Averages, and therefore cannot be used to raise standing. Students may take up to six units of courses towards a Minor on a Letter of Permission.

Students must be in good standing to be eligible to take courses on a Letter of Permission.

#### LEVEL OF REGISTRATION

A student with six or more units incomplete at any level may proceed to the next level of the program only with the permission of the B.H.Sc. (Honours) Program Office.

#### REINSTATEMENT TO THE B.H.SC. (HONOURS) PROGRAM

A student who *may Not Continue at the University* may apply for reinstatement. Students seeking reinstatement should complete the *Reinstatement Request Form* available at the Office of the Registrar (Gilmour Hall, Room 108). The completed form and the \$50.00 fee must be submitted to the Office of the Registrar by **July 15** for September entry and **November 30** for January entry.

The form should explain the reasons for the student's inadequate performance, corroborated by two letters of support, and should also include relevant documentary evidence such as, for example, a physician's letter documenting an illness that may have impacted upon the student's prior academic performance. Reinstatement cases will be carefully screened and the evidence considered will include the student's academic performance before and following admission to McMaster, as well as the nature of the reasons cited in the letter, the letters of support and the accompanying documentation. **Reinstatement is not guaranteed.**

If students are reinstated to the University, their Cumulative Average will be re-set to 0.0 on zero units, although students may, at the discretion of the Faculty, retain credit for prior work. Following reinstatement, students will be on academic probation and must complete a minimum of 60 units of work after reinstatement to be eligible for graduation with Distinction or other recognition based on the Cumulative Average. If at any review after reinstatement the student's Cumulative Average falls below 3.5, the student will be required to withdraw from the University for a period of at least 12 months.

#### REGISTRATION AND COURSE CHANGES

It is the responsibility of the student to ensure that the program of work undertaken meets the requirements for the degree. It is highly recommended that you review your personal degree audit via MUGSI on the working day following each time you drop or add courses and seek academic counselling from the B.H.Sc. (Honours) Program Office if you have any questions. Dates for final registration and course changes appear in the *Sessional Dates* section of this Calendar and are enforced.

#### SPRING COUNSELLING

Academic counselling is available throughout the year from the B.H.Sc. (Honours) Program Office. It is recommended that students make an appointment with an advisor from this office during the March counselling period. Level I students must indicate their intention to continue in the B.H.Sc. (Honours) Program at that time.

#### GRADUATION

A CA of 5.0 is required for graduation.

Students who successfully complete Level III of the program may request permission from the B.H.Sc. (Honours) Program Office to graduate with a three-level B.H.Sc. degree. Please refer to the *General Academic Regulations* section in this Calendar for additional information related to graduation.

## THE MICHAEL G. DEGROOTE SCHOOL OF MEDICINE

WEB ADDRESS: <http://www.fhs.mcmaster.ca/mdprog/>

Michael G. DeGroot Centre for Learning and Discovery, Room 3101  
Ext. 22141

#### Assistant Dean

A.J. Neville/B.Med.Biol., M.B.Ch.B., M.Ed., M.R.C.P., F.R.C.P., F.R.C.P.C.

#### Program Administrator

C. Oudshoorn

The School of Medicine, established in 1965 and renamed the Michael G. DeGroot School of Medicine in 2004, offers major programs in undergraduate, postgraduate and graduate medical education. The clinical programs use not only the teaching hospital and ambulatory care and research facilities at the McMaster University Medical Centre division of Hamilton Health Sciences, but also the clinical teaching units at several of the major Hamilton hospitals and community health-care centres.

The Undergraduate Medical Program for the MD degree was initiated in 1969, graduating its first students in May 1972. At present, 148 students are admitted to the program each year.

The academic program operates on an 11 months-a-year basis and students qualify for the MD degree at the end of the third academic year. The curriculum has been designed to involve medical students in a broad range of human health problems throughout their education and to prepare them for effective working relationships with patients, colleagues and society.

Postgraduate training programs currently include: Anesthesia, Community Medicine, Critical Care, Emergency Medicine, Family Medicine, Internal Medicine (and subspecialties), Laboratory Medicine (and subspecialties), Obstetrics and Gynecology, Pediatrics (and subspecialties), Psychiatry, Radiology, and Surgery (and subspecialties).

More details on these postgraduate programs are available from the Postgraduate Medical Education Office.

The Northwestern Ontario Medical Program (NOMP) has been developed in cooperation with the Northern Academic Health Science Network (NAHSN) and physicians in towns in Northwestern Ontario. Clinical training opportunities exist in community hospitals throughout Central West Ontario. Excellent clinical experience in these settings is part of both the undergraduate and postgraduate medical programs.

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

#### The Undergraduate Medical Program {7880}

The three-year program in Medicine uses a problem-based approach to learning that should apply throughout the physician's career. The components have been organized in sequential blocks with early exposure to patients and case management.

#### UNDERGRADUATE MD PROGRAM GOALS

The Undergraduate MD Program at McMaster University fosters a cooperative, supportive and respectful environment. The curriculum evolves continuously, responsive to the changing needs of Ontario society, nurturing the development of the following competencies at the time of graduation:

1. Medical expert - students will be able to apply scientific principles from human biology, behaviour and population health to the solution of health problems; they will have the ability to seek out new information and evaluate this information critically.
2. Communicator/Collaborator - students will demonstrate effective communication skills, sensitive to the needs of patients and cognizant of the roles of other members of the health care team in delivering patient care.
3. Advocate/Resource Manager - graduating students will be knowledgeable about the determinants of health and be proactive advocates for their individual patients and for healthy public policy within the context of the health care system.
4. Scholar/Learner - students will be self-directed lifelong learners, whose exposure at McMaster to role models in research and clinical care will encourage them to apply innovative approaches to solving health care problems.
5. Self-reflective Practitioner - graduating students will be expected to have developed an awareness of the influence of their attitudes, values and assumptions, how these affect their practice of medicine and the impact of the practice of medicine on themselves as individuals.

**THE NEW COMPASS CURRICULUM**

In September 2005, the Undergraduate MD Program at McMaster University inaugurated a completely new curriculum called the COMPASS curriculum. The new curriculum focuses on the mastery of fundamental concepts in medicine. It continues the McMaster tradition of problem-based learning but incorporates research findings from cognitive psychology. The curriculum is structured on the integration of critical concepts and each step of the curriculum is based on the growth of important concepts learned previously. Tutorial problems are selected to illustrate these concepts in a clinical setting and when students are exploring tutorial problems, which remain the focus of learning, they will be directed towards asking questions of what and why and how as much as what is the diagnosis. The curriculum is specifically designed with designated curricular time for deliberate practice applying the concepts that have been learned.

The pre-clerkship curriculum is divided into five Medical Foundations as shown in the curriculum outline. A novel feature of the new curriculum is a horizontal Professional Competencies curriculum which runs throughout the three years of the program. As in the Foundations tutorial-based curriculum, students will work in small groups throughout the Professional Competencies curriculum which interdigitates and remains connected to the Foundations curriculum throughout the pre-clerkship and on into the clerkship. The core competencies of the Professional Competencies curriculum are effective communication, lifelong learning, self-awareness and personal growth, moral reasoning and ethical judgment, professionalism and role recognition, social and community context of health care, using science to guide practice, basic clinical skills and clinical reasoning. The Professional Competencies curriculum is also problem-based and includes inter-professional education and competency-based assessment using portfolios and learning plans. Some of the content areas addressed in this component of the curriculum are medical ethics, health economics, communications, etc.

**LEARNING METHODS**

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

The students are presented with a series of tutorial problems, requiring for their solution the understanding of underlying biological, population and behavioural principles, the appropriate collection of data and the critical appraisal of evidence. The faculty function as learning resources or guides. Learning by a process of inquiry is stressed.

The central focus of the program 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 tutorial case and negotiate how they will approach their learning tasks. They then acquire the knowledge and skills to meet the objectives of the Foundation in which they are working. They also learn to work as a team, helping and learning from peers. The study habits and sense of responsibility to self and others provide a basis

for lifelong working and learning habits. Attendance is mandatory. In the Professional Competencies curriculum, students work in groups of 10, with two facilitators, one an MD, the other a non-MD.

Students admitted to the Undergraduate Medical Program have the responsibility and privilege of taking an active role in the planning and evaluation of the education program. Through representation on most policy-making and implementing committees, students can influence decisions in such areas as education, philosophy, faculty recruitment and curriculum design. It is expected that all students will participate in the continuing reappraisal and improvement of the program. Such participation is a hallmark of the Program.

**STUDENT EVALUATION METHODS**

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

One objective evaluation exercise is required in each Foundation. At the completion of the Foundation, 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 Foundation. A copy of the evaluation summary is given to the student and to the student advisor while the original is kept in the student's evaluation file.

In addition to the tutorial-based evaluation, the accumulation of medical knowledge is assessed at regular intervals by means of the Personal Progress Index. This is in a multiple-choice format. Results are given to the students for self-evaluation and, in summary form, to the student advisor. The Personal Progress Index is in addition to, and does not replace, tutorial- and performance-based evaluation. The Program monitors student progress, and responds to students showing persistently low progress.

The acquisition of clinical and professional skills is evaluated by clinical skills preceptors in each Foundation and in the Clerkship, and additionally by Objective Structured Clinical Evaluations (OSCE's) which are run on an annual basis.

The Evaluation Committee has the responsibility of working with the Medical Program to assist with the development and implementation of valid and reliable evaluation methods to provide timely and helpful information to assist students and faculty in assessing progress and performance. Continuation in the Program is subject to satisfactory performance.

**Curriculum Plan - COMPASS Curriculum**

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
								Professional Competencies			
								Medical Foundations 1 Intro to Determinants of Health (First three weeks) Cardio/Resp/Heme			
← Professional Competencies →											
Medical Foundations 2 Homeostasis I Energy Balance (GI, Endo, Nutrition)	Medical Foundations 3 Homeostasis II Renal, Acid Base, BP Reproduction and Pregnancy Genetics I	Medical Foundations 4 Host Defense Neoplasia Genetics II	Elective		Vacation		Medical Foundations 5 Movement Control Interactive and Communicating	Clerkship Intro		Elective	
← Professional Competencies →											
Clerkship Two weeks vacation sometime in June/July											
Professional Competencies											
Elective	Clerkship	SYN 1 & LMCC Lectures									



Orientation



Integration

**MEDICAL FOUNDATION 1:** The first three weeks of this block of curriculum address patterns of determinants of health. The premise of this introductory component of the curriculum is that health care systems do not account for much of the systematic differences in health status within or among populations in advanced industrial economies and that health care students need to understand why people get sick in the first place and why people get well. Social epidemiologists see that causes of ill health in populations are different from causes of ill health in individuals.

After this introductory look at determinants of health, the curriculum moves on to address the first of the major concept themes in the curriculum, that of oxygen supply and exchange. In addressing problems that arise from inspired air right through to oxygen at the cellular level, students will learn much related to the respiratory, hematologic and cardiovascular systems.

**MEDICAL FOUNDATION 2:** This is the first of the two Foundations that addresses aspects of homeostasis, particularly that of energy balance, including issues related to the GI tract, endocrine system and nutrition.

**MEDICAL FOUNDATION 3:** This Foundation covers the second part of homeostasis, including the balance of acid and base, blood pressure and renal function and then goes on to address reproduction and pregnancy and a number of issues in genetics related to reproduction.

**MEDICAL FOUNDATION 4:** This Foundation addresses host defence, which includes immunology and infectious disease, and then moves on to look at neoplasia and the genetics of neoplasia.

**MEDICAL FOUNDATION 5:** This covers the concepts of movement control and interacting and communicating, which includes the locomotor system, the nervous system and behaviour. Aspects of human development will run through all of the five Medical Foundations.

An integration week between each of these Medical Foundations allows students to review on a continuous basis material learned up to each integration point. In this way, students can build their knowledge in a systematic way.

**THE CLERKSHIP:** While the Clerkship will be firmly linked to the pre-clerkship concept-based curriculum and will include continuing delivery of the Professional Competencies curriculum, this is now the time for students to participate in the direct care of patients as they learn about the management of health and illness. The tutorial cases are now real patients or populations. Students become self-sufficient in contemporary medicine, able to sense when today's medicine becomes out-of-date by adopting good habits of learning and assessment. The Clerkship program consists of rotations in medicine, which includes geriatrics, surgery, family medicine, anaesthesia, psychiatry, pediatrics, obstetrics and gynecology and emergency medicine. There is also elective time, one half of which must be spent in clinical activity. The compulsory components of the Clerkship are carried out in teaching practices and in all the teaching hospitals in the Hamilton region; in community hospitals, including those in St. Catharines, Guelph, Brantford, Burlington, Niagara Falls and the Kitchener-Waterloo region, and in association with the Northwest Ontario Medical Program. Students are expected to travel outside the Hamilton area for clerkship rotations. It is anticipated that further rotations will be developed in rural, under-serviced and remote areas. The elective experience can be spent in various activities utilizing local, regional or distant resources.

### ELECTIVES

Elective studies form an integral part of the Curriculum Plan. They may be considered the epitome of self-directed learning, since students must define goals for electives which are appropriate for their own learning objectives. These objectives represent specific areas of educational need or interest. The responsibility for planning electives rests with each student in collaboration with the student advisor.

The three types of electives in the Undergraduate Medical Program are:

1. **Block Electives:** These are blocks of curriculum time dedicated to full-time elective activities. Their satisfactory completion is a mandatory component of the Undergraduate Medical Program. Block Electives occur after Medical Foundation 4, after Medical Foundation 5, during the Clerkship and immediately after the New Year of third year.

2. **Horizontal Electives:** These are undertaken concurrently with other parts of the curriculum. Horizontal electives are entirely voluntary; not being required for completion of the program, but are used to explore or review a specific area of knowledge or practice in more detail. It is particularly important that the student's advisor be involved in all decisions concerning the selection and carrying out of horizontal electives.

3. **Enrichment Electives:** There are arrangements in place for a small number of students from each class to devote longer periods of time (from six to 12 months) to the pursuit of special academic experiences. The intent is to encourage students to explore special *frontier* areas of medicine and health care. Examples include: research training and experience; community health projects; international health opportunities. These experiences are often undertaken following Medical Foundation 5 or during the first half of Clerkship. Some experiences may potentially have partial funding (e.g. by student research fellowships).

### REGULATIONS FOR LICENCE TO PRACTISE

A degree in medicine does not in itself confer the right to practise medicine in any part of Canada. To acquire this right, university graduates in medicine must hold a certificate of the College of Physicians and Surgeons of the province in which they elect to engage in practice. It is expected that students in Ontario medical schools will be required to register with the College of Physicians and Surgeons of Ontario (CPSO) in September 2005 as a result of an agreement between the Council of Faculties of Medicine and CPSO. Students in Ontario medical schools were not required to register as students with the CPSO prior to September 2005. Students intending to practise outside Ontario are urged to consult the licensing body of that province regarding registration.

Licensing requirements vary somewhat among the provinces. The current Ontario requirements for issuance of a Certificate of Registration Authorizing Independent Practice are:

1. Certification by the Royal College of Physicians and Surgeons of Canada or the College of Family Physicians of Canada;
2. Parts I and II of the Medical Council of Canada Qualifying Examination;
3. Canadian Citizenship or Landed Immigrant Status.

In general, students are expected to obtain a certificate from either the College of Family Physicians of Canada or from the Royal College of Physicians and Surgeons of Canada in order to be licensed in the province of Ontario.

### CANADIAN RESIDENT MATCHING SERVICE (CaRMS)

The Matching Service is a clearing-house designed to help final year Canadian medical students obtain the post-MD program of their choice, and to help program directors obtain the students of their choice. It provides an orderly method for students to decide where to train and for program directors to decide which applicants they wish to enrol. For both students and directors, it removes the factors that generate unfair pressures and premature decisions.

Further information is available from Cathy Oudshoorn, MD Program Administrator, (905) 525-9140, ext. 22141.

### BASIC CARDIAC LIFE SUPPORT TRAINING

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

Specific questions can be directed to Cathy Oudshoorn, MD Program Administrator, (905) 525-9140, ext. 22141.

### IMMUNIZATION

The Ontario Public Hospitals Act requires that all persons working in a hospital setting meet certain criteria regarding surveillance for infectious diseases. In order for the requirement of the legislation to be met, once students have been enrolled in the MD Program, they must annually complete Pre-Clinical Communicable Disease Screening through the Student Health Services. More information will be sent to successful applicants prior to registration. Specific questions can be directed to Cathy Oudshoorn, MD Program Administrator, (905) 525-9140, ext. 22141.

## Admission Policy for the Medical Program

The official admission policy and deadlines for the Undergraduate Medical Program for entry in late August 2007 shall be as published in the 2007 Ontario Medical School Information Booklet. This booklet is available through:

### Ontario Medical School Application Service (OMSAS)

170 Research Lane,  
Guelph, Ontario, N1G 5E2  
(519) 823-1940

<http://www.ouac.on.ca/omsas/>

email: [omsas@ouac.on.ca](mailto:omsas@ouac.on.ca)

Please note that the admission policy is reviewed annually, and the admission requirements from the previous year may not apply. Because of the nature of the selection procedures, deadlines are strictly enforced. All relevant documentation must be provided by the specified deadlines. Applicants must follow the instructions precisely. All applicants should be aware that the Admissions Office is committed to the protection of personal information. Use of personal information is strictly limited to the appropriate handling of applications, record-keeping for those admitted to the program, and research intended to further the efficacy of Medical Education Program procedures. **The University reserves the right to change the admission requirements at any time without notice.**

### ADMISSION AND REGISTRATION

Registration in the Undergraduate Medical Program implies acceptance by the student of the objectives of the program, and the methods which evaluate progress toward the achievement of those objectives. The following describes the regulations governing admission and registration in the Undergraduate Medical Program. Candidates applying for entry in 2007 must register their intention to apply with the Ontario Medical School Application Service (OMSAS) by September 15, 2006. The final application deadline is October 2, 2006. The deadline is **STRICTLY** enforced.

### ADMISSION POLICY AND PROCEDURE

The intention of the McMaster Undergraduate Medical Program is to prepare students to become physicians who have the capacity and flexibility to select any area in the broad field of medicine. The applicant is selected with this goal in mind. Faculty, medical students and members of the community are involved in the admissions process.

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

Applications received in the Fall of 2006 are for the academic year commencing late August 2007. Applicants who will not be ready or able to begin studies at that time may withdraw their applications without prejudice. Application fees cannot be refunded.

Registration on the OMSAS web site must be completed by September 15, 2006. Final applications must be submitted by October 2, 2006, 4:30 p.m. EDT. Several hundred applicants will be invited for interviews in Hamilton in March or April. From this group a class of 148 is selected.

All applicants are notified in writing, by McMaster University, of the results of their application. These letters are mailed to applicants no later than the last business day in May, 2007.

### FALSIFICATION OF ADMISSION INFORMATION

Applicants should understand that where it is discovered that any application information is false or misleading, or has been concealed or withheld, the application will be deemed to be invalid. This will result in its immediate rejection. If the applicant has already been admitted and registered as a student, withdrawal from the University may be required. The MD Admissions Committee will normally not allow the applicant to reapply to the Medical Program for seven (7) years.

### ACADEMIC ELIGIBILITY REQUIREMENTS

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

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

**a)** By June 2007, applicants must have completed a minimum of three years of undergraduate work. Only degree credit courses taken at an accredited university will be considered. To satisfy the minimum requirements, academic credentials obtained from a Canadian University must be from an institution that is a member of the Association of Universities and Colleges of Canada (AUCC) or the Council of Ontario Universities (COU). The applicant must be able to demonstrate a high level of academic achievement consistently throughout their undergraduate career. A minimum of 15 full-courses, or 30 half-courses (three years) of Undergraduate university work from a recognized university is required. There is no requirement that applicants carry a full course load. A *year* is the full block of work specified for a year or level of the program as indicated on the university transcript and in the appropriate university calendar. If requested, applicants must provide evidence that this requirement has been met by June 30th of the year of entry. Any discrepancy in interpretation of *full block of work* will be settled using the OMSAS definition.

An applicant who has completed a diploma at a CEGEP must have completed by June 2007, at least two additional full academic years of degree credit work at an accredited university.

Applicants who have completed the requirements for a baccalaureate degree in less than three years by October 2, 2006 are also eligible.

**b)** By October 2, 2006, applicants must have achieved an overall simple average of at least a 3.0 on the OMSAS 4.0 scale. While an overall simple average of at least 3.0 on the OMSAS 4.0 scale meets the minimal criterion for consideration for admission, prospective applicants should be aware that given the rapidly rising level of competition for a limited number of positions, a significantly higher GPA would provide the applicant with a more reasonable chance of admission. Due to changes from year to year in the level of competitiveness, an exact figure in this regard **cannot** be provided.

**c)** Marks on supplementary and summer courses will be included in the grade point average calculation.

**d)** Graduate experience of applicants will be considered in the admission process. Graduate work will not be considered unless it is complete and the degree has been conferred by the application deadline, October 2, 2006. Individual grades received for course work taken as part of a graduate degree will not be included in the calculation of the grade point average.

### ABORIGINAL APPLICANTS

Applicants who wish to be considered under the Aboriginal (Indian, Inuit or Metis, as recognized in the Constitution Act, 1982) application process will also be required to provide a letter of recommendation from their First Nation, Band Council, Tribal Council, Treaty, community or organizational affiliation.

Aboriginal applicants are required to complete the Undergraduate MD Program application package as provided by the Ontario Medical School Application Service (OMSAS).

Applicants must meet the same minimum academic criteria for admission as set out for the general pool of candidates and have an overall GPA of at least 3.0 as calculated on the OMSAS 4.0 scale.

### GEOGRAPHICAL CONSIDERATION

The geographical status of the applicant is determined from the Autobiographic Sketch. Applicants may be asked to provide evidence of geographical status. In selecting applicants for interview, the bona fide place of residence will be based upon: 1) the province of Ontario; or 2) the rest of Canada and other countries. To qualify for Ontario status, an applicant must be a Canadian citizen or permanent resident by October 2, 2006, and have resided for at least three years in the province of Ontario since the age of 14 by the date of possible entry into the program.

### TRANSCRIPT REQUIREMENTS AND TRANSCRIPT REQUEST FORMS (TRF)

All transcripts from Ontario universities must be ordered by OMSAS via the TRF. It is required that applicants will request all other transcript materials prior to September 15, 2006 to allow adequate time for processing requests and for receipt at OMSAS by the prescribed deadline. If an applicant is registered at a post-secondary institution at the time of the application deadline

and that registration is not reported on the transcript, the applicant must arrange to have the Registrar of the institution send a **Statement of Registration** to OMSAS by October 2, 2006. This statement must indicate the in-progress course name(s) and number(s). Evidence to show that applicants requested transcripts and Registrar statements in a timely fashion may be requested by McMaster University. Applicants should retain all receipts and correspondence related to their transcript request.

It is **entirely the applicant's responsibility** to ensure that all of the above are received at OMSAS by October 2, 2006. **Failure by the applicant to meet these requirements will result in the disqualification of the application.**

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

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

**REGISTRAR STATEMENTS**

Please note that the transcripts do not always report the fall/winter/summer 2006/2007 courses in which applicants are registered. In this case, applicants must arrange to have the Registrar of the institution that they are attending send a statement of registration and a list of courses to OMSAS by October 2, 2006. When undergraduate courses are in progress at the time of application and these are not reported on the transcript, applicants must submit a Registrar Statement by October 2, 2006. This is particularly important to establish that the applicant will have satisfied the minimum academic requirement by June 2007. A similar rule applies to graduate work in progress by October 2, 2006.

Graduate students enrolled in a graduate program at the time of application must arrange for their Supervisor, a member of their Supervisory Committee, or the Chair of the Department to provide a letter indicating they are aware the applicant is intending to apply to medical school. Applicants should arrange for this letter to be received at OMSAS by October 2, 2006.

**CREDENTIALING OF NON-CANADIAN GRADES**

Applicants, Canadian or non-Canadian, who have not met the minimum course number criterion utilizing their Canadian data and require inclusion of their international education data to meet the minimum course number criterion are required to have their foreign transcript assessed by World Education Services (WES). Credentialing assessment means converting foreign academic credentials into their Ontario educational equivalents. A course-by-course evaluation along with the calculation of an overall GPA is required. Applicants must have their transcripts sent directly from their university to WES and OMSAS and be able to prove (with dated letter and dated post office receipt) that an attempt was made to have the transcript issued by their university and sent to OMSAS by October 2, 2006. Those requiring WES assessment must also ensure that transcripts are received by WES in time for their assessment to reach OMSAS by October 2, 2006.

**AUTOBIOGRAPHICAL SUBMISSION**

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

The Autobiographical Submission Booklet is included in the on-line application provided by OMSAS.

Detailed instructions with regard to the length and format of responses to the Autobiographical Submission are provided on the OMSAS web site. Those instructions are considered to be part of the Admission Policy and Procedures for the McMaster Undergraduate Medical Program.

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

**ENGLISH LANGUAGE PROFICIENCY**

Each student granted admission to McMaster's Undergraduate Medical Program must be proficient in spoken and written English. All application materials must be submitted in English, including the Autobiographic Sketch, otherwise the application will not proceed further in the admissions process.

Applicants whose first language is not English must satisfy by October 2, 2006, at least one of the following conditions:

1. provide evidence that a score of at least 580 on the paper-based TOEFL or 237 on the computer-based test or the equivalent on other recognized tests has been achieved (McMaster University code is #0936); or
2. have attended an educational institution, where instruction was in English, for at least three years; or
3. have resided for at least four years in an English-speaking country.

**INTERVIEWS**

Several hundred applicants will be invited to Hamilton for an interview. Because the interviews involve many other people, applicants must attend on the date and time specified. Applicants are responsible for their own travel expenses.

The interview process entitled the Multiple Mini Interview (MMI), is primarily composed of a series of ten-minute encounters over a two-hour period.

**SELECTION**

All the information resulting from the process described above, as well as the Confidential Assessments from referees, may be reviewed and used in the final selection.

Applicants will be notified in writing by McMaster University of the results of their application. These letters are mailed to applicants no later than the last business day in May 2007.

Anyone accepting an offer of admission must provide, within two weeks of acceptance, a cheque in the amount of \$1,000 (Canadian), non-refundable, which will subsequently be applied towards tuition.

**APPLICATION FOR DEFERRED REGISTRATION**

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

**SPECIAL APPLICANTS**

The Special Applicant Pool is on hold this admission cycle.

**INTERNATIONAL APPLICANT POOL**

The International Applicant Pool is on hold this admissions cycle. Interested International applicants may still apply through the regular pool.

**ADVANCED STANDING/TRANSFER**

The structure of the McMaster Program requires that all students begin in Medical Foundation 1. There is no provision for advanced standing or transfer into the program.

**UNSUCCESSFUL APPLICANTS**

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

**RETENTION OF DOCUMENTS**

All documentation submitted in support of an application for admission becomes the property of the University and is not returnable. If an applicant is not accepted, or fails to enroll following acceptance, the identifiable documentation will be destroyed at the end of the admissions cycle in keeping with university policy.

**Financial Information**

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

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

In 2005-2006, the academic fees (tuition and student supplementary fees) for a student in the McMaster Undergraduate Medical Program were:

**CANADIAN CITIZENS AND LANDED IMMIGRANTS**

Year I .....	\$15,050.54
Year II .....	\$15,050.54
Year III .....	\$15,050.54

In addition, the cost of books and diagnostic equipment for a Year I student was approximately \$2,994. 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 Program (OSAP). To be eligible a student must be a Canadian Citizen or permanent resident of Canada and fulfill certain requirements for residency in Ontario. Students who are legal residents of other provinces need to check with their respective provincial financial aid programs about eligibility for support prior to acceptance. In addition, the following sources of funding are available to undergraduate medical students:

#### BURSARIES

There is an **extensive** bursary program which has been developed by the Faculty of Health Sciences and the central University campus. Bursaries are awarded to students who are Canadian citizens and demonstrate financial need. All bursaries are distributed during the late fall of each year. Bursaries are intended to offset provincial financial assistance and cannot supplement the full cost of medical education.

The following list of bursaries is available to Undergraduate Medical Students who are Canadian citizens. The following bursaries have been generously donated to assist medical students in financial need:

- Adraches (Archie) Yian Moughalian Memorial Bursary
- Altana Pharma Family Medicine Bursary
- Alumni MD Branch Council Bursary
- Andrew Talalla Memorial Bursary
- Burlington Medical Society Bursary
- Cholowsky Family Multiple Sclerosis Bursary
- Daniel and Natalie Strub Bursary
- Daniel Giannini Bursary
- Douglas Ian Brown Bursary
- Dr. Leo Celini Bursary
- Gail Henning Memorial Bursary
- Harold O. Stolberg Bursary
- Henry and Sylvia Wong Bursary
- J.W. Harry Butcher Estate Bursary
- Medical Student Opportunity Trust Bursary
- Michael G. DeGroot School of Medicine Bursary
- Ontario Medical Student Bursary
- Ragonetti Family Bursary
- Ripley Estate Bursaries
- Ron and Gina Fraser Medical Bursary
- Ronald Pye Bursary
- Ruth Tomlinson Memorial Bursaries
- Schenkel Medical Assistance Fund
- Scotiabank Breast Cancer Scholarship
- Scotiabank McMaster Medical Scholarship
- Scotiabank Breast Cancer Scholarship
- UCO Ferwerda Humanitarian Memorial Bursary
- William A. Vanderburgh Estate Bursary

There are many other bursaries provided through the central campus bursary program, which will be disbursed to students in the fall each year. Information about each award, criteria and amounts will be provided to all medical students each fall. For further information about bursaries, please contact Cathy Oudshoorn, (905) 525-9140, ext. 22141.

#### ACADEMIC AWARDS

The Undergraduate Medical Program has in the past indicated its preparedness to recognize students who distinguish themselves and the University by virtue of their scholarship and their contribution to the university community. At the same time, the School has indicated that the terms of reference for such awards should neither compromise the spirit of cooperative scholarship which characterizes its MD Program 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 Program for purposes of recognizing scholastic merit among

medical students. In order to meet the requirements of these awards within the spirit of cooperative scholarship, these funds are available to support individual students in their pursuit of specific elective projects or activities.

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

#### ABBOTT MEMORIAL SCHOLARSHIP LOAN FUND

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

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

#### MEDICAL OFFICER TRAINING PLAN

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

Further information on this program 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 55 Bay Street North. Telephone (905) 521-0928.

#### LOAN FUNDS

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

For further information about loans contact Cathy Oudshoorn, (905) 525-9140, ext. 22141.

## B.H.SC. MIDWIFERY PROGRAM {6501}

Web Address: <http://www.fhs.mcmaster.ca/midwifery/>

Michael G. DeGroot Centre for Learning and Discovery, Room 3103  
Ext. 26654

#### Assistant Dean

K. Kaufman/B.S.N., M.S., Dr.P.H., R.M.

#### Program Administrator

C. Fernie

### Program Overview

The Midwifery Education Program at McMaster University leads to a Bachelor of Health Sciences (B.H.Sc.) in Midwifery. The program reflects the philosophy of midwifery in Ontario. Midwifery is potentially one of the most important components of women's health care in Ontario. Midwives' expertise in the care of normal pregnancy and childbirth arises from their understanding of child-bearing as a social, cultural and biological process and from their ability to competently exercise clinical skills and decision-making. Midwifery education provides the base for sound professional practice. The educational program is an integral part of the evolution of the profession of midwifery in Ontario and Canada. The program helps create future leaders and teachers. It assures practice and teaching as a continuum so that learning environments become available across Ontario. Midwives, as primary health care providers, should have well-developed interpersonal skills.

They must be competent in areas of health education, counselling and interprofessional collaboration. Applicants to the program will be assessed for their ability to exhibit and further develop these

important personal/professional qualities. Midwives provide care and advice to women during pregnancy, labour and the postpartum period; conduct deliveries and provide care for newborn babies. The Midwifery Education Program is a collaborative venture shared by McMaster, Ryerson and Laurentian Universities.

## Curriculum

The four year program which spans nine terms, includes courses from basic sciences, social sciences, health sciences, women's studies and electives, in addition to clinical courses. A variety of course formats include distance learning through teleconferencing and print-based self-study courses. Teaching methods include lecture format, small group tutorials, self-directed activities and practical learning experiences.

### INTENSIVES

Intensives provide the opportunity for the students to group together for several days for workshops/clinical skills sessions. All intensives are held at McMaster University and generally last one week. In Level IV, the intensive session includes students from all three institutions, intensives are part of the curriculum and therefore, attendance is mandatory.

### CLINICAL COURSES

Clinical courses consist of a clinical placement and concurrent problem-based weekly tutorials. Students are assigned to a midwifery practice for an extended period of time to ensure continuity of care to expectant mothers and supervision from a clinical preceptor. Throughout the program, students will be placed in more than one midwifery practice and will gain clinical experience in a hospital setting and with an obstetrician. Efforts are made to assist students in being assigned to the clinical practice of their choice, however, due to limited placements, **students may have to relocate or travel for clinical placements. Travel and living expenses are the responsibility of the student.**

### REQUIREMENTS

133 units total (Levels I to IV)

#### LEVEL I: 31 UNITS

- 6 units HTH SCI 1D06\*
- 6 units HTH SCI 1C06\*
- 6 units WOMEN ST 1A03\*, 1AA3\* (or 1A06\*)
- 4 units HTH SCI 3C04 (Term 2)
- 3 units MIDWIF 1D03 (Term 1)
- 3 units HTH SCI 1J03\* (Term 1)
- 3 units Electives from the Faculties of Health Sciences, Humanities, or Social Sciences (Term 2)\*

#### LEVEL II: 30 UNITS (2006-2007 ONLY)

- 3 units HTH SCI 2M03 (Term 1)
- 15 units MIDWIF 2A03, 2E12 (Term 2)
- 3 units MIDWIF 2F03 (Term 1)
- 9 units Electives from the Faculties of Health Sciences, Humanities, Social Sciences (Term 1)\*

#### LEVEL II: 30 UNITS (EFFECTIVE 2007-2008)

- 3 units HTH SCI 2M03 (Term 1)
- 15 units MIDWIF 2H15 (Term 2)
- 3 units MIDWIF 2F03 (Term 1)
- 3 units MIDWIF 2G03 (Term 1)
- 6 units Electives from the Faculties of Health Sciences, Humanities, Social Sciences (Term 1)\*

#### LEVEL III: 42 UNITS

- 15 units MIDWIF 3G15 (Term 1)
- 9 units MIDWIF 3A09 (Term 2)
- 3 units MIDWIF 3F03\* (Term 2)
- 15 units MIDWIF 3H15 (Term 3)

#### LEVEL IV: 30 UNITS

- 15 units MIDWIF 4A15 (Term 1)
- 15 units MIDWIF 4B15 (Term 2)

\*Transfer credit may be available.

## Admission Procedures and Requirements

Admission into the Midwifery Education Program is reserved for candidates who meet all requirements and who satisfy the academic regulations of the university. It is recommended that applicants have completed at least one year of university studies prior

to application. All certified transcripts from secondary and post secondary universities previously attended must be forwarded to the Office of the Registrar. The application deadline is February 1 each year. Applications received after February 1 will not be considered. Please note that required courses must be completed at the time of application (excluding current High School students). **All documents submitted with the application become the property of the university. Successful applications remain on file.**

**All applicants must have completed the following course requirements in order to be considered for admission:**

A full course credit in:

1. Science (Biology or Chemistry - both strongly recommended)
2. English
3. a Social Science (Anthropology, Family Studies, Geography, History, Law, Psychology, Sociology)  
70% in each course is required.

It is recognized that applicants apply to the program with varying educational backgrounds. Applicants can fulfill the courses required from the following educational backgrounds:

#### Applicants Directly from Ontario Secondary Schools

The following are the minimum Grade 12 U and M requirements under the Ontario Secondary School curriculum:

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

#### Prior/Current College Diploma Studies

Applicants with Ontario College Studies or equivalent must have full courses that are equivalent to the Grade 12 U or M courses in the three required subjects as stated above. **In addition, a minimum of 70% must be obtained in each of the three required subject areas and a minimum overall average of 70% in college work must be obtained.** Applicants with CEGEP background should consult the *Ontario Secondary School Course Equivalents Chart* found in the *Admission Requirements* section of this Calendar.

#### Prior/Current University Students

Applicants with prior or current university studies, at the time of application must have Grade 12 U or M courses from high school or equivalent university courses in **three** of the required subject areas noted above. Students must have 70% in each of the **three** required subjects. In addition, the applicant's overall average from the **ten best most recent course work** must be a minimum of 70%.

#### Mature Students

Mature students must have completed the three required subjects as noted in the basic requirements, and have obtained a minimum grade of 70% in **each** course. Students who do not meet the basic academic requirements as listed below are advised to take Grade 12 U or M courses or introductory university level courses. *The two years absence from formal studies clause may be waived for those who take Grade 12 or U or M course upgrading.* The following University requirements for Mature Students also apply. A student must:

1. be at least 21 years old, or will be prior to the first day of classes for the session to which application is made;
2. have not attended secondary school for at least two years;
3. have never attended university;
4. have not been enrolled in a college diploma program within the last five years or have completed less than one year of college work.

#### Prior Midwifery Education or Experience

For applicants with prior Midwifery Education or Experience, Ryerson University, through the division of Continuing Education, offers the International Midwifery Pre-Registration Program. The purpose of this program is to provide internationally educated midwives with assessment and education which will prepare them to register as midwives in Ontario.

**Aboriginal Applicants**

Applicants who wish to be considered under the Aboriginal (Indian, Inuit or Metis, as recognized in the Constitution Act, 1982) application process will also be required to provide a letter of recommendation from their First Nation, Band Council, Tribal Council, Treaty, community or organizational affiliation.

Aboriginal applicants will also be required to apply to the Ontario Universities Application Centre (<http://www.ouac.on.ca>) and complete a Midwifery on-line application form by February 1 of the year in which they are applying. All appropriate transcripts from secondary and post secondary education must be submitted to the Office of the Registrar by February 1.

Applicants must meet the same minimum academic criteria for admission as set out for the general pool of candidates.

**Transfer Credit**

Students with previous university education may be eligible for transfer credits for non-clinical courses in Levels I and II. Transfer credits will be determined on an individual basis. Please see *Credit in Courses by Special Assessment* in the *Admission Requirements* section of this Calendar.

**Selection Procedure**

The Midwifery Education Program has a limited number of placements and the admission process is very competitive. The admission requirements stated are minimum requirements. Preference will be given to applicants with the best qualifications. The actual standing required for admission in recent years has been an average in the low to mid 80's. The program has a two step selection procedure:

1. Assessment of academic eligibility.
2. Admission interview — 60 applicants will be invited to Hamilton for an interview. The interview process will consist of nine ten-minute interviews. Candidates must attend on the date and at the time specified.

Applicants must be successful at stage one to be considered for stage two.

Offers of admission will be made following the interview process.

Offers based on interim grades will be conditional upon maintaining satisfactory performance on final grades.

**UNSUCCESSFUL APPLICANTS**

Applications are not held over from one year to another. If an unsuccessful applicant wishes to reapply to the Midwifery Education Program, a new application, including transcripts and supplementary materials must be submitted.

**APPLICATION FOR DEFERRED REGISTRATION**

Deferred registrations are not normally granted in the Midwifery Education Program. Under **exceptional circumstances**, applications for deferral will be reviewed by the Admissions Committee for those candidates offered a place in the program. The application of deferral must be submitted in writing no later than August 1 of the year for which deferral is requested. If granted, registration may be deferred for one year only.

**APPLICATION DEADLINE**

Submission of completed application forms to the Ontario Universities' Application Centre and an on-line application to the program must be received by the University no later than **February 1** of the year in which registration is expected. All certified transcripts from secondary and post secondary education previously attended must be forwarded to the Office of the Registrar and received by February 1. Applications received after February 1 will not be considered.

**Financial Information**

In 2005-2006 the tuition fees for a student in the Midwifery Education Program were \$4,234.48 for an eight month academic term. Supplementary fees are estimated at \$250.00 per year.

Financial assistance is available from the federal and provincial governments through the Ontario Student Assistance Program (OSAP). Students intending to apply for OSAP may begin their application process to OSAP once they are notified about receiving an interview. The final status of an 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 during the program. The program strongly suggests that students join both the College of Midwives Subscriber Status and the Association of Ontario Midwives as a student member.

**Academic Regulations****STUDENT ACADEMIC RESPONSIBILITY**

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

*In addition to meeting the General Academic Regulations of the University, students enrolled in the Midwifery Education Program will be subject to the following program regulations.*

The Midwifery Education Program reserves the right, at any point during the term, to remove a student from a clinical placement or laboratory setting if the student exhibits unsafe clinical practice or behaviour that places clients or others at risk and/or violates the Midwifery Act of Ontario. Such removal will result in the student receiving an F grade and may result in dismissal from the Program.

**CONTINUATION IN THE PROGRAM**

All courses (clinical and non-clinical) with the subject abbreviation MIDWIF and HTH SCI (as outlined in the Curriculum Plan) are required for the degree. Students are reviewed at the end of each term. Students must achieve a Cumulative Average (CA) of at least 6.0 in **all graded courses** and achieve a Pass/Satisfactory performance in all clinical courses at **each** review to continue in Good Standing in the program.

**GOOD STANDING**

A student is considered to be in Good Standing when all of the following criteria are met. The student must:

1. achieve a Cumulative Average (CA) of at least 6.0 in all graded courses;
2. **2006-2007 Only:** achieve a minimum grade of C- in HTH SCI 1D06; and a minimum grade of B- in MIDWIF 1D03;  
**Effective 2007-2008:** achieve a minimum grade of C- in HTH SCI 1D06; and a minimum grade of B- in MIDWIF 1D03 and 2G03;
3. achieve a minimum grade of C- in HTH SCI 1C06, 1J03, 2M03, 3C04 and MIDWIF 2F03, with the exception that a grade of D+ or D is acceptable in one of those courses;
4. achieve a *Pass/Satisfactory* performance in all clinical courses;
5. receive a passing grade (minimum D- in graded courses other than those stated in 2. and 3. above).

**PROBATION**

A student will be placed on **probation** if any of the following criteria is met. The student:

1. obtains a CA less than 6.0 in graded courses;
2. **2006-2007 Only:** obtains a grade of less than C- in HTH SCI 1D06 or a grade less than B- in MIDWIF 1D03;  
**Effective 2007-2008:** obtains a grade of less than C- in HTH SCI 1D06 or a grade of less than B- in MIDWIF 1D03 and 2G03;
3. obtains a grade of less than C- in **more than one** of HTH SCI 1C06, 1J03, 2M03, 3C04 and MIDWIF 2F03;
4. receives an F or a *Fail/Unsatisfactory* in any clinical course;
5. fails any one course.

If a student receives a CA of less than 6.0 (5.5 to 5.9), he/she may remain in the program, but will be placed on program probation for one reviewing period. A student may be on program probation only once. A student on probation at the completion of Level II, Fall term, must undertake remedial course work and remove the probationary status before proceeding to MIDWIF 2A03 and 2E12 (2006-2007 only) or MIDWIF 2H15 (effective 2007-2008). If a student receives a CA of 3.5 - 5.4, he/she may transfer to another program for which he/she qualifies.

A student must obtain a minimum pass grade (D-) except in courses with a higher minimum grade requirement (see items 2. and 3. under *Good Standing* above) when a course is repeated and receive an overall CA of 6.0 at the completion of a probation period. Planned course work for any student on probation must be approved by the Academic Review Committee.

**REQUIRED TO WITHDRAW**

A student will be required to **withdraw** from the program if any of the following criteria is met. The student:

1. obtains a Cumulative Average (CA) of less than 6.0 at the end of a probation period;
2. fails two courses in an academic year;
3. fails any two clinical course at any time throughout the program;



4. **2006-2007 Only:** fails the second attempt at a course or receives a grade in the second attempt below C- for any of HTH SCI 1C06, 1D06, 1J03, 2M03, 3C04, MIDWIF 2F03 or B- for MIDWIF 1D03;  
**Effective 2007-2008:** fails the second attempt at a course or receives a grade in the second attempt below C- for any of HTH SCI 1C06, 1D06, 1J03, 2M03, 3C04, MIDWIF 2F03 or below B- for either of MIDWIF 1D03 or 2G03;
5. fails to complete program requirements for graduation within the maximum allowable time (five years);

#### **DEANS' HONOUR LIST, GRADUATION WITH DISTINCTION, PROVOST'S HONOUR ROLL**

Students will be evaluated for standing on the Deans' Honour List, Graduation with Distinction and the Provost's Honour Roll only upon completion of the program. Students will be named to the Deans' Honour List and will Graduate with Distinction if they receive no failing, provisional or unsatisfactory grades in any courses throughout the program and achieve a CA of 9.5, on graded courses taken throughout the program.

For the Provost's Honour Roll, students will be assessed if they have a CA of 12.0 and have not received a failing, provisional or unsatisfactory grade in any course throughout the program.

#### **GRADUATION REQUIREMENTS**

A student is eligible for **graduation** when all of the following criteria are met. The student must:

- 2006-2007 Only:** complete all required courses, including electives, with a CA of at least 6.0 including a minimum grade of C- in HTH SCI 1D06 and a minimum grade of B- in MIDWIF 1D03;  
**Effective 2007-2008:** complete all required courses, including electives, with a CA of at least 6.0 including a minimum grade of C- in HTH SCI 1D06 and a minimum grade of B- in MIDWIF 1D03 or 2G03;
- complete HTH SCI 1C06, 1J03, 2M03, 3C04, MIDWIF 2F03 with a minimum grade of C- with the exception of a D+ or D in one of those courses;
- complete all clinical courses with a Pass/Satisfactory grade;
- complete all courses for the degree within five years.

The practice of midwifery is regulated by the College of Midwives under the Midwifery Act, 1991 and the Regulated Health Professions Act, 1991.

The Midwifery Education Program monitors and documents students' clinical experience in order that students meet minimum practice requirements to be eligible for registration to practice. Graduation from the Midwifery Education Program does not guarantee registration with the College of Midwives of Ontario. All applicants to the College must meet additional registration requirements. New graduates are required to work in an established practice for their first year of registration.

Regulatory requirements are subject to change from time to time.

## **THE SCHOOL OF NURSING**

**WEB ADDRESS:** <http://www.fhs.mcmaster.ca/nursing>

Health Sciences Centre, Room 1M7

Ext. 22694

#### **Assistant Dean, Undergraduate Nursing Education**

Janet Landeen/B.Sc.N., M.Ed., Ph.D., R.N.

#### **Program Administrator**

A. Cholewka/B.A.

#### **Coordinator of Studies**

M. Parsons/B.N.Sc., M.H.Sc., R.N.

#### **Student Advisors**

E. Reeves (McMaster site)

M. Davis (Conestoga and Mohawk sites)

In 1942, McMaster University began its first program in Nursing, a cooperative effort between the University and the Hamilton General Hospital. Since the establishment of McMaster University's School of Nursing in 1946, students have received a Bachelor of Science in Nursing degree upon graduation. The program 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. Program was introduced. In 2005 the Post Diploma Registered Practical Nurse Stream began. These categories of admission were created to provide Diploma Registered Nurses and Diploma Registered Practical Nurses with the opportunity to work towards a B.Sc.N. degree.

McMaster University is one of ten Ontario universities collaborating with the Council of Ontario University Programs in Nursing to offer a Primary Health Care Nurse Practitioner Program. The program, which commenced in September 1995, enabled diploma-prepared Nursing students to obtain a B.Sc.N. degree and a Nurse Practitioner Certificate. The final intake for diploma-prepared nurses was September 2004. Those students who hold a Nursing Baccalaureate degree receive the Nurse Practitioner certificate upon completion of the program.

In 1994, the first Ph.D. candidates entered the Clinical Health Sciences (Nursing) graduate program which is offered by the School of Graduate Studies through the Faculty of Health Sciences. M.Sc. candidates entered in the fall term of 1995. All enquiries about the Nursing graduate program should be directed to the Graduate Programs Office, HSC-3N10, (905) 525-9140, ext. 22983.

Information Sessions for high school students are hosted by the Student Liaison Office during the school year. For more details about these sessions or to register for a visit, please call the Office of the Registrar at (905) 525-4600. Applicants not applying directly from high school who require an application package should call (905) 525-9140, ext. 2232.

The provincial legislation on entry to practice requires all new graduating nurses to have a baccalaureate degree in Nursing. In response, McMaster University, Mohawk College and Conestoga College have formed an educational consortium to offer the McMaster Nursing degree through the McMaster Mohawk Conestoga B.Sc.N. Program. Students wishing to register in the B.Sc.N. Program at McMaster should pay particular attention to the information which immediately follows this introduction. Those students who wish to register in the B.Sc.N. Program at either Mohawk or Conestoga College should refer to the *Collaborative B.Sc.N. (D) Stream* references throughout the *School of Nursing* section of the Calendar. Students are also advised to contact the Office of the Registrar at either Mohawk or Conestoga College for additional information.

### **The B.Sc.N. Program**

The B.Sc.N. Program promotes the development of nursing as a caring, client-centred, scientific and humanistic profession. With an emphasis on problem-based, small group, self-directed learning, the program provides a general baccalaureate education in nursing for the preparation of professional nurses who will practise in a variety of health-care settings. Central to our mission is the preparation of nurses who will work to enhance the quality of health of individuals, families, communities and society. In fulfilling its mission, the B.Sc.N. Program promotes skills in its graduates to prepare them for life-long, self-directed learning, critical thinking, advocacy and collective action.

As students progress in the B.Sc.N. Program, they will find an increasing emphasis on interpersonal and communication skills, independent learning, and leadership qualities. Applicants should evaluate their own potential for developing abilities to interact with others and to assume leadership roles. Learning is a process of inquiry, a skill to develop as a life-long activity in an environment conducive to openness and sharing among faculty and students. Emphasis on small group tutorials and self-directed learning promotes the development of self-evaluation skills and critical thinking abilities. Extensive multimedia, laboratory and library resources support a belief in the importance of independent study. Students apply concepts from Nursing and related disciplines to their experiences in classroom and clinical settings. (Opportunities exist for international and outpost clinical practice experiences.)

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

**GOALS**

Graduates of the McMaster University B.Sc.N. Program will be prepared to provide, facilitate and promote professional practice in a variety of health care contexts and with diverse clients (individual, family, group, communities, populations) who have stable and unstable outcomes and multi-factorial influences (internal and external) on their health status within an ethic of professional caring. Graduates will:

1. Provide nursing care reflective of primary health care principles.
2. Demonstrate sensitivity to client diversity and recognize the influence this has on professional and personal meaning, clients' health and healing practices.
3. Demonstrate ability to establish, maintain and terminate therapeutic relationships with clients.
4. Demonstrate critical thinking in the assessment, planning and evaluation of client care through the synthesis and application of:
  - Validated knowledge and theories from nursing, the humanities, biological, psychological, social and public health sciences
  - Knowledge of the health care system.
  - Knowledge of the client context
  - Knowledge of self.
5. Engage in effective decision-making to set goals and establish priorities, going beyond the application of general rules to the application of unique combinations of principles and concepts.
6. Provide safe, ethical, competent care within established professional standards and guidelines.
7. Assess, plan and evaluate programs of care with clients and an interprofessional health care team and with partners from multiple sectors (i.e. education, social services, politics, etc.).
8. Demonstrate leadership and beginning competencies in managing a health care team, managing resources and coordinating health care.
9. Access and manage relevant information, required for professional caring, through the effective use of information technology.
10. Contribute to the body of nursing knowledge through demonstrating an inquiring approach to practice, identifying research questions, applying research findings, participating in research activities, and sharing research results with others.
11. Identify the need for appropriate change, create a climate for adapting to change in self and others, and contribute to effecting and evaluating change.
12. Participate in developing and implementing strategies for advocacy and political and social action on behalf of and with clients, and the nursing profession.
13. Recognize, develop and maintain the personal characteristics associated with professionalism:
  - awareness of competencies and limitations
  - accountability for own actions
  - commitment to the search for new knowledge
  - advocacy for the voice of professional nursing
  - commitment to self-directed, life long learning
  - critical self-reflection and reflective practice.

**Admission Policy and Procedure****ADMISSION POLICY**

**Enrolment in these programs is limited.** Possession of the minimum admission requirements does not guarantee an offer of admission.

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

There are four streams of study leading to the completion of the B.Sc.N degree. The Basic (A) Stream and Collaborative B.Sc.N. (D) Stream require four years of study, and are available to those applying directly from an Ontario secondary school with Grade 12 U or M courses; to those who have qualifications equivalent to Grade 12 U or M courses; and to applicants with other qualifications who meet the admission requirements.

The Post Diploma (B) Stream is available to Diploma Registered Nurses only. Graduates of an approved diploma nursing program who are admitted to the B.Sc.N. Program are granted advanced credit and may complete the program in five academic terms if taken on a full-time basis.

The Post Diploma (E) Stream is available to Diploma Prepared Registered Practical Nurses only. Graduates of an approved Diploma Practical Nurse Program who are admitted are granted 30 units of advanced credit. Students may complete the program in three academic years if taken on a full-time basis.

The requirements and application deadlines vary depending on the applicant's background. An applicant supplying documentation or evidence which, at the time or subsequently, is found to be falsified will be withdrawn from consideration. Any student admitted to the program having submitted false documentation will be withdrawn.

Detailed medical information, including a record of completion of required immunizations, will be required upon acceptance into all Streams of the B.Sc.N. program and the Ontario Primary Healthcare Nurse Practitioner Certificate Program and annually thereafter. Evidence of CPR certification must also be presented annually: Basic Cardiac Life Support Certificate (BCLS) equivalent to the Heart and Stroke Foundation's Level C, Basic Rescuer (for Targeted Responder).

The School of Nursing is committed to equality of opportunity. Disability is not grounds for exclusion from the School. Every attempt will be made to remove barriers and create accommodation provided any accommodation maintains the same academic and clinical standards for all students and does not require significant program change. Applicants should refer to the *School of Nursing Admissions Procedure and Guidelines for Applicants with Disability* available from the School of Nursing Admissions Office (905) 525-9140, ext. 22232 and consult the Centre for Student Development at (905) 525-9140, ext. 24711 or TTY (905) 528-4307.

**ADMISSION PROCEDURE****Applicants from Ontario Secondary Schools (A) Stream**

Applicants currently completing Grade 12 U or M courses apply through the Ontario Universities' Application Centre (OUAC). (See address below.) Application forms are available in secondary school guidance offices or on-line at <http://www.ouac.on.ca/101>. Applications for all studies beginning in September must be received by OUAC no later than **May 1**. Secondary schools will forward mid-term and final transcripts directly to OUAC in support of applications.

**Applicants With Qualifications Equivalent to Ontario Secondary School (A) Stream**

Applicants should contact the Ontario Universities' Application Centre (OUAC) for an application package and return it to them by May 1, to be considered for admission. (See address below.) Application may be made on-line at <http://compass.ouac.on.ca>. Applicants must also have official transcripts forwarded from their secondary school to the McMaster B.Sc.N. Program by **May 1**.

Return to:

**Ontario Universities' Application Centre (OUAC)**  
170 Research Lane,  
Guelph, ON, N1G 5E2  
<http://www.ouac.on.ca>

**Applicants with Other Qualifications (A) and Post Diploma Applicants (B) and (E) Streams**

Applicants apply online to the Ontario Universities' Application Centre (OUAC) at [www.ouac.on.ca](http://www.ouac.on.ca). They must download an application package from <http://www.fhs.mcmaster.ca/nursing/> or contact the Admissions Coordinator (Nursing).

Applications for all studies beginning in September must be received by February 15.

**Ontario Universities' Application Centre (OUAC)**  
170 Research Lane  
Guelph, ON, N1G 5E2  
<http://www.ouac.on.ca>

**Admissions Coordinator (Nursing)**  
McMaster University, HSC-1M7  
1200 Main Street West  
Hamilton, ON, L8N 3Z5

**Collaborative B.Sc.N. Program (D) Stream {Mohawk and Conestoga Sites}**

Applicants must contact the Ontario College Application Services (OCAS) for an application package. Applicants should also forward all official academic documentation, including all university transcripts if applicable, to the College they wish to attend.

Return to:

**Ontario College Application Services (OCAS)**  
370 Speedvale Ave. W.  
P.O. Box 810  
Guelph, ON N1H 6M4  
<http://www.ocas.on.ca>

## Admission Requirements

A student who plans to enter the Undergraduate Nursing Program may qualify under one of the categories described below.

### I. BASIC (A) STREAM

#### Applicants Directly from Ontario Secondary Schools

**Note:** Normally to be considered in this category, applicants to the program must:

1. apply within two years of completion of the Grade 12 U or M course requirements and
2. not have attended any post secondary educational program during the two-year period.

The selection method for Ontario secondary school applicants is by academic qualifications. Early conditional offers of admission are made in late March or early April based on the following:

- a) six appropriate midterm/interim Grade 12 U or M course grades, or
  - b) at least three final Grade 12 U or M course grades plus enrolment in the appropriate three additional Grade 12 U or M courses.
- Offers based on interim grades will be conditional upon maintaining satisfactory performance on final grades.

#### REQUIREMENTS

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

1. English U;
2. One of Geometry and Discrete Mathematics U, Advanced Functions and Introductory Calculus U, or Mathematics of Data Management U;
3. Two of Biology U, Chemistry U or Physics U (Biology U is preferred.);
4. Two additional Grade 12 U or M courses to total six.

**Note: In 2007-2008 Biology U and Chemistry U will be required.**

#### Applicants with Qualifications Equivalent to Ontario Secondary School

Applicants from other provinces and countries must achieve the equivalent to the qualifications listed above in their secondary school graduation year.

#### Applicants with Other Qualifications

For applicants not applying directly from Secondary School or without the necessary Grade 12 U or M or equivalents, selection is based on academic qualifications and a rating obtained on a questionnaire. The response to the questionnaire is assessed by teams normally representing the faculty, the students or alumni, and the community.

Applicants may be invited to a personal interview at McMaster. Applicants are responsible for their own travel expenses. Failure to attend the interview will result in cancellation of the application. The scores awarded by the assessors are final.

Applicants will be informed of the admission decision by mid-June. Where courses are in progress at the time of admission, the offer of admission will be conditional upon the applicant achieving a final Cumulative Average of B- in the required course work.

#### Applicants with a University Degree or with University Degree Credits

Applicants normally should:

1. achieve a Cumulative Average of at least B- in all university degree credit courses taken. A minimum of 12 units or equivalent are required. (These courses may be taken as a full-time or part-time student. University correspondence degree courses are acceptable.)
2. Apply online to OUAC at [www.ouac.on.ca](http://www.ouac.on.ca) using Form 105D and pay the required fees by February 15;
3. submit the completed supplementary application and four copies of the response to the questionnaire provided in the application package and all transcripts to McMaster by February 15.

**Note:** University degree credit courses completed prior to admission will be assessed for advanced credit by the Office of the Coordinator of Studies following admission to the program.

#### Applicants From a Pre Health Sciences Program

Applicants who have successfully completed a pre health sciences program at an Ontario College of Applied Arts and Technology (CAAT) will be considered for admission to Level I of the B.Sc. N. program at all sites. Applicants who are currently registered in a pre health sciences program may be given a conditional offer of admis-

sion based upon interim grades. The offer of admission will be withdrawn if the applicant does not complete the full program or does not meet the required admission cumulative average.

Applicants normally must:

1. complete a full pre health sciences program at any Ontario College of Applied Arts and Technology (CAAT) which is at least two semesters in length and includes at least one full (two semester) or two half courses in each of Biology, Chemistry, Mathematics and English. Applications will not be considered from applicants who possess credit only in the required subjects;
2. achieve at least a 70% cumulative average in the pre health sciences program;
3. apply online to OUAC at [www.ouac.on.ca](http://www.ouac.on.ca) using Form 105D and pay the required fees no later than February 15;
4. download the supplementary application package found at [www.fhs.mcmaster.ca/nursing/](http://www.fhs.mcmaster.ca/nursing/) OR request a package from the Admissions Coordinator at (905) 525-9140 ext 22232;
5. submit the supplementary application, four copies of the response to the questionnaire as outlined on the supplementary application and all secondary and post-secondary education transcripts to McMaster by February 15.

**Note:** Transfer credit will not be granted for any pre health sciences courses.

#### Applicants From Other Degree Nursing Programs

Applicants who are enrolled in a Nursing degree program at a university or in a college/university consortium may apply to transfer to the McMaster site to earn a McMaster B.Sc.N. degree. Applicants will not be considered for studies above Level II. Availability of space and placement in the program will be determined by the level Coordinator in consultation with course planners and all potential applicants should contact the Coordinator of Studies to determine if there is space for transfer applicants.

Applicants must:

1. be currently enrolled in or have completed Level I of a B.Sc.N. Program with an overall Cumulative Average of at least B- (70%) and at least a B- average in nursing and science courses;
2. achieve a satisfactory score on a questionnaire comprised of two questions found on the supplementary application at <http://www.fhs.mcmaster.ca/nursing/education/undergrad/undergradadmissions.htm>.

Applications for transfer into the B.Sc.N. Program to commence studies in September must be received by the Ontario Universities Application Centre (OUAC) in Guelph no later than June 30.

Applicants must submit the following to the Admissions Coordinator by June 30 (See address above.):

1. official transcript for all university work taken;
2. four (4) copies of the response to the questionnaire found on the supplementary application at <http://www.fhs.mcmaster.ca/nursing/education/undergrad/undergradadmissions.htm>;
3. an official letter from the Dean/Director of the program in which the applicant is currently enrolled stating that the applicant is in good standing in that program;
4. course descriptions and outlines for all nursing and science courses for assessment of advanced credit.

### II. POST DIPLOMA (B) STREAM

Selection is based on academic qualifications and the rating obtained on a questionnaire. The response to the questionnaire is assessed by teams normally representing the faculty, the students or alumni, and the community.

Applicants will be informed of the admission decision by mid-June. Applicants enrolled in diploma nursing programs at the time of application normally must be eligible to write College of Nurses of Ontario registration examinations no later than August of the year of application to the B.Sc.N. Program.

Applicants normally must:

1. possess a current College of Nurses of Ontario annual registration payment card or be eligible for reciprocity, or be eligible to write and subsequently pass the Registration examinations.
2. have an Ontario diploma in nursing or the equivalent with a minimum overall average of 2.7 (B-).
3. apply online at [www.ouac.on.ca](http://www.ouac.on.ca) using Form 105D to OUAC and pay the required fees no later than February 15;
4. submit a completed original and three copies of the response to the questionnaire provided in the application package, a photocopy of the current College of Nurses of Ontario annual registration payment card and transcripts to McMaster by February 15.

**Note:** University degree credit courses completed prior to admission will be assessed for advanced credit by the Office of the Coordinator of Studies following admission to the program.

#### Applicants From Other Degree Nursing Programs

Applicants enrolled in a Nursing degree program at another university who wish to apply to transfer to the McMaster (B) Stream should contact the Admissions Coordinator for (See address above.) for information.

### III. COLLABORATIVE B.Sc.N. PROGRAM (D) STREAM {MOHAWK AND CONESTOGA SITES}

Admission requirements for students applying to the Mohawk and Conestoga sites of the McMaster B.Sc.N. program are equivalent to those for students applying to the B.Sc.N. Basic (A) Stream.

#### Applicants Directly from Ontario Secondary Schools

Normally to be considered in this category, applicants to the program must:

1. apply within two years of completion of the Grade 12 U or M requirements and
2. not have attended any post secondary educational program during the two-year period.

#### REQUIREMENTS

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

1. English U;
2. One of Geometry and Discrete Mathematics U, Advanced Functions and Introductory Calculus U or Mathematics of Data Management U;
3. Two of Biology U, Chemistry U or Physics U (Biology U is preferred.);
4. Two additional Grade 12 U or M courses to total six.

**Note:** In 2007-2008 Biology U and Chemistry U will be required.

#### Applicants with Qualifications Equivalent to Ontario Secondary School

Applicants from other provinces and countries must achieve the equivalent to the qualifications listed above in their secondary school graduation year.

#### Applicants with Other Qualifications

For applicants not applying directly from secondary school or without the necessary Grade 12 U or M course equivalents, selection is based on academic qualifications. For information on how to qualify, applicants should contact the Office of the Registrar (Admissions), Gilmour Hall, Room 108, McMaster University, Hamilton, ON L8S 4L8.

#### Applicants With a University Degree or with University Degree Credits

Applicants should:

1. achieve a Cumulative Average of at least B- in all university degree credit courses taken. A minimum of 12 units or equivalent are required. (These courses may be taken as a full-time or part-time student. University correspondence degree courses are acceptable.) All university transcripts must be submitted to the College. Failure to do so will result in withdrawal of the offer of admission.

University degree credit courses completed prior to admission will be assessed for advanced credit by the Chair, Nursing Program, at the site where application was made, following admission to the program.

2. apply to Ontario College Application Services (OCAS) along with the required fees by February 1. All applications must be **received** by OCAS on or before this date to be given equal consideration by the colleges. Please note that February 1 is **not** a deadline for submitting applications as OCAS will continue to process applications received after this date. You are encouraged, however, to submit your application **as early as possible**, especially in the case of oversubscribed programs where there are often enough qualified applications received by the equal consideration date (February 1) to fill the program.

**Note:** University degree credit courses completed prior to admission will be assessed for advanced credit by the Office of the Coordinator of Studies following admission to the program.

#### Applicants from a Pre Health Sciences Program

Applicants who have successfully completed a pre health sciences program at an Ontario College of Applied Arts and Technology (CAAT) will be considered for admission to Level I of the B.Sc.N. program at all sites. Applicants who are currently registered in a pre

health sciences program may be given a conditional offer of admission based upon interim grades. The offer of admission will be withdrawn if the applicant does not complete the full program or does not meet the required admission cumulative average.

Applicants normally must:

1. complete a full pre health sciences program at any Ontario College of Applied Arts and Technology (CAAT) which is at least two semesters in length and includes at least one full (two semester) or two half courses in each of Biology, Chemistry, Mathematics and English. Applications will not be considered from applicants who possess credit only in the required subjects;
2. achieve at least a 70% cumulative average in the pre health sciences program;
3. apply to Ontario College Application Services (OCAS) along with the required fees by February 1. All applications must be **received** by OCAS on or before this date to be given equal consideration by the colleges. Please note that February 1 is **not** a deadline for submitting applications as OCAS will continue to process applications received after this date. You are encouraged, however, to submit your application **as early as possible**, especially in the case of oversubscribed programs where there are often enough applications from qualified applicants received by the equal consideration date (February 1) to fill the program.

**Note:** Transfer credit will not be granted for any pre health sciences courses.

#### Applicants From Other Degree Nursing Programs

Applicants who are enrolled in a Nursing degree program at another university or in another college/university consortium may apply to transfer to the Mohawk or Conestoga site to earn a McMaster B.Sc.N. degree. Applicants will not be considered for studies above Level II. The Post Diploma B.Sc.N. is not available at the College sites. Availability of space and placement in the program will be determined by the level Coordinator in consultation with course planners.

All potential applicants should contact the appropriate site to determine if there is space for transfer applicants. For Mohawk, contact the Chair, B.Sc.N. Program; for Conestoga, contact the Chair, Nursing Program.

Applicants must:

1. be currently enrolled in or have completed Level I of a B.Sc.N. Program with an overall Cumulative Average of at least B- (70%) and at least a B- average in nursing and science courses.
2. achieve a satisfactory score on a questionnaire comprised of two questions found on the supplementary application at <http://www.fhs.mcmaster.ca/nursing/education/undergrad/undergradadmissions.htm>.

**Note:** Applicants do not complete the supplementary application form.

Applications for transfer into the B.Sc.N. Program to commence studies in September must be received by the Ontario Colleges Application Service (OCAS) in Guelph no later than May 15.

Applicants must submit the following to the Registrar's Office at the appropriate College by May 15:

1. official transcripts of all university work taken.
2. four (4) copies of the response to the questionnaire found on the supplementary application at <http://www.fhs.mcmaster.ca/nursing/education/undergrad/undergradadmissions.htm>.
3. an official letter from the Dean/Director of the program in which the applicant is currently enrolled stating that the applicant is in good standing in that program.
4. course descriptions and outlines for all nursing and science courses for assessment of advanced credit.

### IV. POST DIPLOMA PRACTICAL NURSE (E) STREAM

Selection is based on academic qualifications and the rating on a questionnaire. The response to the questionnaire is assessed by teams normally representing the faculty, the students or alumni and the community.

Applicants will be informed of the admission decision by mid June. Applicants enrolled in a diploma practical nurse program at the time of application normally must be eligible to write the College of Nurses of Ontario (CNO) practical nurse registration examinations no later than August of the year of application to the B.Sc.N. program.

Applicants normally must:

1. possess a current CNO annual registration payment card or be eligible to write and subsequently pass the Practical Nurses Registration Examinations;
2. have a diploma in practical nursing (two year program) from an Ontario College of Applied Arts and Technology or equivalent with a minimum overall average of 75% or higher;  
**Note:** Potential applicants who possess a certificate in practical nursing should seek upgrading to diploma practical nurse at a College of Applied Arts and Technology or apply to a basic B.Sc.N. program (see admission criteria for Streams A and D);
3. complete Form 105D on-line at [www.ouac.on.ca](http://www.ouac.on.ca) and pay the required fees no later than February 15;
4. submit the supplementary application form found at [www.fhs.mcmaster.ca/nursing/](http://www.fhs.mcmaster.ca/nursing/) or request it from the Admissions Coordinator at (905) 525-9140 ext 22232;
5. submit four copies of the response to the questionnaire as outlined in the supplementary application package, a photocopy of the current CNO annual registration payment card and transcripts to McMaster by February 15.

**Note:** University degree courses completed prior to admission will be assessed for advanced credit by the Office of the Coordinator of Studies following admission to the program.

**PART-TIME STUDENTS**

It is possible to complete the B.Sc.N. Program on a part-time basis. University and program regulations governing full-time undergraduate students will govern part-time students although there are additional guidelines for part-time study.

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

**UNSUCCESSFUL APPLICANTS ((A), (B) AND (E) STREAMS)**

Applications are not held over from one year to another. An unsuccessful applicant may reapply to the B.Sc.N. Program by submitting a new application, including supporting documentation.

**APPLICATION FOR DEFERRED REGISTRATION**

Deferred registration is granted only under exceptional circumstances to those candidates who have been admitted and have accepted the offer. Registration may be deferred for one year only. The request for deferral, outlining the reasons for the request, must be postmarked no later than July 31 of the year for which deferral is requested.

**Curriculum for the B.Sc.N. Program**

**BASIC (A) STREAM [6390]**

The Faculty has planned the curriculum so that the study of nursing, the physiological, psychological and social sciences, and the humanities are interrelated and span the entire program. In Level I, the amount of nursing experience is relatively small; the major proportion of study is in the behavioural and natural sciences. The nursing component increases progressively through Levels II, III, and IV, as the study of natural sciences is completed. Normally, because of timetable constraints, courses must be taken in the level indicated in the curriculum.

**ELECTIVES**

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

Basic (A) Stream students are eligible to enrol in the following COLLAB elective courses: COLLAB 2F03 (Mohawk site) and COLLAB 2K03 (Conestoga site). Please see COLLAB courses in the *Course Listings* section of this Calendar under *Nursing Consortium (D) Stream* for more information.

**REQUIREMENTS**

**LEVEL I: 32 UNITS**

**(UNITS GRADED: 32)**

- 12 units HTH SCI 1AA3, 1BB3, 1H06
- 8 units NURSING 1F04, 1G04
- 6 units PSYCH 1A03 and 1AA3
- 6 units Electives
- 1 course NURSING 1A00

**LEVEL II: 30 UNITS**

**(UNITS GRADED: 24; UNITS PASS/FAIL: 6)**

- 6 units HTH SCI 2H03, 2HH3
- 15 units NURSING 2L03, 2M03, 2N03, 2P03, 2Q03
- 9 units Electives

**LEVEL III: 32 UNITS**

**(UNITS GRADED: 24; UNITS PASS/FAIL: 8)**

- 7 units HTH SCI 3B03, 3C04
- 16 units NURSING 3S03, 3T03, 3U02, 3X04, 3Y04
- 9 units Electives

**LEVEL IV: 30 UNITS**

**(UNITS GRADED: 16; UNITS PASS/FAIL: 14)**

- 2 units HTH SCI 4L02
- 22 units NURSING 4P04, 4Q04, 4J07, 4K07
- 6 units Electives

**TOTAL UNITS: 124**

**REGISTRATION TO PRACTISE NURSING**

On receiving the B.Sc.N. degree after successful completion of the (A) Stream of the B.Sc.N. Program, graduates are eligible to write the Canadian Registered Nurse Examination which is administered by the College of Nurses of Ontario (CNO). Application to write the examination is made through the Faculty of Health Sciences. The CNO requires all applicants for registration to provide a recent criminal record synopsis (CIPC check) as part of the RN registration process. If you have any questions related to the Regulated Health Professions Act, please contact the College of Nurses of Ontario directly at 1-800-387-5526.

**DIPLOMA RN (B) STREAM**

**[6391]**

The program of study for Diploma Registered Nurses is integrated with existing course offerings. The practice of nursing in diverse clinical settings will occur in all academic terms. The curriculum is designed to build on the existing knowledge and skills of the students; to prevent duplication of learning experiences and to prepare the students to function in an expanded role in community and institutional settings.

The curriculum is planned for five academic terms if taken on a full-time basis. If taken on a part-time basis, students are normally allowed six years after the first Nursing course to complete the program requirements.

**ELECTIVES**

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

**REQUIREMENTS**

**ADVANCED CREDIT: 42 UNITS**

**LEVEL III: 45 UNITS**

**(UNITS GRADED: 45)**

**TERMS 1 AND 2: 33 UNITS**

- 21 units HTH SCI 1CC7, 2C07, 3B03, 3C04
- 12 units NURSING 3MM3, 3N03, 3T03, 3VV3
- 1 course NURSING 1A00

**SPRING TERM: 6 UNITS**

- 6 units Electives

**SUMMER TERM: 6 UNITS**

- 6 units Electives

**LEVEL IV: 34 UNITS**

**(UNITS GRADED: 22; UNITS PASS/FAIL: 12)**

**TERMS 1 AND 2: 34 UNITS**

- 2 units HTH SCI 4L02
- 20 units NURSING 4P04, 4Q04 (or NURSING 4A02, 4E03, 4F03), 4S06, 4T06
- 12 units Electives

**TOTAL UNITS: 121**

**REQUIREMENTS FOR STUDENTS WHO ENTERED PRIOR TO SEPTEMBER 2001**

All B.Sc.N (B) Stream students who entered the program prior to September 2001 have the option of continuing under the curriculum in effect when they entered as published in the Calendar of the year of entry. Alternatively, students may take advantage of the program requirements which took effect in September 2001. All students are strongly encouraged to contact the Coordinator of Studies for individual counselling to decide upon their program of study. Students require a minimum of 121 units to graduate.

**ONTARIO PRIMARY HEALTH CARE NURSE PRACTITIONER PROGRAM (C) STREAM**

The Ontario Primary Health Care Nurse Practitioner Program (C) Stream is being phased out. The last entry into this program was in September 2004.

**NURSE PRACTITIONER (C) STREAM {6397}****LEVEL IV: 44 UNITS****(UNITS GRADED: 34, UNITS PASS/FAIL: 10)****TERMS 1 AND 2: 31 UNITS**

2 units HTH SCI 4L02  
26 units NURSPRAC 4AA5, 4AB5, 4P03, 4R03, 4TA5, 4TB5  
3 units Electives

**SUMMER TERM: 13 UNITS****(UNITS GRADED: 3; UNITS PASS/FAIL: 10)**

13 units NURSPRAC 4C13

**EXTENDED CLASS OF REGISTRATION (RN/EC)**

On successful completion of the Ontario Primary Health Care Nurse Practitioner Program, nurses registered with the College of Nurses of Ontario are eligible to write the Extended Class Licensing examination through the College of Nurses of Ontario (CNO). Updates regarding this process are available to registered students on the N.P. Network.

**COLLABORATIVE B.SC.N. (D) STREAM**

**CONESTOGA SITE {6385}**  
**MOHAWK SITE {6386}**

The Faculty has planned the curriculum so that the study of nursing, the physiological, psychological and social sciences, and the humanities are interrelated and span the entire program. In Level I, the amount of nursing experience is relatively small; the major proportion of study is in the behavioural and natural sciences. The nursing component increases progressively through Levels II, III, and IV, as the study of natural sciences is completed. Normally, because of timetable constraints, courses must be taken in the level indicated in the curriculum.

**ELECTIVES**

The curriculum followed at both sites is equivalent to the curriculum for the B.Sc.N. Basic (A) Stream. However, the specified Psychology component and 15 units of elective courses are college-based courses which have been assigned the McMaster designation COLLAB and are open only to Nursing students at the Mohawk and Conestoga sites as specified in prerequisite statements. For course descriptions, please see COLLAB courses in the *Course Listings* section of this Calendar under *Nursing Consortium (D) Stream*. Mohawk and Conestoga students must take 15 units of COLLAB electives and 15 units of McMaster electives. Enrolment in some COLLAB courses may be limited.

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

**REQUIREMENTS****LEVEL I: 32 UNITS****(UNITS GRADED: 32)**

12 units HTH SCI 1AA3, 1BB3, 1H06  
8 units NURSING 1F04, 1G04  
6 units COLLAB 1A03 and 1B03 (Mohawk Site) or COLLAB 1C03 and 1D03 (Conestoga Site)  
6 units Electives  
1 course NURSING 1A00

**LEVEL II: 30 UNITS****(UNITS GRADED: 24; UNITS PASS/FAIL: 6)**

6 units HTH SCI 2H03, 2HH3  
15 units NURSING 2L03, 2M03, 2N03, 2P03, 2Q03  
9 units Electives.

**LEVEL III: 32 UNITS****(UNITS GRADED: 24; UNITS PASS/FAIL: 8)**

7 units HTH SCI 3B03, 3C04  
16 units NURSING 3S03, 3T03, 3U02, 3X04, 3Y04  
9 units Electives

**LEVEL IV: 30 UNITS****(UNITS GRADED: 16; UNITS PASS/FAIL: 14)**

2 units HTH SCI 4L02  
22 units NURSING 4P04, 4Q04, 4J07, 4K07  
6 units Electives

**TOTAL UNITS: 124****REGISTRATION TO PRACTISE NURSING**

On receiving the B.Sc.N. degree after successful completion of the (D) Stream of the B.Sc.N. Program, graduates are eligible to write the Canadian Registered Nurse Examination which is administered by the College of Nurses of Ontario (CNO). Application to write the examination is made through the college attended. The CNO requires all applicants for registration to provide a recent criminal record synopsis (CIPC check) as part of the RN registration process. If you have any questions related to the Regulated Health Professions Act, please contact the College of Nurses of Ontario directly at 1-800-387-5526.

**DIPLOMA RPN (E) STREAM {6388}**

The program of study for Diploma Registered Practical Nurses Stream (E) prepares students for practice as Registered Nurses. It builds on the knowledge and skills acquired in the diploma practical nurse program. Stream (E) students enter at Level II. The two Level II nursing courses are designed to assist in the transition of students to baccalaureate studies. Students are integrated with both Basic and Post-Diploma students for most courses. The curriculum is planned for three academic years of full-time study or six years of part-time study.

**ELECTIVES**

Twenty four units of electives are to be selected from disciplines of the student's choice of which a minimum of 12 units are to be chosen from courses designated Level II or above. For some courses the amount of duplication of required content will preclude use for elective credit in the B.Sc.N. program. Normally a maximum of nine units of Nursing and/or Health Sciences electives may be selected.

**REQUIREMENTS****ADVANCED CREDIT: 30 UNITS****LEVEL II: 31 UNITS****(UNITS GRADED: 31; UNITS PASS/FAIL: 0)**

14 units HTH SCI 1CC7, 2C07  
11 units NURSING 2A04, 2AA4, 2Q03  
6 units Electives  
1 course NURSING 1A00

**LEVEL III: 32 UNITS****(UNITS GRADED: 25; UNITS PASS/FAIL: 7)**

7 units HTH SCI 3B03, 3C04  
13 units NURSING 3LL3, 3S03, 3T03, 3X04  
12 units Electives

**LEVEL IV: 30 UNITS****(UNITS GRADED: 16; UNITS PASS/FAIL: 14)**

2 units HTH SCI 4L02  
22 units NURSING 4P04, 4Q04, 4J07, 4K07  
6 units Electives

**TOTAL UNITS: 123****REGISTRATION TO PRACTISE NURSING**

On receiving the B.Sc.N. degree after successful completion of the (E) Stream of the B.Sc.N. program, graduates are eligible to write the Canadian Registered Nurse Examination (CRNE) which is administered by the College of Nurses of Ontario (CNO). Application to write the CRNE is made through the Faculty of Health

Sciences. The CNO requires all applicants for registration to provide a recent criminal record synopsis (CIPC check) as part of the RN registration process. If you have any questions related to the Regulated Health Professions Act, please contact the College of Nurses of Ontario directly at 1-800-387-5526.

**Nurse Practitioner Certificate Program {6399}**

The Ontario Primary Health Care Nurse Practitioner Certificate Program is a post degree program. Degree-prepared nurses require 12 months on a full-time basis or up to 36 months on a part-time basis to complete the Nurse Practitioner Certificate.

**ADMISSION REQUIREMENTS**

Selection is based on academic qualifications, professional experience, clinical references, and personal questionnaire scores. The response to the questionnaire is assessed by teams normally representing the faculty, the students or alumni and the community. The scores awarded by the assessors are final. Applicants will be informed of the admission decision by May. Applicants must:

1. possess an Ontario baccalaureate degree in nursing or the equivalent with a minimum overall average of 70%. In cases where the minimum grade is not achieved, consideration may be given to university credit work completed following graduation which demonstrates equivalent academic ability;
2. hold a current College of Nurses of Ontario annual registration payment card;
3. have the equivalent of a minimum of two years full-time nursing practice within the past five years as evidenced by the employer-completed *Verification of Employment* form(s);
4. submit Form 105D to OUAC along with the required fees by March 1;
5. submit a copy of the current College of Nurses annual registration payment card, the relevant professional experience form, verification of employment form(s), two-clinical reference forms, a personal questionnaire response, official transcripts from a degree nursing program, copies of any additional professional registrations, memberships or certificates listed on the relevant professional experience form (i.e., RNAO, CPR) to McMaster by March 1.

Preference will be given for:

- Ontario residents
- work experience in nursing that has been continuous
- practical experience in one or more of the following areas: primary health care, ambulatory care, public health, community health, long term care, emergency care or outpost nursing
- hands-on practical experience

**REQUIREMENTS**

**TERMS 1 AND 2: 26 UNITS**

**(UNITS GRADED: 26)**

26 units NURSPRAC 4AA5, 4AB5, 4P03, 4R03, 4TA5, 4TB5  
1 course NURSING 1A00

**SUMMER TERM: 13 UNITS**

**(UNITS GRADED: 3; UNITS PASS/FAIL: 10)**

13 units NURSPRAC 4C13

**TOTAL UNITS: 39**

**EXTENDED CLASS OF REGISTRATION (RNEC)**

Upon successful completion of the Ontario Primary Health Care Nurse Practitioner Certificate program, nurses registered with the College of Nurses of Ontario are eligible to write the extended class licensing examination through the College of Nurses of Ontario (CNO). Updates regarding this process are available to registered students on the Nurse Practitioner network

**Nursing Leadership/ Management Program {6396}**

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

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

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

**ACADEMIC REGULATIONS**

Students in the Nursing Leadership/Management Program are subject to the *General Academic Regulations* of the University and the regulations of the B.Sc.N. Program.

**CURRICULUM**

6 units NURSING 4B06  
1 unit NURSING 4C01  
1 unit NURSING 4D01  
3 units NURSING 4I03

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

**Oncology Programs**

**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 program is based on recent, relevant oncology nursing experience and demonstrated commitment to oncology nursing practice. Selection criteria for admission to the Paediatric Oncology program is based on recent, relevant paediatric oncology nursing experience and demonstrated commitment to paediatric oncology nursing practice. Further information may be obtained through the Oncology Program Office in Health Sciences Centre, Room 2J32.

**ACADEMIC REGULATIONS**

Students in the Oncology programs are subject to the *General Academic Regulations* of the University and the regulations of the B.Sc.N. Program.

**ADULT ONCOLOGY PROGRAM**

**{6398}**

This program 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 program has been developed within the context of the existing post diploma stream. The McMaster model of Nursing and philosophy of student-centred and problem-based learning are maintained and provide the foundation for curriculum design. Key aspects of the program include professional role development, evidence based practice, and development of assessment, communication, supportive care and collaborative practice skills.

The Adult Oncology program is offered to nurses within the province of Ontario.

**REQUIREMENTS**

**(UNITS GRADED: 13; UNITS PASS/FAIL: 9)**

3 units NURSING 3AA3  
3 units NURSING 3CC3  
3 units NURSING 3DD3  
3 units NURSING 3MM3  
4 units HTH SCI 3C04  
6 units NURSING 4M06

**TOTAL UNITS: 22**

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

**PAEDIATRIC ONCOLOGY PROGRAM**

**{6394}**

In order to accommodate the educational needs of registered nurses working in paediatric oncology, a program has been developed within the context of the existing post-diploma stream. This program 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 program 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.

#### REQUIREMENTS

(UNITS GRADED: 13; UNITS PASS/FAIL: 9)

3 units	NURSING 3AA3
3 units	NURSING 3P03
3 units	NURSING 3Q03
3 units	NURSING 3MM3
4 units	HTH SCI 3C04
6 units	NURSING 4N06

TOTAL UNITS: 22

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

### Psychiatric-Mental Health {6389}

#### Nursing Certificate Program

This program has been established to provide registered nurses working with mental health patients the opportunity to develop enhanced knowledge and skills required to meet the challenges associated with their evolving roles.

The program has been developed within the context of the existing post diploma stream. The McMaster Model of Nursing and philosophy of student-centred and problem-based learning are maintained and provide the foundation for curriculum design. Key aspects of the program include professional role development, evidence based practice and development of skills relevant to assessment, communication, supportive care and collaborative practice.

#### 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 Psychiatric-Mental Health Nursing Certificate Program is based on recent, relevant psychiatric-mental health nursing experience and demonstrated commitment to the specialty area. Further information may be obtained through the Psychiatric-Mental Health Nursing Certificate Program Office.

#### ACADEMIC REGULATIONS

Students in the Psychiatric-Mental Health Nursing Certificate Program are subject to the *General Academic Regulations* of the University and the regulations of the B.Sc.N. Program.

#### REQUIREMENTS

3 units	NURSING 3E03
3 units	NURSING 3F03
3 units	NURSING 3G03
3 units	NURSING 3H03
4 units	HTH SCI 3C04
6 units	NURSING 4L06

TOTAL UNITS: 22

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

### Academic Regulations

#### STUDENT ACADEMIC RESPONSIBILITY

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

In addition to meeting the *General Academic Regulations* of the University, students enrolled in the B.Sc.N. Program shall be subject to the following program regulations.

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

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

The University also reserves the right to cancel the academic privileges of a student at any time should the student's scholastic record or conduct warrant so doing. The B.Sc.N. Program reserves the right to remove a student from a clinical placement or laboratory setting at any point during the term if the student exhibits unsafe clinical practice or behaviour that places the patient or others at risk. Such removal will result in the student receiving a grade of F in the course and may result in dismissal from the program. The clinical activities associated with any clinical course must be successfully achieved for attainment of a passing grade in the course.

### B.Sc.N. Program Academic Regulations

#### Basic (A), (D) and Post Diploma (B), (E) Streams

A student must:

1. achieve a Cumulative Average (CA) of at least 3.5;
2. achieve a grade of at least C- in the graded Nursing and required Health Sciences courses. A grade of D-, D or D+ is permissible in two three-unit Level I Health Sciences courses (Basic (A) Stream) or one Level I Health Sciences course (Post Diploma (B) and (E) Streams) and in only one required Health Sciences course beyond Level I;
3. achieve a Pass designation in all clinical courses and the clinical component of NURSING 1F04 and 1G04; or NURSING 2A04 and 2AA4.

The following courses are designated clinical courses:

- Basic (A) Stream: NURSING 2L03, 2P03, 3X04, 3Y04, 4J07, 4K07
- Diploma Registered Nurses (B) Stream: NURSING 4S06, 4T06
- Diploma Practical Nurses (E) Stream: NURSING 3X04, 4J07, 4K07

All clinical courses above Level I are evaluated on a Pass/Fail basis. Areas of excellence in practice are noted in a detailed evaluation summary for each course.

(A course for which credit has not been given may be repeated only when approval is given by the B.Sc.N. Program Chair in consultation with the program Reviewing Committee.)

Post Diploma students must submit proof of current registration with the College of Nurses of Ontario before registration in Level IV of the Program is approved.

#### Nurse Practitioner (C) Stream and Nurse Practitioner Certificate Stream

A post-diploma student must:

1. achieve a Cumulative Average (CA) of at least 3.5;
2. achieve a grade of at least C- in the graded Nursing and required Health Sciences courses with the exception that a grade of D-, D or D+ is permissible in one Level I Health Sciences course and only once in required Health Sciences courses beyond Level I.

Both post-diploma and post-degree students must:

1. achieve a Pass designation in the clinical component as well as a grade of B- in the theoretical component in each of NURSPRAC 4AA5, 4AB5, 4C13, 4TA5, 4TB5;
2. achieve a grade of B- in NURSPRAC 4P03, 4R03.

The following courses are designated clinical courses:

- NURSPRAC 4AA5, 4AB5, 4C13, 4TA5, 4TB5

#### CONTINUATION IN THE PROGRAM

Students are reviewed at the end of each term. To continue in the B.Sc.N. Program a student must obtain a CA of at least 3.5. A student whose CA is at least 3.0 may, at the discretion of the B.Sc.N. Program Chair in consultation with the program Reviewing Committee, proceed in the program and will be placed on program probation. A student may be placed on program probation only once during the program.

#### FAILURE

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

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

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

If a student fails to meet the minimum grade requirements in the required graded Nursing and required Health Sciences courses or a Pass designation in the clinical nursing courses, the student may, at the discretion of the Program Chair in consultation with the program Reviewing Committee, be allowed to re-



peat the course in which the minimum grade or Pass requirement has not been met. If a student fails to meet the minimum grade or Pass requirements after repeating the course, he or she may not continue in the program. A student may normally be allowed to repeat only one clinical and one non-clinical Nursing or Health Sciences course during the program.

Only one Nurse Practitioner course may be repeated. If a grade of less than B- or *unsatisfactory* is obtained in the Nurse Practitioner course on the second attempt, the student may not continue in the program.

#### **Collaborative B.Sc.N. Program (D) Stream Mohawk and Conestoga Sites**

In addition to meeting the General Academic Regulations of the University, (please refer to the *General Academic Regulations* section of the Calendar) as well as the academic regulations specific to the School of Nursing, (please refer to *Academic Regulations* in the *School of Nursing* outline in this section of the Calendar), Mohawk and Conestoga B.Sc.N. students are also subject to the following regulations.

**Program Approval:** Selection of courses must be approved by the Chair of the Program at the site to which the student is admitted. Where the Calendar indicates that a faculty office, Associate Dean or Dean of Studies must be contacted, students should contact the Student Advisor at the appropriate site (Conestoga or Mohawk College). Before courses are selected, students are requested to determine the requirements for the program as outlined in the appropriate sections of this Calendar and to follow the instructions in the registration package.

**Academic Standing:** The College Reviewing Committees shall be comprised of members from the Colleges and the University; these Committees shall be chaired by the Coordinator of Studies (McMaster).

**Required to Withdraw:** Students must follow the withdrawal procedures for the respective College.

**Letters of Permission:** Letters of Permission must be approved by the Student Advisor at the site to which the student is admitted.

**Academic Records:** Student files shall be kept at the respective College site for reference and audit purposes.

**Examinations:** A Mohawk College, Conestoga College or McMaster student photo identification card is required at all examinations.

**Travel Expenses:** Students are responsible for arranging their own travel to and from learning settings external to the College and for covering any costs incurred. All students who register in the B.Sc.N. Program are expected to be able to travel to any learning setting in Hamilton and surrounding area (Mohawk) and Kitchener-Waterloo and surrounding area (Conestoga).

#### **Honours Biology and**

#### **Pharmacology Program (Co-op)**

This is a joint program between the Faculty of Health Sciences and the Faculty of Science (Department of Biology). The Pharmacology courses, which are run in a small group, problem-based format, are the responsibility of the Faculty of Health Sciences, drawn from the following departments: Biomedical Sciences, Medicine, Obstetrics and Gynecology, and Pathology.

Please see the *Faculty of Science, Department of Biology* section of this Calendar for admission requirements.

#### **Medical Radiation Sciences Program**

This Diploma-Degree program is offered jointly in a fully integrated format by McMaster University in partnership with Mohawk College of Applied Arts and Technology. Graduates are awarded the McMaster B.Sc. as well as the Ontario College Advanced Diploma in Medical Radiation Sciences from Mohawk College.

Please see *Medical Physics and Applied Radiation Sciences* in the *Faculty of Science* section of this Calendar for admission requirements.

# FACULTY OF HUMANITIES

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Chester New Hall, Room 112

Ext. 27423

## Dean of Humanities

N. Rahimieh/B.A., M.A., Ph.D.

## Associate Dean of Humanities

S. Crosta/B.A., M.A., Ph.D.

## Assistant Dean (Studies)

P.A. Kalnins/B.A.

## Academic Advisors

D. Hayward

E. Herrell/B.Sc.

J. Osterman/B.A., B.Admin.

## Career Services, Liaison and Study Abroad Coordinator

R. Muhic-Day/B.A., M.A.

The Faculty of Humanities is dedicated to cultivating a teaching and research community which reflects the highest standards of our disciplines and to undertaking bold ventures in new arenas of interdisciplinary inquiry. We strive for a balance between the best traditions of Humanities education and the new forms of knowledge emerging within and at intersections of disciplines. By learning from past and pressing issues facing our global world today, we promote advances in knowledge that make innovative, positive differences in diverse peoples' lives.

We provide a research-intensive educational environment in which students learn to value independent thinking and critical reflection on the nature of knowledge and how knowledge can be used to better the human condition. Our mission is to ensure that students acquire the analytical skills, historical depth, and appreciation of diverse cultures needed to assume leadership roles as responsible, ethical, and path breaking scholars, cultural workers, creative artists, or policy makers. We prepare our students to be thoughtful and engaged citizens in a global world.

The attainment of precise knowledge and fresh insights through lectures, class discussions, reflection, analysis and writing is the essence of study in the Faculty of Humanities' seven academic units. These are:

- School of the Arts
- Department of Classics (Ancient History and Archaeology, Classical Languages and Literature)
- Department of Communication Studies and Multimedia
- Department of English and Cultural Studies (English; Combined Honours in Cultural Studies and Critical Theory)
- Department of French
- Department of History
- Department of Linguistics and Languages (German, Hispanic Studies, Italian, Japanese, Polish, Russian)
- Department of Philosophy

In addition, the Faculty offers the following interdepartmental programs and one Interdisciplinary Minor:

- Combined Honours in Comparative Literature
- Combined Honours in German
- Combined Honours in Hispanic Studies
- Combined Honours in Italian
- Honours Linguistics
- Honours Linguistic Cognitive Science
- Honours Modern Languages and Linguistics
- Combined Honours in Peace Studies
- Combined Honours in Women's Studies
- Combined B.A. in Indigenous Studies
- Interdisciplinary Minor in Archaeology

## PROGRAMS AND DEGREES

### A. Level I Programs

#### HUMANITIES I

#### PROGRAM NOTES

1. A full-course load for Humanities I is 30 units. (The final digit in course numbers indicates the unit weight of a course. A 6-unit course is taught from September to April and a 3-unit course is a half-year course which may be taught either from September to December or January to April). Admission to a Level II program normally requires completion of six units of the relevant subject. In order to be considered for admission to a Level II program, students should consult the admission statements for the Level II programs when selecting their Level I courses.
2. The Faculty offers INQUIRY 1HU3, Inquiry in the Humanities. Humanities I students may choose this course as an elective. For a course description see *Inquiry* or *Humanities* in the *Course Listings* section of this Calendar.
3. Humanities I students are permitted to take up to 12 units of work in any single subject.
4. Students with a Grade 12 U course in Greek or Latin will register for six units of Level II Greek or Latin in lieu of the corresponding 1Z03 and 1ZZ3 courses.
5. Humanities I students are restricted to taking no more than 12 units of introductory language courses.
6. **ART 1F03, 1FF3:** Entrance to any Honours Art Program requires the permission of the School of the Arts as these programs and courses have limited enrolments. Students who wish to enrol in ART 1F03 and 1FF3 must first complete a portfolio interview. Portfolio interviews occur between January and April each year for entrance in September of the same calendar year. Only those students who contact the Office of the School of the Arts before March 1 to book appointments for portfolio interviews will be guaranteed consideration for entrance into ART 1F03 and 1FF3. (Late applicants will only be interviewed if space availability permits.) The portfolio should contain a variety of works in different media that represent the applicant's creative abilities and interests. Aptitude in art, academic ability and demonstrated commitment to the discipline are considered in the selection process. In exceptional circumstances, where distance does not allow for an interview, portfolios may be submitted in the form of colour slides or photographs. Acceptance into ART 1F03 and 1FF3 will be verified with written confirmation from the School of the Arts. School of the Arts verification **and** a Letter of Acceptance from the University guarantee a space in the program as long as the student meets the minimum academic requirements as outlined under School of the Arts programs in this section of the calendar. **Applicants for this course should use the MHA OUAC code.**
7. Students wishing to take Music courses other than MUSIC 1A03 or 1AA3 must make arrangements with the School of the Arts for qualifying tests.

#### COURSE LIST 1

ART	1F03, 1FF3 (See Note 6 above.) <b>Students in ART 1F03 and 1FF3 must also register in SCIENCE 1A00 when completing their registration.</b>
ART HIST	1A03, 1AA3
CLASSICS	1A03, 1B03, 1BB3, 1L03, 1LL3
CMST	1A03, 1B03
COMP LIT	1A03, 1AA3
CSCT	1B03, 1BB3
ENGLISH	1A03, 1AA3, 1B03, 1BB3, 1C06
FRENCH	1A06, 1N06, 1Z06
GREEK	1Z03, 1ZZ3
HISTORY	1A03, 1AA3, 1B03, 1BB3, 1L03, 1LL3
LATIN	1Z03, 1ZZ3
LINGUIST	1A03, 1AA3
MEDIA	1A03, 1B03
MUSIC	1A03, 1AA3, 1CC3, 1D03, 1Y03, 1YY3 (See Note 7 above.)
PEACE ST	1A03, 1B03
PHILOS	1A03, 1B03, 1C03, 1D03, 1E03
THTR&FLM	1A03, 1B03
WOMEN ST	1A03, 1AA3

**COURSE LIST 2**

(Humanities courses available to Level I students. These courses do not provide entry into a Level II program)

- GERMAN 1B03, 1BB3, 1Z06
- HISPANIC 1A03, 1AA3, 1Z06, 2D03, 2DD3
- INQUIRY 1HU3
- ITALIAN 1A03, 1AA3, 1Z06, 1ZZ6
- JAPANESE 1Z06
- POLISH 2A03, 2AA3
- RUSSIAN 2A03, 2AA3

**REQUIREMENTS:**

Students admitted to Humanities I {0700} must complete 30 units as follows:

- 12 units from Course List 1 (should include six units in each of two subjects listed above)
- 18 units Electives, which may include courses from Course Lists 1 and 2

**MUSIC I**

**REQUIREMENTS**

Students admitted to Music I {0370} must complete 33 units of work as follows:

- 21 units MUSIC 1CC3, 1D03, 1E06, 1G03, 1Y03, 1YY3
- 12 units Electives

**B. Degree Programs**

Upon successful completion of Humanities I, a student may be admitted to a program 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 PROGRAM**

This involves three years of study, beyond Level I, concentrated in the work of a single discipline (e.g. History). After three years of Music study beyond Music I, students receive a B.Mus. degree.

**COMBINED HONOURS PROGRAM**

This involves three years of study, beyond Level I, concentrated in the work of two disciplines (e.g. English and Comparative Literature). 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).

**MINOR**

A minor is an option available to a student enrolled in a four-level program. 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 program 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. **Students may return for a second degree in the subject in which they have obtained a minor, but only at the Honours level.** For further information please refer to *Minors* in the *General Academic Regulations* section in this Calendar.

**B.A. PROGRAM**

This involves two years of study, beyond Level I, concentrated in the work of a single discipline.

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

There are a number of Humanities courses which may be taken as electives without prerequisites. Individual course descriptions, by Department, are given under the section entitled *Course Listings*.

Not only are students from other Faculties able to take individual courses which have no prerequisites, but they are also able to transfer into any of the degree programs offered by the Faculty of Humanities. For the majority of programs in the Faculty, admission may be gained after the successful completion of any Level I program at the university, providing this includes the necessary program requisites as outlined in the admission statement for each Humanities program as described under Programs for the B.A., B.A. (Honours) and B.Mus. Degrees.

**SECOND LANGUAGE PROFICIENCY**

Students embarking on Humanities programs should be aware that most graduate schools require, for admission, proficiency in at least one, and frequently two, languages other than English. In this Faculty, proficiency in at least one language other than English is regarded as an essential tool for students interested in Comparative Literature and Linguistics. Generally, proficiency in more than one language is a hallmark of most highly-qualified Humanities' graduates seeking the widest range of post-graduation academic and employment opportunities.

For students wishing to acquire a reading knowledge of French, a summer course, FRENCH 4R06 is offered in May-June. This course is intended to prepare current and incoming graduate students for the French proficiency test administered by some departments. Certain graduate programs recognize a passing mark in this course as fulfillment of the second language requirement.

**PART-TIME STUDY**

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

**ACADEMIC REGULATIONS**

**STUDENT ACADEMIC RESPONSIBILITY**

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

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

**ADMISSION TO LEVEL II PROGRAMS**

The dates for application may vary somewhat from year to year; however, the specific dates and information will be posted on campus and outlined in the campus newspaper. It is the student's responsibility to participate in these activities.

1. **In February**, a Majors Fair is held by departments in the Faculty of Humanities to discuss undergraduate programs, course offerings, career opportunities, etc.
2. **Mid-March to Mid-April**, students seeking admission to a Level II program for the following Fall/Winter session, especially for a limited enrolment program such as Multimedia, must complete an application for admission to Level II through MUGSI. The application allows students to rank four program choices, and students will be notified of their eligibility for these choices on their grade reports in June.

**TRANSFER TO THE FACULTY OF HUMANITIES**

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

**REINSTATEMENT TO THE FACULTY OF HUMANITIES**

A student who may not continue at the University may apply for reinstatement; however, **reinstatement is not automatic or guaranteed**. Students seeking reinstatement must complete the *Reinstatement Request Form* available at the Office of the Registrar (Gilmour Hall, Room 108) and the Faculty of Humanities (Chestnut New Hall, Room 112). The completed form and the \$50.00 fee must be submitted to the Office of the Registrar **by June 30 for September entry** and by November 15 for January entry.

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

If students are reinstated at the University, their Cumulative Average will be re-set to 0.0 on zero units, although students may (at Faculty discretion) retain credit for prior work. Following reinstatement, students will be on academic probation and must complete a minimum of 60 units of work after reinstatement to be eligible for Graduation with Distinction or other recognition based on the Cumulative Average.

**If at any review after reinstatement the student's Cumulative Average falls below 3.5, the student will be required to withdraw from the University for a period of at least 12 months.**

#### **COURSE SELECTION AND COURSE CHANGES**

Students are responsible for ensuring that their course selection meets the requirements of the degree program in which they are registered, that prerequisites have been met, and that the appropriate permission(s) has been obtained, if required. They should review their personal degree audit each time they cancel or add courses, and contact an Academic Advisor in the Office of the Dean of the Faculty of Humanities if they have questions, **particularly if the degree audit shows unused courses**. Students should also be aware that changes to their course load may affect their fees and their eligibility for scholarships and financial aid such as OSAP.

#### **OVERLOAD**

Students who wish to take more courses than recommended for a single Level of their program may do so only if their Cumulative Average is at least 7.0. **A student with outstanding deferred examinations or incomplete term-work will not be permitted to overload in the following term.** Students registered in the final Level of their program are permitted to overload by up to six additional units in order to become eligible to graduate.

#### **SUMMER SCHOOL**

Students who have been granted deferred examination or term-work privileges for courses taken in the preceding Winter session must secure the advance permission of the Office of the Dean of the Faculty of Humanities before registering in Spring/Summer courses. A decision will be made based upon the academic record of the student and the amount of work outstanding.

#### **LETTER OF PERMISSION**

Students in good academic standing, who wish to attend another university to take courses for credit toward a McMaster degree, must first request a Letter of Permission from the Office of the Dean of the Faculty of Humanities. A Letter of Permission is automatically cancelled if a student is placed on academic probation, program probation, or required to withdraw from the University. Students should take note of any conditions on the Letter of Permission that might apply, including the requirement of a grade of at least C- for transfer credit. Courses taken at another university cannot be used to satisfy the University's minimum residence requirement, will not be included in the calculation of the averages at McMaster, and therefore cannot be used to raise standing. The transcript designation will read *COM*, indicating *Complete*, when a C- or better is attained. It is the student's responsibility to ensure that an official transcript from the host university is sent to the Office of the Dean of the Faculty of Humanities to receive credit for work taken.

#### **SUMMER IMMERSION PROGRAMS IN FRENCH**

Students must obtain approval from the Office of the Dean of the Faculty of Humanities prior to participating in any language immersion program.

The government-sponsored summer language bursary program offers university students the opportunity to take French courses at a large number of accredited institutions. Students wishing to attend another university in order to participate in a language immersion program must: (a) petition the Office of the Dean of the Faculty of Humanities, (b) submit detailed course descriptions for assessment, and (c) obtain a Letter of Permission.

Students registered in a program in French may take a maximum of six units of credit in this manner as elective work only. Students not registered in a program in French may take up to 12 units of credit.

#### **EXCHANGE PROGRAMS WITHIN CANADA**

Information concerning student exchanges can be found in the *Academic Facilities, Student Services and Organizations* section of this Calendar under the heading *Centre for Student Development, International Student Services*.

### **THIRD YEAR STUDY ELSEWHERE/HUMANITIES STUDY ABROAD Humanities Study Abroad During Level III of Honours Programs**

There are two ways to undertake international studies during Level III of an Honours program: (i) a Formal Exchange Program or (ii) a Third Year Study Elsewhere Program.

#### **(i) Formal Exchange Program During Level III of Honours Programs**

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

#### **(ii) Third Year Study Elsewhere Honours Program**

Qualified Level III students may undertake studies at a university abroad for one or two terms in the Third Year Study Elsewhere Program. This program is not available at universities with which McMaster University has a Formal Exchange Agreement.

Students register at McMaster but do not pay tuition to McMaster University. In addition to paying tuition fees at the other institution, students must pay all associated travel, study and living expenses. See the *General Academic Regulations* section in this Calendar and the sections on *Eligibility* and *Application* below.

#### **Eligibility for Study Abroad**

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

To be eligible to take part in this program, students must have completed at least 60 units of work with a Cumulative Average of at least 7.0. Individual programs 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 program do not have the option of graduating with a three-year B.A. degree on the basis of work completed in this program, 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 for Study Abroad**

Students interested in applying for this program should consult Rowena Muhic-Day, the Career Services, Liaison and Study Abroad Coordinator, Chester New Hall, Room 102/A and the students' department(s) or School approximately one year before planning to begin their study abroad (i.e. during the Fall term of the year in which they enter Level II). A plan for the completion of the academic program, approved by the program counsellor(s), must be submitted together with the application to the Coordinator no later than the end of January. However, application for some exchanges may be due as early as December.

## **PROGRAMS OFFERED BY THE FACULTY OF HUMANITIES**

### **SCHOOL OF THE ARTS**

**WEB ADDRESS:** <http://sota.humanities.mcmaster.ca>

The School of the Arts offers programs in:

- Art
- Art History
- Music
- Theatre & Film Studies

In addition, Minors are available in: Art History, Music and Theatre & Film Studies.

**PROGRAMS IN ART AND ART HISTORY****NOTE**

Students intending to do graduate work in the field of Art History should note that most universities offering such programs require undergraduate work in French, German or Italian for admission. These students are strongly encouraged to include one of these language courses as early as possible in their program.

**Honours Arts & Science and Art History**

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

**Honours Art (2028)**

Students wishing to enter this program must complete an application for admission to Level II on MUGSI in mid-March to be considered for admission.

**ADMISSION**

Enrolment in Honours Art is limited. Selection is based on academic achievement but requires, as a minimum, completion of any Level I program and: (a) a Cumulative Average of at least 6.0, (b) an average of at least 7.0 in ART 1F03 and 1FF3 and (c) the successful completion of ART HIST 1A03 and 1AA3.

**NOTES**

1. Students in Honours Art must complete the following courses before registering in Level III or IV Art courses: ART 2A03, 2AA3, 2B03, 2BB3, 2C03, 2CC3, 2F03, 2FF3.
2. Students must achieve a minimum grade of B- in ART 3E06 before registering in ART 4E12.
3. Students wishing to obtain a Minor in Art History should note that six, and only six, units of Art History required in the Art program may be counted toward the Minor of 24 units.

**REQUIREMENTS**

120 units total (Levels I to IV)

30 units	from the Level I program completed prior to admission into the program
45 units	ART 2A03, 2AA3, 2B03, 2BB3, 2C03, 2CC3, 2F03, 2FF3, 3D03, 3E06, 4E12
9 units	from ART 3F03, 3G03, 3H03, 3I03
6 units	ART HIST 2D03, 3AA3
6 units	Levels III and IV Art History
3 units	Levels II, III or IV Art History
21 units	Electives

**Combined Honours in Art and Another Subject**

Students wishing to enter this program must complete an application for admission to Level II on MUGSI in mid-March to be considered for admission.

**ADMISSION**

Enrolment in this program is limited. Selection is based on academic achievement but requires, as a minimum, completion of any Level I program and: (a) a Cumulative Average of at least 6.0, (b) an average of at least 7.0 in ART 1F03 and 1FF3 and (c) the successful completion of ART HIST 1A03 and 1AA3

**NOTES**

1. Students in Combined Honours Art must complete ART 2A03, 2AA3, 2B03, 2BB3, 2C03, 2CC3, 2F03, 2FF3 before registering in Level III or IV Art courses.
2. Because ART HIST 2D03 is required in all Art History programs, students registered in the Combined Honours Art and Art History program will substitute three units elective for ART HIST 2D03.
3. Students must achieve a minimum of B- in ART 3E06 before registering in ART 4C06.

**REQUIREMENTS**

120 units total (Levels I to IV)

30 units	from the Level I program completed prior to admission into the program
39 units	ART 2A03, 2AA3, 2B03, 2BB3, 2C03, 2CC3, 2F03, 2FF3, 3D03, 3E06, 4C06
6 units	ART HIST 2D03, 3AA3 (See Note 2 above.)
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

**Honours Art History****(2029)**

Students wishing to enter this program must complete an application for admission to Level II on MUGSI in mid-March to be considered for admission.

**ADMISSION**

Completion of any Level I program and a Cumulative Average of at least 6.0 including an average of at least 7.0 in ART HIST 1A03 and 1AA3.

**NOTES**

1. Before choosing Level III courses, students should become familiar with the prerequisites for Level IV courses.
2. Upper-level students may wish to pursue an internship in an art museum or gallery by completing HUMAN 3W03 or 4W03 and should consult with the Art History Counsellor for advice.

**REQUIREMENTS**

120 units total (Levels I to IV)

30 units	from the Level I program completed prior to admission into the program
18 units	ART HIST 2A03, 2B03, 2C03, 2D03, 2I03, 2Z03
9 units	Level III Art History
12 units	Levels III and IV Art History
6 units	from ART HIST 4AA3, 4BB3, 4C03, 4E03, 4H03, 4V03, 4X03
45 units	Electives

**Combined Honours in Art History and Another Subject**

Students wishing to enter this program must complete an application for admission to Level II on MUGSI in mid-March to be considered for admission.

**ADMISSION**

Completion of any Level I program and a Cumulative Average of at least 6.0 including an average of at least 7.0 in ART HIST 1A03 and 1AA3.

**NOTES**

1. Students combining Honours Art History with Honours Art must not register in ART HIST 3P03. These students will be required to substitute three units of Level III or IV Art History in lieu of ART HIST 3P03.
2. Before choosing Level III courses, students should become familiar with the prerequisites for Level IV courses.

**REQUIREMENTS**

120 units total (Levels I to IV)

30 units	from the Level I program completed prior to admission into the program
18 units	ART HIST 2A03, 2B03, 2C03, 2D03, 2I03, 2Z03
6 units	Level III Art History
3 units	from ART HIST 4AA3, 4BB3, 4C03, 4E03, 4H03, 4V03, 4X03
9 units	Levels III and IV Art History
36 units	Courses specified for the other subject. (Combinations with Social Sciences may require more than 36 units.)
18 units	Electives to total 120 units

**B.A. in Art History****(1029)**

Students wishing to enter this program must complete an application for admission to Level II on MUGSI in mid-March to be considered for admission.

**ADMISSION**

Completion of any Level I program and a Cumulative Average of at least 3.5 including an average of at least 4.0 in ART HIST 1A03 and 1AA3.

**REQUIREMENTS**

90 units total (Levels I to III)

30 units	from the Level I program completed prior to admission into the program
9 units	ART HIST 2A03, 2B03, 2C03
6 units	from ART HIST 2D03, 2I03, 2Z03
15 units	Levels III and IV Art History
30 units	Electives

**Minor in Art History**

24 units of Art History, of which no more than six units may be from Level I

**PROGRAMS IN DRAMA**

(SEE PROGRAMS IN THEATRE & FILM STUDIES)

**PROGRAMS IN MUSIC****NOTES**

1. Completion of a Music degree requires considerable daytime attendance.
2. Normally, students who possess an undergraduate degree in Music will not be admitted to a B.Mus. degree program as a second undergraduate degree.

**MUSIC I****{0370}****REQUIREMENTS**

Students admitted to Music I must complete 33 units of work as follows:

21 units MUSIC 1CC3, 1D03, 1E06, 1G03, 1Y03, 1YY3  
12 units Electives

**Honours Music (B.Mus.)****{2370}**

Students wishing to enter this program must complete an application for admission to Level II on MUGSI in mid-March to be considered for admission.

**ADMISSION**

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

**NOTES**

1. The courses appearing in Course List 1 are specifically intended to prepare students to attend a Faculty of Education and for a career in school and music teaching. Students interested in Music Education are advised to consult the Music Counsellor during their first year for advice on fulfilling the entrance requirements of Faculties of Education.
2. Students who intend to pursue graduate studies in music or who wish to use the music degree as preparation for post-graduate studies in other professions should select a significant number of the courses in Course List 2.

**COURSE LIST 1**

MUSIC 3AA3, 3J03, 3K03, 3L03, 3M03, 3N03, 3O03, 3P03, 3V03, 4K03, 4L03, 4M03, 4N03, 4OC3, 4OI3, 4P03, 4Q03, 4V03

**COURSE LIST 2**

MUSIC 3CM3, 3CT3, 3H03, 3Y03, 3YY3, 4C03, 4H03, 4I03, 4R03, 4Y03

**COURSE LIST 3**

MUSIC 2A03, 2F03, 2I03, 2II3, 2Z03, 3G03, 3T03, 3U03, 3Z03, 4G03, 4S03, 4U03, 4Z03, 4ZZ3

**COURSE LIST 4**

MUSIC 3E03, 3E06, 3SS3, 4E03, 4E06, 4SS3 (Lesson fees are charged to students taking these courses.)

**REQUIREMENTS**

123 units total (Levels I to IV)

33 units Music I  
24 units MUSIC 2CC3, 2D03, 2E06, 2G03, 2H03, 2Y03, 2YY3  
3 units from MUSIC 2A03, 2F03, 2I03, 2II3, 3T03, 3U03  
24 units from Course Lists 1 and 2  
9 units from Course Lists 3 and 4  
30 units Electives

**Combined Honours B.A. in Music and Another Subject**

Students wishing to enter this program must complete an application for admission to Level II on MUGSI in mid-March 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 3T03, 3U03, 3Z03

**COURSE LIST 2**

MUSIC 2A03, 2F03, 2G03, 2I03, 2II3, 2Z03, 3T03, 3U03, 3Z03

**REQUIREMENTS**

120 units total (Levels I to IV)

33 units Music I program  
21 units MUSIC 2CC3, 2D03, 2E06, 2H03, 2Y03, 2YY3  
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.)  
12 units Electives to total 120 units

**B.A. in Music****{1378}**

Students wishing to enter this program must complete an application for admission to Level II on MUGSI in mid-March to be considered for admission.

**ADMISSION**

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

**NOTES**

1. Students from another Level I program may be admitted with a Cumulative Average of at least 3.5, a weighted average of 4.0 in MUSIC 1A03 and 1AA3, and a successful audition.
2. Students registered in the B.A. Music program who wish to transfer into the Honours B.Mus. program must apply through the Dean's Office before the end of classes in their final year of study.

**COURSE LIST 1**

All Level II, III and IV Music courses, except MUSIC 2G03, 3G03, 4G03

**REQUIREMENTS**

90 units total (Levels I to III)

33 units Music I program  
15 units MUSIC 2CC3, 2D03, 2H03, 2Y03, 2YY3  
12 units from Course List 1  
30 units Electives

**Minor in Music**

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

**DIPLOMA IN MUSIC PERFORMANCE**

The Diploma is intended to recognize a concentration in the area of music performance and is available to two distinct groups of people:

1. Students who are enrolled in, or graduates of, a Music degree program at McMaster; and
2. Students enrolled in, or graduates of, other McMaster degree programs, as well as musicians in the community, such as graduates from the Royal Conservatory of Music, Mohawk College, or other universities, etc., who wish to receive formal recognition for their musical achievements.

**GROUP 1 - MCMASTER STUDENTS****ADMISSION**

Registration in, or completion of, a degree program in Music. Students should meet with the Academic Counsellor for Music in the School of the Arts as early as possible in their degree program.

**GROUP 2 - OTHERS****ADMISSION**

Completion of a music audition/examination consisting of:

1. Demonstration of technique (a level equivalent to at least honours standing in Grade 8 of the Royal Conservatory of Music);
2. Performance (approximately 20 minutes duration) of two or three varied pieces of your choice (approximately Grade 8 level), including at least one from the 20th century;
3. Ear test appropriate to the Grade 8 honours performance level;
4. Written examination of rudiments of theory (Grade 2 level);
5. Interview; and
6. MUSIC 1E06 or equivalent, e.g., A.R.C.T. (Associate of the Royal Conservatory of Music).

In lieu of the above, students concentrating in jazz must complete an audition demonstrating equivalent experience in jazz performance.

Auditions take place between January and March. Applicants must contact the School of the Arts to arrange for an audition. Advanced credit, up to a maximum of 15 units, may be determined on an individual basis.

**REQUIREMENTS**

The Diploma will require completion of **24 units** as follows:

- 15 units MUSIC 2E06, 3E06, 3SS3, 4G03, 4U03
- 9 units MUSIC 4E09

- Lesson fees: Lesson fees are charged over and above tuition for MUSIC 2E06, 3E06, 3SS3, and 4E09. Students registered in Honours Music will not be charged extra fees for MUSIC 2E06.
- For those registered in a degree program at McMaster University, MUSIC 4E09 must be taken over and above the total number of units required for a McMaster degree. Because this course may not be used for credit towards any McMaster degree, students pursuing the Diploma must plan their work to accommodate nine extra units.

**PROGRAMS IN THEATRE & FILM STUDIES**

The School of the Arts offers a broadly based program of study in the history, theory, and critical understanding of dramatic performance in both live and recorded media. Program requirements at Level II are designed to expose students to the breadth of the study. Level III courses offer more specific approaches to the study of theatre and film. A limited amount of student specialization within the program is possible at this level. The Honours Seminars at Level IV focus on independent research. Students are advised to note carefully the prerequisites for all courses. Students are also advised to take note which courses are offered in alternate years.

**Honours Arts & Science and Theatre & Film Studies**

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

**NOTE**

Students registered in Honours Theatre & Film Studies are encouraged to complete courses in related art forms.

**Honours Theatre & Film Studies [2551]**

Students wishing to enter this program must complete an application for admission to Level II on MUGSI in mid-March to be considered for admission.

**ADMISSION**

Completion of any Level I program and a Cumulative Average of at least 6.0 including an average of at least 7.0 in THTR&FLM 1A03 and 1B03.

**NOTE**

A number of courses that directly pertain to Theatre & Film Studies are offered by other departments: Classics, Comparative Literature, English and Cultural Studies, French, Kinesiology and Women's Studies. These are recommended as electives listed at the end of the Theatre & Film course descriptions. Up to nine units from the list may be made available as substitutes for Theatre & Film courses, and counted toward the fulfillment of a program in Theatre & Film Studies. Students are advised that there may be restrictions on enrolment in these courses.

**REQUIREMENTS**

120 units total (Levels I to IV)

- 30 units from the Level I program completed prior to admission into the program
- 12 units Level II Theatre & Film courses with at least nine units from THTR&FLM 2AA3, 2BB3, 2C03, 2D03, 2E03, 2F03 (Students may take only one of THTR&FLM 2AA3 or 2BB3.)
- 27 units Level III or IV Theatre & Film
- 6 units Level IV Theatre & Film courses including at least three units from THTR&FLM 4B03, 4C03, 4D03, 4E03, 4F03
- 45 units Electives

**Combined Honours in Theatre & Film Studies and Another Subject**

Students wishing to enter this program must complete an application for admission to Level II on MUGSI in mid-March to be considered for admission.

**ADMISSION**

Completion of any Level I program and a Cumulative Average of at least 6.0 including an average of at least 7.0 in THTR&FLM 1A03 and 1B03.

**NOTE**

A number of courses that directly pertain to Theatre & Film Studies are offered by other departments: Classics, Comparative Literature, English and Cultural Studies, French, Kinesiology and Women's Studies. These are recommended as electives listed at the end of the Theatre & Film course descriptions. Up to nine units from the list may be made available as substitutes for Theatre & Film courses, and counted toward the fulfillment of a program in Theatre & Film Studies. Students are advised that there may be restrictions on enrolment in these courses.

**REQUIREMENTS**

120 units total (Levels I to IV)

- 30 units from the Level I program completed prior to admission into the program
- 12 units Level II Theatre & Film courses with at least nine units from THTR&FLM 2AA3, 2BB3, 2C03, 2D03, 2E03, 2F03 (Students may take only one of THTR&FLM 2AA3 or 2BB3.)
- 18 units Level III or IV Theatre & Film
- 6 units Level IV Theatre & Film courses including at least three units from THTR&FLM 4B03, 4C03, 4D03, 4E03, 4F03
- 36 units Courses specified for the other subject. (Combinations with Social Sciences may require more than 36 units.)
- 18 units Electives to total 120 units

**B.A. in Theatre & Film Studies [1551]**

Students wishing to enter this program must complete an application for admission to Level II on MUGSI in mid-March to be considered for admission.

**ADMISSION**

Completion of any Level I program and a Cumulative Average of at least 3.5 including an average of at least 4.0 in THTR&FLM 1A03 and 1B03.

**REQUIREMENTS**

90 units total (Levels I to III)

- 30 units from the Level I program completed prior to admission into the program
- 12 units Level II Theatre & Film courses with at least nine units from THTR&FLM 2AA3, 2BB3, 2C03, 2D03, 2E03, 2F03 (Students may take only one of THTR&FLM 2AA3 or 2BB3.)
- 12 units Level III or IV Theatre & Film
- 36 units Electives

**Minor in Theatre & Film Studies**

24 units of Theatre & Film

**DEPARTMENT OF CLASSICS**

WEB ADDRESS: <http://www.humanities.mcmaster.ca/~classics>

**Honours Arts & Science and Classics**

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

**NOTES**

1. Students in a Classics program may choose courses from the following subfields: Ancient History and Society, Ancient Philosophy, Classical Archaeology and Art History, Classical Literature in Translation, Greek Language and Literature, Latin Language and Literature.
2. With the approval of the Department of Classics and the Office of the Dean of the Faculty of Humanities, students who have completed 60 units of work of any Honours program in Classics may replace all or part of their Level III work by courses of study at a university or equivalent institution abroad. Consult the Department for further details.
3. Students may receive up to six units of credit for archaeological field work at an approved Classical site. Consult the Department for further details.
4. Students intending to do graduate work in the field of Classics should note that most universities offering such programs 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 program.
5. Students intending to do graduate work in the field of Classics may wish to include an independent study course (CLASSICS 4T03) in the final level of their program.

**Honours Classics****(PROGRAM A: ANCIENT HISTORY AND ARCHAEOLOGY) {2131}**

Students wishing to enter this program must complete an application for admission to Level II on MUGSI in mid-March to be considered for admission.

**ADMISSION**

Completion of any Level I program and a Cumulative Average of at least 6.0 and an average of at least 7.0 in any six units of Level I Classics, Greek or Latin. (Students with Grade 12 Greek U may substitute six units of Level II Greek; students with Grade 12 Latin U may substitute six units of Level II Latin.)

**REQUIREMENTS**

120 units total (Levels I to IV)

- 30 units from the Level I program completed prior to admission into the program
- 24 units from CLASSICS 2B03, 2C03, 2K03, 2L03, 2LL3, 2Z03, 3C03, 3CC3, 3E03, 3EE3, 3G03, 3H03, 3LL3, 3MM3, 3Q03, 3S03, 3T03
- 6 units from CLASSICS 4B03, 4BB3, 4E03, 4T03
- 24 units Levels II, III and IV Classics, Greek, Latin
- 36 units Electives

**Honours Classics****(PROGRAM B: CLASSICAL LANGUAGES AND LITERATURE) {2132}**

Students wishing to enter this program must complete an application for admission to Level II on MUGSI in mid-March to be considered for admission.

**ADMISSION**

Completion of any Level I program and a Cumulative Average of at least 6.0 and an average of at least 7.0 in GREEK 1Z03 and 1ZZ3 or in LATIN 1Z03 and 1ZZ3 (Students with Grade 12 Greek U may substitute six units of Level II Greek; students with Grade 12 Latin U may substitute six units of Level II Latin.) Students are encouraged to include a Level I Classics course in their Level I program.

**REQUIREMENTS**

120 units total (Levels I to IV)

- 30 units from the Level I program completed prior to admission into the program
- 6 units from CLASSICS 2D03, 2E03, 2H03, 3EE3, 3I03, 3T03
- 24 units Greek (including GREEK 1Z03 and 1ZZ3 (or 1Z06), if not completed in Level I)
- 24 units Latin (including LATIN 1Z03 and 1ZZ3 (or 1Z06), if not completed in Level I)
- 6 units Levels II, III and IV Classics, Greek, Latin
- 30 units Electives

**Combined Honours in****Classics and Another Subject****(PROGRAM A: ANCIENT HISTORY AND ARCHAEOLOGY)**

Students wishing to enter this program must complete an application for admission to Level II on MUGSI in mid-March to be considered for admission.

**ADMISSION**

Completion of any Level I program and a Cumulative Average of at least 6.0 and an average of at least 7.0 in any six units of Level I Classics, Greek or Latin courses. (Students with Grade 12 Greek U may substitute six units of Level II Greek; students with Grade 12 Latin U may substitute six units of Level II Latin.)

**REQUIREMENTS**

120 units total (Levels I to IV)

- 30 units from the Level I program completed prior to admission into the program
- 21 units from CLASSICS 2B03, 2C03, 2K03, 2L03, 2LL3, 2Z03, 3C03, 3CC3, 3E03, 3EE3, 3G03, 3H03, 3LL3, 3MM3, 3Q03, 3S03, 3T03
- 6 units from CLASSICS 4B03, 4BB3, 4E03, 4T03
- 9 units Levels II, III and IV Classics, Greek, Latin
- 36 units Courses specified for the other subject. (Combinations with Social Sciences may require more than 36 units.)
- 18 units Electives to total 120 units

**Combined Honours in****Classics and Another Subject****(PROGRAM B: CLASSICAL LANGUAGES AND LITERATURE)**

Students wishing to enter this program must complete an application for admission to Level II on MUGSI in mid-March to be considered for admission.

**ADMISSION**

Completion of any Level I program and a Cumulative Average of at least 6.0 and an average of at least 7.0 in GREEK 1Z03 and 1ZZ3 or in LATIN 1Z03 and 1ZZ3. (Students with Grade 12 Greek U may substitute six units of Level II Greek; students with Grade 12 Latin U may substitute six units of Level II Latin.)

**REQUIREMENTS**

120 units total (Levels I to IV)

- 30 units from the Level I program completed prior to admission into the program
- 6 units from CLASSICS 2D03, 2E03, 2H03, 3EE3, 3I03, 3T03
- 24 units Greek or Latin
- 6 units Levels II, III and IV Classics, Greek, Latin
- 36 units Courses specified for the other subject. (Combinations with Social Sciences may require more than 36 units.)
- 18 units Electives to total 120 units

**B.A. in Classics****{1130}**

Students wishing to enter this program must complete an application for admission to Level II on MUGSI in mid-March to be considered for admission.

**ADMISSION**

Completion of any Level I program and a Cumulative Average of at least 3.5 and an average of at least 4.0 in any six units of Level I Classics, Greek or Latin courses. (Students with Grade 12 Greek U may substitute six units of Level II Greek; students with Grade 12 Latin U may substitute six units of Level II Latin.)

**NOTES**

1. Students entering the program with GREEK 1ZZ3 or LATIN 1ZZ3 who have not also completed a Level I Classics course are strongly encouraged to include CLASSICS 2L03, 2LL3 in their Level II program.
2. Students are encouraged to include at least six units of Greek or Latin in their program. GREEK 1Z03, 1ZZ3 and LATIN 1Z03, 1ZZ3, if not completed in the Level I program, may be taken as elective courses.

**REQUIREMENTS**

90 units total (Levels I to III)

- 30 units from the Level I program completed prior to admission into the program
- 12 units Level II Classics, Greek or Latin
- 12 units Level III Classics, Greek or Latin
- 36 units Electives

**Minor in Classics**

24 units of Classics, Greek or Latin, of which no more than six units may be from Level I

**Minor in Greek**

24 units of Greek, of which no more than six units may be from Level I

**Minor in Latin**

24 units of Latin, of which no more than six units may be from Level I

**INTERDISCIPLINARY MINOR  
IN ARCHAEOLOGY**

See the *Interdisciplinary Minors and Thematic Areas* section of this Calendar.



## DEPARTMENT OF COMMUNICATION STUDIES AND MULTIMEDIA

WEB ADDRESS: <http://csmm.humanities.mcmaster.ca/>

### Honours Communication Studies

Students wishing to enter this program must complete an application for admission to Level II on MUGSI in mid-March to be considered for admission.

#### ADMISSION

Completion of any Level I program and a Cumulative Average of at least 6.0 including an average of at least 7.0 in CMST 1A03 and 1B03. In their Level I program, students should select courses carefully in order to meet the prerequisites for courses listed in specific Streams.

#### NOTES

Communication Studies is an academic discipline which encompasses many fields of inquiry. Graduates of this program will have an advanced knowledge of the nature, function and evolution of communication, and will develop both practical and theoretical skills necessary to pursue careers in the field of communications.

1. Students in this program must complete **two** of the following Streams:

**The Language and Social Life Stream** involves the study and discovery of patterns in human language and society. Focus is placed on the art and science of persuasion, linguistic methods and the importance of language in political and social life.

**The Cultural Studies Stream** focuses on the critical analysis of popular culture through film, the visual arts and a variety of other forms. Unique to the Communication approach to Cultural Studies is a focus on empirical analysis as well as the social, political and cognitive significance of popular cultures.

**The Performance Studies Stream** examines artistic and everyday performances. These performances range from theatre, concerts and performance art to story telling, ceremonies and public protests. Students will examine and analyze performances and their meanings and effects with particular emphasis on the relationships between these performances and their consequences with a particular emphasis on the role of actions in social communication.

**The Mass Communication Stream** focuses on the organization and functioning of information media such as television, radio, the Internet and the press as major institutions and sources of knowledge and understanding about society.

2. It is strongly recommended that students in the Language and Social Life Stream take LINGUIST 1A03 and 1AA3 in Level I or Level II in order to take upper level linguistics courses.

3. Some courses are listed in more than one Stream. Students can receive credit in only one stream for such courses.

4. It is recommended that students, especially those in the Language and Social Life Stream, take six units of a language other than English.

#### COURSE LIST 1 - LANGUAGE AND SOCIAL LIFE STREAM

6 units CMST 2E03, 3G03  
3 units from CMST 4J03, 4L03  
9 units from CMST 2F03, 2U03, 2V03, 2W03, 3C03, 3D03, 3E03, 3V03, 3WW3, 3Y03, 4D03, 4G03, 4H03, 4I03, 4J03, 4L03, 4R03, 4S03, 4T03; PSYCH 2C03, 2H03, 3U03, 3UU3

#### COURSE LIST 2 - CULTURAL STUDIES STREAM

3 units CMST 2BB3  
3 units from CMST 4C03, 4M03  
12 units from CMST 2F03, 2I03, 2M03, 2MM3, 2N03, 2O03, 2S03, 2T03, 2X03, 2Y03, 3BB3, 3CC3, 3F03, 3P03, 3SS3, 3T03, 3TT3, 3UU3, 3WW3, 3XX3, 4FF3

#### COURSE LIST 3 - PERFORMANCE STUDIES STREAM

6 units CMST 2G03, 4C03  
6 units from CMST 2H03, 2P03, 2R03, 2RR3, 2S03, 3U03  
6 units from CMST 2F03, 2Q03, 3H03, 3L03, 3M03; KINESIOL 3JJ3, 3T03

#### COURSE LIST 4 - MASS COMMUNICATION STREAM

6 units CMST 2K03, 4E03  
3 units from CMST 2L03, 2Z03  
3 units from CMST 3C03, 3D03  
6 units from CMST 2F03, 2L03, 2Z03, 3C03, 3D03, 3I03, 3K03, 3MM3, 4D03

#### REQUIREMENTS

120 units total (Level I to IV)

30 units from the Level I program completed prior to admission into the program  
12 units CMST 2A03, 2B03, 2C03, 2D03  
3 units from CMST 3K03, 3N03, 3Q03  
3 units from CMST 4CC3, 4N03, 4Q03  
36 units from Course Lists (See Note 1 above.)  
36 units Electives

### Combined Honours in Communication Studies and Another Subject

Students wishing to enter this program must complete an application for admission to Level II on MUGSI in mid-March to be considered for admission.

#### ADMISSION

Completion of any Level I program and a Cumulative Average of at least 6.0 including an average of at least 7.0 in CMST 1A03 and 1B03. In their Level I program, students should select courses carefully in order to meet the prerequisites for courses listed in specific Streams.

#### NOTES

1. Students wishing to combine Communication Studies with a subject in the Faculty of Humanities should follow the requirements as outlined below. Those students wishing to combine Communication Studies with a subject in the Faculty of Social Sciences should follow the requirements as outlined in *Combined Honours in Communication Studies and Another Subject in the Faculty of Social Sciences section of the Calendar*.

2. Communication Studies is an academic discipline which encompasses many fields of inquiry. Graduates of this program will have an advanced knowledge of the nature, function and evolution of communication, and will develop both practical and theoretical skills necessary to pursue careers in the field of communications. Students in this program must complete **one** of the following Streams:

**The Language and Social Life Stream** involves the study and discovery of patterns in human language and society. Focus is placed on the art and science of persuasion, linguistic method and the importance of language in political and social life.

**The Cultural Studies Stream** focuses on the critical analysis of popular culture through film, the visual arts and a variety of other forms. Unique to the Communication approach to Cultural Studies is a focus on empirical analysis as well as the social, political and cognitive significance of popular cultures.

**The Performance Studies Stream** examines artistic and everyday performances. These performances range from theatre, concerts and performance art to story telling, ceremonies and public protests. Students will examine and analyze performances and their meanings and effects with particular emphasis on the relationships between these performances and their consequences with a particular emphasis on the role of actions in social communication.

**The Mass Communication Stream** focuses on the organization and functioning of information media such as television, radio, the Internet and the press as major institutions and sources of knowledge and understanding about society.

3. It is strongly recommended that students in the Language and Social Life stream take LINGUIST 1A03 and 1AA3 in Level I or Level II in order to take upper level linguistics courses.

4. It is recommended that students, especially those in the Language and Social Life Stream, take six units of a language other than English.

**COURSE LIST 1 - LANGUAGE AND SOCIAL LIFE STREAM**

- 6 units CMST 2E03, 3G03  
 3 units from CMST 4J03, 4L03  
 9 units from CMST 2F03, 2U03, 2V03, 2W03, 3C03, 3D03, 3E03, 3V03, 3WW3, 3Y03, 4D03, 4G03, 4H03, 4I03, 4J03, 4L03, 4R03, 4S03, 4T03; PSYCH 2C03, 2H03, 3U03, 3UU3

**Course List 2 - Cultural Studies Stream**

- 3 units CMST 2BB3  
 3 units from CMST 4C03, 4M03  
 12 units from CMST 2F03, 2I03, 2M03, 2MM3, 2N03, 2O03, 2S03, 2T03, 2X03, 2Y03, 3BB3, 3CC3, 3F03, 3P03, 3SS3, 3T03, 3TT3, 3UU3, 3WW3, 3XX3, 4FF3

**COURSE LIST 3 - PERFORMANCE STUDIES STREAM**

- 6 units CMST 2G03, 4C03  
 6 units from CMST 2H03, 2P03, 2R03, 2RR3, 2S03, 3U03  
 6 units from CMST 2F03, 2Q03, 3H03, 3L03, 3M03; KINESIOL 3JJ3, 3T03

**COURSE LIST 4 - MASS COMMUNICATION STREAM**

- 6 units CMST 2K03, 4E03  
 3 units from CMST 2L03, 2Z03  
 3 units from CMST 3C03, 3D03  
 6 units from CMST 2F03, 2L03, 2Z03, 3C03, 3D03, 3I03, 3K03, 3MM3, 4D03

**REQUIREMENTS**

- 120 units total (Level I to IV)  
 30 units from the Level I program completed prior to admission into the program  
 12 units CMST 2A03, 2B03, 2C03, 2D03  
 3 units from CMST 3K03, 3N03, 3Q03  
 3 units from CMST 4CC3, 4N03, 4Q03  
 18 units from one of the Course Lists (See Note 1 above.)  
 36 units Courses specified for the other subject.  
 18 units Electives to total 120 units

**MULTIMEDIA**

WEB ADDRESS: <http://www.humanities.mcmaster.ca/~mmedia/>

**Honours Arts & Science and Multimedia**

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

**Combined Honours B.A. in Multimedia and Another Subject**

Students wishing to enter this program must complete an application for admission to Level II on MUGSI in mid-March to be considered for admission.

**ADMISSION**

Enrolment in this program is limited and highly competitive. Selection is based on academic achievement in Level I Multimedia courses but requires, as a minimum, completion of any Level I program and a Cumulative Average of at least 6.0 including a grade of at least B- in each of MMEDIA 1A03, 1B03.

**NOTES**

1. Applicants must have completed Level I (30 units including MMEDIA 1A03 and 1B03) by April of the year in which application is made.
2. Application for this program must be made by April 30. Please see *Admission to Level II Programs under Academic Regulations* in this section of the Calendar for information with regard to the application procedure.
3. The Combined Honours in Multimedia program is not available to students who already possess an undergraduate degree. As an alternative, such students may be interested in the Certificate/Diploma in Web Design and Development offered through the Centre for Continuing Education. Please refer to the *Certificate and Diploma Programs* section of this calendar under the heading *Centre for Continuing Education*.
4. Students must complete MMEDIA 4A03 and 4B03 in the same academic year.

**COURSE LIST 1**

CMST 2T03, COMP SCI 1MA3, 2SC3, 3SE3; LINGUIST 4D03; MMEDIA 2C03, 2D03, 2E03, 2F03, 2G03, 2H03, 2I03, 2J03, 3C03, 3D03, 3E03, 3F03, 3G03, 3H03, 3I03, 3J03, 3K03, 4C03, 4D03; MUSIC 2F03; THTR&FLM 2E03; WOMEN ST 2D03

**REQUIREMENTS**

- 120 units total (Levels I to IV)  
 30 units from the Level I program completed prior to admission into the program  
 18 units MMEDIA 2A03, 2B03, 3A03, 3B03, 4A03, 4B03  
 3 units from MMEDIA 2C03, 3G03  
 15 units from Course List 1  
 36 units Courses specified for the other subject. (Combinations with Social Sciences may require more than 36 units.)  
 18 units Electives to total 120 units

**COMPARATIVE LITERATURE**

WEB ADDRESS: <http://www.humanities.mcmaster.ca/~complit>

**Honours Arts & Science and Comparative Literature**

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

**Combined Honours in Comparative Literature and Another Subject**

Comparative Literature is the study of literature from an international and interdisciplinary perspective. The Combined Honours Program allows students to pursue both Comparative Literature (taught in English) and another subject of their choosing.

Students wishing to enter this program must complete an application for admission to Level II on MUGSI in mid-March to be considered for admission.

**ADMISSION**

Completion of any Level I program and a Cumulative Average of at least 6.0 including a grade of at least B- in COMP LIT 1A03 or 1AA3; whichever of these two courses was not completed in Level I must be taken in Level II.

**NOTES**

1. Graduate programs in Comparative Literature require proficiency in a second language. Students who plan to pursue graduate studies in Comparative Literature are strongly encouraged to include a second language beyond the introductory level in their program.
2. Upon completion of 60 units of work and with the approval of the Director of Comparative Literature and of the Office of the Dean of the Faculty of Humanities, one or both terms of Level III of this program may be replaced by courses of study at a university or universities under the Humanities Study Elsewhere Program.

**REQUIREMENTS**

- 120 units total (Level I to IV)  
 30 units from the Level I program completed prior to admission into the program  
 15 units from COMP LIT 2A03, 2AA3, 2BB3, 2CC3, 2F03, 3BB3, 3G03, 3HH3, 3JJ3, 3N03, 3QQ3, 3WW3  
 6 units from COMP LIT 4A03, 4D03, 4E03, 4F03, 4T03  
 15 units Levels II, III, IV Comparative Literature  
 36 units Courses specified for the other subject. (Combinations with Social Sciences may require more than 36 units.)  
 18 units Electives to total 120 units

**Minor in Comparative Literature**

24 units of Comparative Literature, of which no more than six units may be taken from Level I.

**DEPARTMENT OF ENGLISH AND CULTURAL STUDIES**

WEB ADDRESS: <http://www.humanities.mcmaster.ca/~english/>

**Programs Offered by the Department of English and Cultural Studies****Honours Arts & Science and English**

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

**AREAS OF STUDY**

The Department has defined four areas of study. Students should consult the Program Notes for their specific program to determine their requirements regarding these areas. Level II and III courses are allocated to the areas as follows:

	AREA	ENGLISH COURSES
AREA 1	Early British Literature	2B06, 3C06, 3I06, 3K06, 3L06, 3V06
AREA 2	Later British Literature	2I06, 3G06, 3M06, 3N06
AREA 3	Canadian, American and Post-Colonial	2G06, 2H06, 3R06
AREA 4	Theory and Cultural Studies	2A03, 2K06, 2M03, 2MM3, 2P03, 3A03, 3AA3, 3J06, 3Q03, 3QQ3

**Honours English [2200]**

Students wishing to enter this program must complete an application for admission to Level II on MUGSI in mid-March to be considered for admission.

**ADMISSION**

Completion of any Level I program and a Cumulative Average of at least 6.0 including an average of at least 7.0 in six units of Level I English.

**NOTES**

- When registering, students should distribute their required English courses (see *Requirements* below) as follows:
  - > Level II 18 units of Levels II and/or III English
  - > Level III 18 units of Levels II and/or III English
  - > Level IV six units of Levels II and/or III English; 12 units of Level IV English seminars (No student may take more than 12 units of Level IV seminars.)
- With permission of the Department, students may substitute ENGLISH 4X03 for three units of Level IV seminar work in second term. Students who are interested in taking 4X03 should contact the faculty member chairing the 4X03 committee early in the first term.
- Most graduate programs in English require proficiency in a second language. Students who plan to pursue graduate studies in English are strongly encouraged to include in their program a second language beyond the introductory level.

**REQUIREMENTS**

- 120 units total (Levels I to IV)
- 30 units from the Level I program completed prior to admission into the program
  - 12 units from Area 1 English courses
  - 6 units from Area 2 English courses
  - 6 units from Area 3 English courses
  - 12 units from Area 4 English courses
  - 6 units from Areas 1-4 and ENGLISH 2D03, 3BB3, 3CC3, 3D03, 3DD3, 3EE3, 3H03, 3S03, 3U03, 3W03, 3X03, 3Y03
  - 12 units Level IV English seminars
  - 36 units Electives

**Combined Honours in English and Another Subject**

Students wishing to enter this program must complete an application for admission to Level II on MUGSI in mid-March to be considered for admission.

**ADMISSION**

Completion of any Level I program and a Cumulative Average of at least 6.0 including an average of at least 7.0 in six units of Level I English.

**NOTES**

- When registering, students should distribute their required English courses (see *Requirements* below) as follows:
  - > Level II 12 units of Levels II and/or III English
  - > Level III 12 units of Levels II and/or III English
  - > Level IV six units of Levels II and/or III English; six units of Level IV English seminars (No student may take more than six units of Level IV seminars.)
- With permission of the Department, students may substitute ENGLISH 4X03 for three units of Level IV seminar work in second term. Students who are interested in taking 4X03 should contact the faculty member chairing the 4X03 committee early in the first term.
- Most graduate programs in English require proficiency in a second language. Students who plan to pursue graduate studies in English are strongly encouraged to include in their program a second language beyond the introductory level.

**REQUIREMENTS**

- 120 units total (Levels I to IV)
- 30 units from the Level I program completed prior to admission into the program
  - 6 units from Area 1 English courses
  - 6 units from Area 2 English courses
  - 6 units from Area 3 English courses
  - 6 units from Area 4 English courses
  - 6 units from Areas 1-4 and ENGLISH 2D03, 3BB3, 3CC3, 3D03, 3DD3, 3EE3, 3H03, 3S03, 3U03, 3W03, 3X03, 3Y03
  - 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

**Combined Honours in Cultural Studies and Critical Theory and Another Subject**

*Cultural Studies and Critical Theory (CSCT)* provides students with an opportunity to investigate the texts, practices, theories and concepts that animate modern individual and social experience. CSCT examines a wide range of cultural forms, including those that have been typically overlooked in universities (e.g. television, popular film and fiction, and practices of everyday life), while paying attention to topics such as gender, sexuality and the body, class, race and ethnicity, postcolonialism, subjectivity and representation, ideology and power/knowledge, aesthetics and taste, and technology and culture.

Students wishing to enter this program must complete an application for admission to Level II on MUGSI in mid-March to be considered for admission.

**ADMISSION**

Completion of any Level I program and a Cumulative Average of at least 6.0 including an average of at least 7.0 in six units from CSCT 1B03, 1BB3, ENGLISH 1A03, 1AA3, 1B03, 1BB3, 1C06.

**NOTES**

- When registering, students should distribute their required Cultural Studies and Critical Theory courses (see *Requirements* below) as follows:
  - > Level II 12 units of Levels II and/or III Cultural Studies and Critical Theory
  - > Level III 12 units of Levels II and/or III Cultural Studies and Critical Theory
  - > Level IV six units of Levels II and/or III Cultural Studies and Critical Theory; six units of Level IV Cultural Studies and Critical Theory seminars (No student may take more than six units of Level IV seminars.)
- With permission of the Department, students may substitute CSCT 4X03 for three units of Level IV seminar work in second term. Students who are interested in taking CSCT 4X03 should contact the faculty member chairing the CSCT 4X03 committee early in the first term.
- Most graduate programs in Cultural Studies and/or Critical Theory require proficiency in a second language. Students who plan to pursue graduate studies in these areas are strongly encouraged to include in their program a second language beyond the introductory level.

**CORE COURSE LIST**

- CSCT 2J03, 2M03, 2MM3, 2P03, 3A03, 3AA3, 3CC3, 3Q03, 3QQ3, 3R06

**REQUIREMENTS**

120 units total (Levels I to IV)

- 30 units from the Level I program completed prior to admission into the program
- 24 units from Core Course List
- 6 units Levels II or III Cultural Studies and Critical Theory
- 6 units Level IV Cultural Studies and Critical Theory seminars
- 36 units Courses specified for the other subject. (Combinations with Social Sciences may require more than 36 units.)
- 18 units Electives to total 120 units

**B.A. in English****{1200}**

Students wishing to enter this program must complete an application for admission to Level II on MUGSI in mid-March to be considered for admission.

**ADMISSION**

Completion of any Level I program and a Cumulative Average of at least 3.5 including an average of at least 4.0 in six units of Level I English.

**NOTE**

When registering, students should distribute their required English courses (see *Requirements* below) as follows:

- Level II 12 units of Levels II and/or III English
- Level III 18 units of Levels II and/or III English

**REQUIREMENTS**

90 units total (Levels I to III)

- 30 units from the Level I program completed prior to admission into the program
- 6 units from Area 1 English courses
- 6 units from Area 2 English courses
- 6 units from Area 3 English courses
- 6 units from Area 4 English courses
- 6 units from Areas 1-4 and ENGLISH 2D03, 3BB3, 3CC3, 3D03, 3DD3, 3EE3, 3H03, 3S03, 3U03, 3W03, 3X03, 3Y03
- 30 units Electives

**Minor in English**

Six units of Level I English and 18 units of Levels II and III English

**DEPARTMENT OF FRENCH**

WEB ADDRESS: <http://www.humanities.mcmaster.ca/~french>

**Honours Arts & Science and French**

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

**PROGRAMS FOR STUDENTS ENTERING IN 2006-2007**

The Department of French has an overall theme of Francophonie (the French-speaking world) and Diversity. This theme is reflected in the four areas of study, as follows:

AREA	FRENCH COURSES
Linguistics, Translation and Literary Theory	2G03, 2H03, 3A03, 3CC3, 3GG3, 3H03, 4BB3, 4E03, 4H03, 4I3, 4X03
African and Caribbean Literatures and Cultures	3Z03, 4LL3
Quebec and Franco-Canadian Literatures and Cultures	2E03, 3AA3, 3BB3, 4U03
Franco-European Literatures and Cultures	2F03, 2J03, 2JJ3, 2N03, 3K03, 3KK3, 3Q03, 3QQ3, 3SS3, 3W03, 4F03, 4I03, 4J03, 4MM3, 4N03, 4Q03, 4S03, 4V03, 4WW3, 4Y03

**NOTE**

Students planning to do graduate work in French literature are advised to take as many courses as possible from the Franco-European Literatures and Cultures Area.

**Honours French****{2233}**

Students wishing to enter this program must complete an application for admission to Level II on MUGSI in mid-March to be considered for admission.

**ADMISSION**

Completion of any Level I program and a Cumulative Average of at least 6.0 including a grade of at least B- in FRENCH 1A06 or 2M06 or a grade of at least B+ in FRENCH 1N06.

**NOTE**

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

**REQUIREMENTS**

120 units total (Levels I to IV)

- 30 units from the Level I program completed prior to admission into the program
- 12 units FRENCH 2B03, 2BB3, 3C03, 4A03
- 9 units FRENCH 2E03, 2F03, 2H03
- 3 units from FRENCH 3Z03, 4LL3
- 12 units from FRENCH 2J03 or 2JJ3; 3K03 or 3KK3; 3Q03 or 3QQ3; 3W03 or 4WW3; 4J03, 4S03
- 12 units Levels II, III or IV French
- 6 units Level IV French
- 36 units Electives

**Combined Honours in****French and Another Subject**

Students wishing to enter this program must complete an application for admission to Level II on MUGSI in mid-March to be considered for admission.

**ADMISSION**

Completion of any Level I program and a Cumulative Average of at least 6.0 including a grade of at least B- in FRENCH 1A06 or 2M06 or a grade of at least B+ in FRENCH 1N06.

**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 Office of the Dean of the Faculty of Humanities, up to 15 units of Level III French may be replaced by courses of study at a French-language university.

**REQUIREMENTS**

120 units total (Levels I to IV)

- 30 units from the Level I program completed prior to admission into the program
- 12 units FRENCH 2B03, 2BB3, 3C03, 4A03
- 9 units FRENCH 2E03, 2F03, 2H03
- 3 units from FRENCH 3Z03, 4LL3
- 12 units from FRENCH 2J03 or 2JJ3; 3K03 or 3KK3; 3Q03 or 3QQ3; 3W03 or 4WW3; 4J03, 4S03
- 36 units Courses specified for the other subject. (Combinations with Social Sciences may require more than 36 units.)
- 18 units Electives to total 120 units

**B.A. in French****{1230}**

Students wishing to enter this program must complete an application for admission to Level II on MUGSI in mid-March to be considered for admission.

**ADMISSION**

Completion of any Level I program and a Cumulative Average of at least 3.5 including a grade of at least C- in FRENCH 1A06 or 2M06 or a grade of at least C+ in FRENCH 1N06.

**REQUIREMENTS**

90 units total (Levels I to III)

- 30 units from the Level I program completed prior to admission into the program
- 9 units FRENCH 2B03, 2BB3, 3C03
- 12 units from FRENCH 2E03, 2F03, 2H03, 3Z03

- 12 units from FRENCH 2J03 or 2JJ3; 3K03 or 3KK3; 3Q03 or 3QQ3; 3W03 or 4WW3; 4J03, 4S03
- 3 units Levels II or III French
- 24 units Electives

**PROGRAMS FOR STUDENTS WHO ENTERED PRIOR TO SEPTEMBER 2006**

**Honours French**

**PROGRAM A: LANGUAGE AND LITERATURE {2231}**

*For Students Who Entered Prior to September 2006*

**NOTE**

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

**COURSE LIST 1**

FRENCH 4F03, 4I03, 4LL3, 4MM3, 4N03, 4Q03, 4S03, 4U03, 4V03, 4X03, 4Y03

**REQUIREMENTS**

*120 units total (Levels I to IV)*

- 30 units from the Level I program completed prior to admission into the program
- 12 units FRENCH 2B03, 2BB3, 3C03, 4A03
- 6 units from FRENCH 2G03, 3CC3, 3F03, 4BB3
- 3 units from FRENCH 2J03, 2JJ3
- 3 units from FRENCH 2W03, 2WW3, 3W03, 4WW3
- 3 units from FRENCH 2D03, 2E03, 3AA3, 3BB3, 3Z03, 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
- 9 units Levels III and IV French
- 36 units Electives

**Honours French**

**PROGRAM B: LANGUAGE, LINGUISTICS AND TRANSLATION {2232}**

*For Students Who Entered Prior to September 2006*

**NOTE**

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

**COURSE LIST 1**

FRENCH 3A03, 3AA3, 3BB3, 3K03, 3KK3, 3Q03, 3QQ3, 3SS3, 3Z03, 4F03, 4I03, 4J03, 4LL3, 4MM3, 4N03, 4Q03, 4U03, 4V03, 4Y03

**REQUIREMENTS**

*120 units total (Levels I to IV)*

- 30 units from the Level I program completed prior to admission into the program
- 12 units FRENCH 2B03, 2BB3, 2G03, 2H03
- 12 units FRENCH 3C03, 3CC3, 3GG3, 3H03
- 6 units FRENCH 4A03, 4BB3
- 3 units from FRENCH 2J03, 2JJ3
- 3 units from FRENCH 2W03, 2WW3, 3W03, 4WW3
- 9 units from Course List 1
- 9 units from FRENCH 4H03, 4I13, 4S03, 4X03
- 12 units Linguistics courses beyond Level I
- 24 units Electives

**Combined Honours in French and Another Subject**

**PROGRAM A: LANGUAGE AND LITERATURE**

*For Students Who Entered Prior to September 2006*

**NOTES**

1. Students are not permitted to combine this program with Combined Honours French Program B.
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 Office of the Dean of the Faculty of Humanities, up to 15 units of Level III French may be replaced by courses of study at a French-language university.

**COURSE LIST 1**

FRENCH 4F03, 4I03, 4LL3, 4MM3, 4N03, 4Q03, 4S03, 4U03, 4V03, 4X03, 4Y03

**REQUIREMENTS**

*120 units total (Levels I to IV)*

- 30 units from the Level I program completed prior to admission into the program
- 12 units FRENCH 2B03, 2BB3, 3C03, 4A03
- 3 units from FRENCH 2J03, 2JJ3
- 3 units from FRENCH 2W03, 2WW3, 3W03, 4WW3
- 3 units from FRENCH 3K03, 3KK3
- 3 units from FRENCH 3Q03, 3QQ3
- 3 units from FRENCH 3AA3, 3BB3, 3Z03, 4U03
- 6 units from Course List 1
- 3 units from FRENCH 3A03, 3SS3, 4J03
- 36 units Courses specified for the other subject. (Combinations with Social Sciences may require more than 36 units.)
- 18 units Electives to total 120 units

**Combined Honours in French and Another Subject**

**PROGRAM B: LANGUAGE AND LINGUISTICS**

*For Students Who Entered Prior to September 2006.*

**NOTES**

1. Students are not permitted to combine this program with Combined Honours French Program A.
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 Office of the Dean of the Faculty of Humanities, up to 15 units of Level III French may be replaced by courses of study at a French-language university.

**COURSE LIST 1**

FRENCH 2E03, 2J03, 2JJ3, 2N03, 2W03, 2WW3, 3AA3, 3BB3, 3K03, 3KK3, 3Q03, 3QQ3, 3SS3, 3W03, 3Z03, 4F03, 4I03, 4J03, 4LL3, 4MM3, 4N03, 4Q03, 4S03, 4U03, 4V03, 4WW3, 4Y03

**COURSE LIST 2**

FRENCH 3A03, 4H03, 4I13, 4X03

**REQUIREMENTS**

*120 units total (Levels I to IV)*

- 30 units from the Level I program completed prior to admission into the program
- 12 units FRENCH 2B03, 2BB3, 3C03, 4A03
- 9 units from Course List 1, including at least three units from Levels III or IV
- 6 units from FRENCH 2H03, 3H03
- 9 units from Course List 2
- 36 units Courses specified for the other subject. (Combinations with Social Sciences may require more than 36 units.)
- 18 units Electives to total 120 units

**B.A. in French [1230]**

*For Students Who Entered Prior to September 2006.*

**REQUIREMENTS**

*90 units total (Levels I to III)*

- 30 units from the Level I program completed prior to admission into the program
- 12 units FRENCH 2B03, 2BB3, 3C03, 3F03
- 3 units from FRENCH 2J03, 2JJ3
- 3 units from FRENCH 2W03, 2WW3, 3W03, 4WW3
- 6 units from FRENCH 3A03, 3K03, 3KK3, 3Q03, 3QQ3, 3SS3
- 12 units Levels II, III or IV French
- 24 units Electives

**Minor in French**

**REQUIREMENTS**

*24 units total*

- 6 units from FRENCH 1A06, 1N06, 2M06
- 9 units FRENCH 2B03, 2BB3, 3C03
- 3 units from FRENCH 2E03, 2E03, 2F03, 2J03, 2JJ3, 2W03, 2WW3, 3AA3, 3BB3, 3K03, 3KK3, 3Q03, 3QQ3, 3W03, 3Z03, 4WW3
- 6 units Levels II or III French, excluding FRENCH 2M06 and 2Z06

**DEPARTMENT OF HISTORY**

WEB ADDRESS: <http://www.humanities.mcmaster.ca/~history/>

**Honours Arts & Science and History**

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

**SUBFIELDS**

The Department has defined three fields of study. Students should consult the Program Notes for their specific program to determine the requirements regarding these fields. Level II and III courses are allocated to the fields as follows:

- Europe (including Britain) HISTORY 2CC3, 2DD3, 2EE3, 2F03, 2FF3, 2HH3, 2II3, 2M03, 2MM3, 2P03, 2Q03, 2QQ3, 2S03, 2U03, 2UU3, 3D03, 3F03, 3I03, 3JJ3, 3L03, 3PP3, 3QQ3, 3RR3, 3SS3, 3T03, 3UU3, 3V03, 3VV3, 3Y03, 3Z03, 3ZZ3
- Ancient and Non-Western World HISTORY 2EE3, 2HH3, 2K03, 2L03, 2LL3, 2P03, 2U03, 2UU3, 3AA3, 3B03, 3C03, 3CC3, 3DD3, 3E03, 3EE3, 3GG3, 3LL3, 3MM3
- The Americas HISTORY 2AA3, 2D03, 2EE3, 2G03, 2P03, 2R03, 2RR3, 2T03, 2TT3, 3G03, 3II3, 3J03, 3K03, 3KK3, 3L03, 3N03, 3NN3, 3O03, 3P03, 3UU3, 3V03, 3W03, 3WW3, 3Y03

**Honours History [2290]**

Students wishing to enter this program must complete an application for admission to Level II on MUGSI in mid-March to be considered for admission.

**ADMISSION**

Completion of any Level I program and a Cumulative Average of at least 6.0 including an average of at least 7.0 in six units of Level I History.

**NOTES**

1. In selecting courses, students must ensure that they take a minimum of six units in each of three fields of History. This requirement must be satisfied by the end of Level III. All Level II and III History courses from the above list may be used towards this requirement.
2. The department recommends that students take one Level IV seminar in Level III and one Level IV seminar in Level IV.
3. KINESIOL 3A03 (History of Physical Culture and Sports Medicine) may be taken as a substitute for three units of Level III History.

**REQUIREMENTS**

120 units total (Levels I to IV)

- 30 units from the Level I program completed prior to admission into the program
- 18 units Level II History
- 15 units Level III History
- 12 units Level IV History
- 45 units Electives

**Combined Honours in History and Another Subject**

Students wishing to enter this program must complete an application for admission to Level II on MUGSI in mid-March to be considered for admission.

**ADMISSION**

Completion of any Level I program and a Cumulative Average of at least 6.0 including an average of at least 7.0 in six units of Level I History.

**NOTES**

1. In selecting courses, students must ensure that they take a minimum of three units in each of three fields of History. This requirement must be satisfied by the end of Level III. All Level II and III History courses from the above list may be used toward this requirement.
2. No Level IV seminar may be taken before completion of 12 units of History beyond Level I.

3. The department recommends that students take one Level IV seminar in Level III and one Level IV seminar in Level IV.
4. KINESIOL 3A03 (History of Physical Culture and Sports Medicine) may be taken as a substitute for three units of Level III History.

**REQUIREMENTS**

120 units total (Levels I to IV)

- 30 units from the level I program completed prior to admission into the program
- 12 units Level II History
- 6 units Level III History
- 12 units Level IV History
- 36 units Courses specified by the other subject. (Combinations with Social Sciences may require more than 36 units.)
- 24 units Elective to total 120 units

**B.A. in History [1290]**

Students wishing to enter this program must complete an application for admission to Level II on MUGSI in mid-March to be considered for admission.

**ADMISSION**

Completion of any Level I program and a Cumulative Average of at least 3.5 including an average of at least 4.0 in any six units of Level I History.

**NOTES**

1. In selecting courses, students must ensure that they take a minimum of three units in each of three fields of History. All Level II and III History courses from the above list may be used towards this requirement.
2. KINESIOL 3A03 (History of Physical Culture and Sports Medicine) may be taken as a substitute for three units of Level III History.

**REQUIREMENTS**

90 units total (Levels I to III)

- 30 units from the level I program completed prior to admission into the program
- 12 units Level II History
- 12 units Level III History
- 36 units Electives

**Minor in History**

24 units of History of which no more than six units may be from Level I. Consult the *Course Listings* section for course prerequisites and limited enrolment courses.

**COMBINED B.A. IN INDIGENOUS STUDIES AND ANOTHER SUBJECT**

For details see *Combined B.A. in Indigenous Studies and Another Subject* section of this Calendar.

**JAPANESE STUDIES**

The Combined Honours program in Japanese Studies and Another Subject is being phased out. No new registrants will be accepted after September 2005.

**Combined Honours in Japanese Studies and Another Subject****REQUIREMENTS**

120 units total (Levels I to IV)

- 30 units from the Level I program completed prior to admission into the program
- 18 units from JAPANESE 2Z03, 2ZZ3, 3A03, 3AA3, 4A03, 4Z03
- 6 units JAPAN ST 2P06
- 12 units from JAPANESE 3B03, 3CC3, JAPAN ST 2A03, 2C03, 2F03, 3B03, 3E03, 3H03, 3S03, 3UU3, 4A06, 4B03, 4S03, GEO 3HJ3, HISTORY 4BB6, POL SCI 4MM6
- 36 units Courses specified for the other subject. (Combinations with Social Sciences may require more than 36 units.)
- 18 units Electives to total 120 units

## Minor in Japanese Studies

24 units from JAPANESE 1Z06 and JAPAN ST 2P06 and 12 additional units of Japanese or Japanese Studies courses

## DEPARTMENT OF LINGUISTICS AND LANGUAGES

WEB ADDRESS: <http://www.humanities.mcmaster.ca/~modlang>

The Department of Linguistics and Languages offers B.A. Honours programs in:

- German
- Hispanic Studies
- Italian
- Linguistic Cognitive Science
- Linguistics
- Modern Languages and Linguistics

In addition, Minors are available, using electives only, in: German, Hispanic Studies, Italian, Japanese and Linguistics.

Language courses in Polish and Russian are also offered by the Department.

## Combined Honours in German and Another Subject

**The Combined Honours program in German and Another Subject is being phased out. No new registrants will be accepted after September 2006.**

**Students wishing to enter this program must complete an application for admission to Level II on MUGSI in mid-March to be considered for admission:**

### ADMISSION

Completion of any Level I program including GERMAN 1B03 and 1BB3; 1Z06; or 1Z03 and 1ZZ3 and a Cumulative Average of at least 6.0. A minimum grade of B- is required in GERMAN 1BB3, 1Z06; or 1ZZ3.

### NOTES

1. It is highly recommended that students include HISTORY 2H3 as an elective in this program.
2. Upon completion of 60 units and with the approval of the Department of Linguistics and Languages and the Office of the Dean of the Faculty of Humanities, one or both terms of Level III of this program may be replaced by courses of study at a university or universities under the Humanities Study Elsewhere Program.

### REQUIREMENTS

120 units total (Levels I to IV)

- 30 units from the Level I Program completed prior to admission into the program
- 36 units Levels II, III or IV German
- 36 units courses specified for the other subject. (Combinations with Social Sciences may require more than 36 units.)
- 18 units Electives to total 120 units

## Combined Honours in Hispanic Studies and Another Subject

**The Combined Honours program in Hispanic Studies and Another Subject is being phased out. No new registrants will be accepted after September 2006.**

**Students wishing to enter this program must complete an application for admission to Level II on MUGSI in mid-March to be considered for admission.**

### ADMISSION

Completion of any Level I program including HISPANIC 1A03 and 1AA3; 1Z06; 1Z03 and 1ZZ3; or 2D03 and 2DD3, and a Cumulative Average of at least 6.0. A minimum grade of B- is required in HISPANIC 1AA3, 1Z06; 1ZZ3 or 2DD3.

### NOTE

Upon completion of 60 units and with the approval of the Department of Linguistics and Languages and the Office of the Dean of the Faculty of Humanities, one or both terms of Level III of this program may be replaced by courses of study at a university or universities under the Humanities Study Elsewhere Program.

### REQUIREMENTS

120 units total (Levels I to IV)

- 30 units from the Level I Program completed prior to admission into the program
- 12 units HISPANIC 2C03, 2L03, 2X03, 2XX3
- 24 units Levels II, III or IV Hispanic
- 36 units courses specified for the other subject. (Combinations with Social Sciences may require more than 36 units.)
- 18 units Electives to total 120 units

## Combined Honours in Italian and Another Subject

**The Combined Honours program in Italian and Another Subject is being phased out. No new registrants will be accepted after September 2006.**

**Students wishing to enter this program must complete an application for admission to Level II on MUGSI in mid-March to be considered for admission.**

### ADMISSION

Completion of any Level I program including ITALIAN 1A03 and 1AA3; or 1Z06; or 1ZZ6 and a Cumulative Average of at least 6.0. A minimum grade of B- is required in ITALIAN 1AA3, 1Z06 or 1ZZ6.

### NOTE

Upon completion of 60 units and with the approval of the Department of Linguistics and Languages and the Office of the Dean of the Faculty of Humanities, one or both terms of Level III of this program may be replaced by courses of study at a university or universities under the Humanities Study Elsewhere Program.

### REQUIREMENTS

120 units total (Levels I to IV)

- 30 units from the Level I Program completed prior to admission into the program
- 36 units Levels II, III or IV Italian
- 36 units courses specified for the other subject. (Combinations with Social Sciences may require more than 36 units.)
- 18 units Electives to total 120 units

## Honours Linguistics

(2312)

*This program is designed for students who are concentrating on the scientific study of language (phonology, morphology, syntax, semantics, etc.).*

**Students wishing to enter this program must complete an application for admission to Level II on MUGSI in mid-March to be considered for admission.**

### ADMISSION

Completion of any Level I program and a Cumulative Average of at least 6.0 including an average of at least 7.0 in LINGUIST 1A03 and 1AA3.

### NOTES

1. In this program 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 one language group of their choice, and 18 units of a language from another group. Please note that some languages begin at Level II. Students are advised that some of the languages listed below may not offer sufficient units to meet this requirement. Students should consult the Academic Counsellor in Linguistics in selecting their language of concentration.
  - a) **Romance Languages:**  
French, Italian, Spanish
  - b) **Classical:**  
Greek, Hebrew, Latin, Sanskrit
  - c) **Other Indo-European Languages:**  
German, Polish, Russian
  - d) **Non Indo-European Languages:**  
Cayuga, Japanese, Mohawk, Ojibwe
2. Upon completion of 60 units of work and with the approval of the Department of Linguistics and Languages and the Office of the Dean of the Faculty of Humanities, one or both terms of Level III may be replaced by courses of study at a university under the Humanities Study Elsewhere Program.

**COURSE LIST 1**

All Linguistics courses beyond Level I; and all courses taught in a language other than English; CMST 3E03; MMEDIA 1A03, 2D03, 2I03, 3D03, 3E03, 4C03; PHILOS 2B03, 3F03, 4D03; PSYCH 2E03, 2H03, 3A03, 3U03, 3UU3

**REQUIREMENTS**

120 units total (Levels I to IV)

- 30 units from the Level I program completed prior to admission into the program
- 15 units from LINGUIST 2L03, 2LL3, 3A03, 3I03, 3II3, 3M03
- 6 units from LINGUIST 2A03, 2AA3, 2E03, 3X03
- 6 units from LINGUIST 3B03, 3C03, 3P03, 4B03, 4Z03
- 3 units from LINGUIST 4LB3, 4LC3, 4XX3
- 6 units from LINGUIST 4D03, 4E03, 4I03, 4M03, 4N03, 4R03, 4S03, 4T03
- 12 units from one of the languages (beyond Level I) as specified in *Note 1* above
- 6 units from a second language as specified in *Note 1* above
- 18 units from Course List 1
- 18 units Electives

**Combined Honours in Linguistics and Another Subject**

*This program is designed for students who want to combine the scientific study of language with another subject of their choice.*

**Students wishing to enter this program must complete an application for admission to Level II on MUGSI in mid-March to be considered for admission.**

**ADMISSION**

Completion of any Level I program and a Cumulative Average of at least 6.0 including an average of at least 7.0 in LINGUIST 1A03 and 1AA3.

**NOTES**

- Students are required to complete 18 units of a language other than English for this program with six units at Level I and 12 units above Level I. Please note however, that some languages begin at Level II. Students are also advised that some languages may not offer sufficient units to meet this 18 unit requirement. Students should consult the Academic Counsellor in Linguistics in selecting their language of concentration.
- Students whose other subject involves the study of a language may substitute the 12 units of language other than English with 12 units from Course List 1.
- Upon completion of 60 units of work and with the approval of the Department of Linguistics and Languages, and the Office of the Dean of the Faculty of Humanities, one or both terms of Level III may be replaced by courses of study at a university under the Humanities Study Elsewhere Program.

**COURSE LIST 1**

All Linguistics courses beyond Level I; and all courses taught in a language other than English; CMST 3E03; MMEDIA 1A03, 2D03, 2I03, 3D03, 3E03, 4C03; PHILOS 2B03, 3F03, 4D03; PSYCH 2E03, 2H03, 3A03, 3U03, 3UU3

**REQUIREMENTS**

120 units total (Levels I to IV)

- 30 units from Level I program completed prior to admission into the program
- 12 units from LINGUIST 2A03, 2AA3, 2E03, 2LL3, 3B03, 3P03, 3X03, 4B03, 4D03, 4E03, 4I03, 4M03, 4N03, 4R03, 4S03, 4T03, 4XX3
- 12 units from LINGUIST 2L03, 3A03, 3I03, 3II3, 3M03
- 12 units from a language other than English, above Level I. (See *Notes 1 and 2* above.)
- 36 units Courses specified for the other subject. (Combinations with Social Sciences may require more than 36 units.)
- 18 units Electives to total 120 units

**Honours Linguistic Cognitive Science {2313}**

**Students wishing to enter this program must complete an application for admission to Level II on MUGSI in mid-March to be considered for admission.**

**ADMISSION**

Completion of any Level I program and a Cumulative Average of at least 6.0 including an average of at least 7.0 in LINGUIST 1A03, 1AA3 and PSYCH 1A03.

**NOTES**

- When selecting electives, students may choose to focus on one of the following subfields though it is not necessary to do so. Students should speak with the Undergraduate Counsellor for Linguistics to determine which electives are most appropriate for their academic and professional objectives.

**TEACHING ENGLISH AS A SECOND LANGUAGE**

FRENCH 4E03; LINGUIST 2E03, 3P03, 3X03, 4B03, 4E03, 4I03, 4N03, 4R03, 4S03, 4TE3; MMEDIA 4C03; PSYCH 2C03, 2D03, 2H03, 3HH3, 4C03

**SPEECH AND LANGUAGE PATHOLOGY PREPARATION**

KINESIOLOG 2E03; MATH 1M03 or STATS 1A03; STATS 1CC3; KINESIOLOG 1Y03, 1YY3; LINGUIST 3B03, 3C03, 3X03, 4SL3; PSYCH 2AA3, 2E03, 2H03, 3A03

**LANGUAGE AND SOCIAL LIFE**

CMST 3C03, 3D03; FRENCH 3CC3, 4BB3, 4E03, 4H03, 4X03; LINGUIST 2E03, 3P03, 3X03, 4I03, 4M03, 4N03, 4R03, 4S03, 4T03, 4ZZ3; MMEDIA 2D03, 2I03, 3B03, 3D03; PSYCH 2C03

**COGNITIVE SCIENCE**

FRENCH 3CC3, 4BB3, 4E03, 4H03, 4X03; LINGUIST 2AA3, 2LL3, 4D03, 4LB3, 4LC3, 4XX3, 4Z03, 4ZZ3; MMEDIA 2D03, 3B03, 3D03, 3F03; 3J03; PHILOS 2F03, 3F03, 3M03; PSYCH 2C03, 2D03, 2H03, 3A03, 3AA3, 3BN3, 3HH3, 3II3, 3QQ3, 3VV3, 4BN3, 4Z03

- At some time during the program, students must meet a laboratory requirement by completing one course from Course List 1 below. Enrolment in Psychology Laboratory courses is limited.
- In this program students are required to complete 12 units of language courses other than English. Students may choose to complete 12 units of one language or six units of two different languages in order to fulfill this requirement.
- Students taking French courses as a part of this program must be proficient enough to participate in a classroom environment conducted entirely in French, but will have the option of writing assignments and answering exam questions in English.

**COURSE LIST 1**

LINGUIST 4D03, 4II3; PSYCH 3EE3, 3LL3, 3QQ3, 3V03

**REQUIREMENTS**

120 units total (Levels I to IV)

- 30 units from the Level I program completed prior to admission into the program
- 15 units LINGUIST 2L03, 3A03, 3I03, 3II3, 3M03
- 3 units from LINGUIST 2AA3, 2LL3, PSYCH 3II3
- 3 units from LINGUIST 4D03, 4LB3, 4LC3, 4XX3, 4Z03, 4ZZ3
- 6 units PHILOS 2B03, 3E03
- 9 units PSYCH 1AA3, 3U03, 3UU3
- 6 units from PSYCH 2D03, 2E03, 2F03, 2H03
- 3 units from PSYCH 2RA3, 2RR3, SOC SCI 2J03, STATS 1CC3
- 12 units from a language other than English (See *Note 3* above.)
- 3 units from Course List 1
- 30 units Electives

**Honours Modern Languages and Linguistics {2363}**

**The Honours Modern Languages and Linguistics program is being phased out. No new registrants will be accepted after September 2006.**

*This program combines the study of two modern languages (French, German, Italian, Japanese, Spanish) with some areas of Linguistics (sociolinguistics, pragmatics, applied linguistics).*

**Students wishing to enter this program must complete an application for admission to Level II on MUGSI in mid-March to be considered for admission.**

**ADMISSION**

Completion of any Level I program and a Cumulative Average of at least 6.0 including 12 units covering two different languages other than English. A minimum grade of B- is required in FRENCH 1A06, 1N06 or 1Z06 (see *Note 2* below); GERMAN 1BB3, 1Z06 or 1ZZ3; HISPANIC 1AA3, 1Z06 or 1ZZ3; ITALIAN 1AA3, 1Z06 or 1ZZ6; JAPANESE 1Z06 or 1ZZ3.



**NOTES**

1. Students are strongly urged to complete LINGUIST 1A03 and 1AA3 in their Level I program. If not, LINGUIST 1A03 and 1AA3 must be included in Level II of their program.
2. Students entering the program with FRENCH 1Z06 must complete FRENCH 1N06 or 2Z06, in addition to the 18 units of French, beyond Level I.
3. Upon completion of 60 units and with the approval of the Department of Linguistics and Languages and of the Office of the Dean of the Faculty of Humanities, one or both terms of Level III of this program may be replaced by courses of study at a university or universities under the Humanities Study Elsewhere Program.

**COURSE LIST 1**

All Linguistics courses beyond Level I; and all courses taught in a language other than English; MMEDIA 1A03, 2D03, 2I03, 3B03, 3D03, 3E03, 4C03; PHILOS 2B03, 3F03, 4D03; PSYCH 2E03, 2H03, 3A03, 3U03

**REQUIREMENTS**

120 units total (Levels I to IV)

- 30 units from the Level I program completed prior to admission into the program
- 18 units from LINGUIST 2A03, 2AA3, 2E03, 3X03, 4B03, 4D03, 4E03, 4I03, 4M03, 4N03, 4R03, 4S03, 4T03
- 18 units from a language other than English (above Level I)
- 18 units from a second language other than English (above Level I)
- 18 units from Course List 1
- 18 units Electives

**Minors**

**Minor in German**

24 units of German, of which no more than six units may be taken from Level I

**Minor in Hispanic Studies**

24 units of Hispanic Studies, of which no more than six units may be taken from Level I

**Minor in Italian**

24 units of Italian, of which no more than six units may be taken from Level I

**Minor in Japanese Language**

24 units of Japanese, of which no more than six units may be taken from Level I

**Minor in Linguistics**

24 units of Linguistics, of which no more than six units may be taken from Level I

**PEACE STUDIES**

WEB ADDRESS: <http://www.humanities.mcmaster.ca/~peace>

**Honours Arts & Science and Peace Studies**

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

**Combined Honours in Peace Studies and Another Subject**

Students wishing to enter this program must complete an application for admission to Level II on MUGSI in mid-March to be considered for admission.

**ADMISSION**

Completion of any Level I program and a Cumulative Average of at least 6.0 including an average of at least 7.0 in PEACE ST 1A03 and 1B03.

**NOTES**

1. Students should note that certain courses in Course Lists 1 and 2 have their own disciplinary prerequisites.
2. Upon completion of 60 units of work and with the approval of both the Director of Peace Studies and the Office of the Dean of the Faculty of Humanities, one or both terms of Level III of this program may be replaced by courses of study at a university or universities under the Humanities Studies Elsewhere program.

**COURSE LIST 1**

PEACE ST 2AA3, 2G03, 2I03, 2I13, 2S03, 3A03, 3B03, 3E06, 3F03, 3I03, 3I13, 3KK3, 3L03, 3M03, 3MM3, 3N03, 3O03, 3RR3, 3VV3, 3W03, 3X03, 3Y03, 3Z03, 4C03;

**COURSE LIST 2**

ANTHROP 2X03, 3T03; BIOLOGY 4EE3; ECON 2F03, 2L03; LABR ST 2A03, 2C03, 3G03; POL SCI 3AA3, 3KK3, 3Q03, POL SCI 3Y03; RELIG ST 2H03, 2L03, 2MM3; SOCIOL 3KK3.

**REQUIREMENTS**

120 units total (Levels I to IV)

- 30 units from the Level I program completed prior to admission to the program
- 3 units PEACE ST 2A03
- 3 units from ANTHROP 3T03, PEACE ST 3M03, RELIG ST 2H03, SOCIOL 3KK3
- 3 units from PEACE ST 4A03, 4B03, 4D03
- 9 units from Course List 1
- 9 units from Course List 2
- 9 units from Course Lists 1 and 2
- 36 units Courses specified for the other subject. (Combinations with Social Sciences may require more than 36 units.)
- 18 units Electives to total 120 units

**NOTE**

With the permission of the Director of Peace Studies, some courses not listed may be substituted, at the appropriate Level, from Anthropology, Biology, English, History, Indigenous Studies, Labour Studies, Philosophy, Religious Studies, Science and Sociology provided that the course prerequisites are fulfilled.

**Minor in Peace Studies**

**REQUIREMENTS**

24 units total

- 6 units PEACE ST 1A03, 1B03
- 18 units from ANTHROP 2X03, 3T03, ECON 2F03, 2L03, LABR ST 2A03, 2C03, 2D03, 3G03, PEACE ST 2A03, 2AA3, 2G03, 2I03, 2I13, 2S03, 3A03, 3B03, 3E06, 3F03, 3G03, 3I03, 3I13, 3KK3, 3L03, 3M03, 3MM3, 3N03, 3O03, 3RR3, 3VV3, 3W03, 3X03, 3Y03, 3Z03, 4A03, 4B03, 4C03, 4D03, POL SCI 3AA3, 3KK3, 3Q03, 3Y03, RELIG ST 2E03, 2H03, 2L03, 2MM3, SOCIOL 3KK3

**DEPARTMENT OF PHILOSOPHY**

WEB ADDRESS: <http://www.humanities.mcmaster.ca/~philos>

**Honours Arts & Science and Philosophy**

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

**Honours Philosophy**

**(2420)**

Students wishing to enter this program must complete an application for admission to Level II on MUGSI in mid-March to be considered for admission.

**ADMISSION**

Completion of any Level I program and a Cumulative Average of at least 6.0 and an average of at least 7.0 in six units of Level I Philosophy or, if no such course was taken, in six units of work acceptable to the Department of Philosophy.

**NOTES**

1. Students are advised to note carefully the prerequisites for all courses. Students are also advised to take note which courses are offered in alternate years.
2. Upon completion of 60 units of work and with the approval of the Department of Philosophy and the Office of the Dean of the Faculty of Humanities, one or both terms of Level III may be replaced by courses of study at a designated university abroad.

**REQUIREMENTS**

120 units total (Levels I to IV)

- 30 units from the Level I program completed prior to admission into the program
- 27 units PHILOS 2A06, 2C06, 3A06, 3G03, 3O03, 4H03
- 3 units PHILOS 2B03
- 3 units Levels II, III or IV Philosophy
- 15 units Levels III or IV Philosophy
- 6 units Level IV Philosophy
- 36 units Electives.

## Combined Honours in Philosophy and Another Subject

Students wishing to enter this program must complete an application for admission to Level II on MUGSI in mid-March to be considered for admission.

### ADMISSION

Completion of any Level I program and a Cumulative Average of at least 6.0 and an average of at least 7.0 in six units of Level I Philosophy or, if no such course was taken, in six units of work acceptable to the Department of Philosophy.

### NOTES

1. Students intending to do graduate work in Philosophy are advised to include PHILOS 2B03 in their program.
2. Students are advised to note carefully the prerequisites for all courses. Students are also advised to take note which courses are offered in alternate years.
3. Upon completion of 60 units of work and with the approval of the Department of Philosophy and the Office of the Dean of the Faculty of Humanities, one or both terms of Level III may be replaced by courses of study at a designated university abroad.

### REQUIREMENTS

120 units total (Levels I to IV)

- 30 units from the Level I program completed prior to admission into the program
- 12 units PHILOS 2A06, 2C06
- 3 units from HUMAN 2C03, PHILOS 2B03
- 15 units Levels III or IV Philosophy
- 6 units Level IV Philosophy
- 36 units Courses specified for the other subject. (Combinations with Social Sciences may require more than 36 units.)
- 18 units Electives to total 120 units

## Honours Philosophy and Biology (B.A.) {2420050}

Students wishing to enter this program must complete an application for admission to Level II on MUGSI in mid-March to be considered for admission.

### ADMISSION

Completion of any Level I program and a Cumulative Average of at least 6.0 and an average of at least 7.0 in six units of Level I Philosophy (or, if no such course was taken, in six units of work acceptable to the Department of Philosophy) and an average of at least 7.0 in BIOLOGY 1A03 and 1AA3 with a grade of at least B- and six units of Level I Mathematics. Students are cautioned to observe that CHEM 1AA3 is the normal prerequisite for BIOLOGY 2B03 and BIOLOGY 2C03, which are required courses in the program. **Enrolment in this program is limited.**

### NOTES

1. Students are advised to note carefully the prerequisites for all courses. Students are also advised to take note which courses are offered in alternate years.
2. Upon completion of 60 units of work and with the approval of the Department of Philosophy and the Office of the Dean of the Faculty of Humanities, one or both terms of Level III may be replaced by courses of study at a designated university abroad.

### REQUIREMENTS

120 units total (Levels I to IV)

- 30 units from the Level I program completed prior to admission into the program
- 12 units from BIOCHEM 2EE3, BIOLOGY 2A03, 2B03, 2C03, 2D03, 2F03, CHEM 2E03, 2OA3, 2OB3
- 24 units from BIOLOGY 2EE3, Levels III or IV Biology
- 18 units PHILOS 2A06, 2C06, 3O03, 4H03
- 3 units PHILOS 2B03
- 3 units from PHILOS 2D03, 2F03, 2G03
- 3 units from PHILOS 3G03, 3N03
- 6 units Levels III or IV Philosophy
- 3 units Level IV Philosophy
- 18 units Electives

## Honours Philosophy and Mathematics (B.A.) {2320420}

Students wishing to enter this program must complete an application for admission to Level II on MUGSI in mid-March to be considered for admission.

### ADMISSION

Completion of any Level I program and a Cumulative Average of at least 6.0 including a grade of at least B- in each of MATH 1A03 or 1AA3 and 1B03 and an average of at least 7.0 in six units of Level I Philosophy or, if no such course was taken, in six units of work acceptable to the Department of Philosophy.

### NOTES

1. Students are advised to note carefully the prerequisites for all courses. Students are also advised to take note which courses are offered in alternate years.
2. Upon completion of 60 units of work and with the approval of the Department of Philosophy and the Office of the Dean of the Faculty of Humanities, one or both terms of Level III may be replaced by courses of study at a designated university abroad.

### REQUIREMENTS

120 units total (Levels I to IV)

- 30 units from the Level I program completed prior to admission into the program
- 24 units MATH 2X03, 2XX3, 2C03, 2R03, 2S03, 3A03, 3E03, 3X03
- 3 units from MATH 3EE3, 4A03
- 3 units from MATH 4B03, 4E03, 4X03
- 12 units Levels III or IV Mathematics, Statistics
- 12 units PHILOS 2A06, 2C06
- 3 units PHILOS 2B03
- 21 units Levels III or IV Philosophy
- 3 units Level IV Philosophy
- 9 units Electives

## B.A. in Philosophy {1420}

Students wishing to enter this program must complete an application for admission to Level II on MUGSI in mid-March to be considered for admission.

### ADMISSION

Completion of any Level I program and a Cumulative Average of at least 3.5 and an average of at least 4.0 in six units of Level I Philosophy.

### NOTE

Students are advised to note carefully the prerequisites for all courses. Students are also advised to take note which courses are offered in alternate years.

### REQUIREMENTS

90 units total (Levels I to III)

- 30 units from the Level I program completed prior to admission into the program
- 12 units PHILOS 2A06, 2C06
- 3 units from HUMAN 2C03, PHILOS 2B03
- 3 units Levels II, III or IV Philosophy
- 6 units Levels III or IV Philosophy
- 36 units Electives

## Minor in Philosophy

- 24 units from PHILOS 2A06 and 2C06; and 12 additional units of Philosophy, of which no more than six units may be from Level I.

## WOMEN'S STUDIES

WEB ADDRESS: <http://www.humanities.mcmaster.ca/~womensst/>

### Honours Arts & Science and Women's Studies

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

### Combined Honours B.A.

### in Women's Studies and Another Subject

Women's Studies may be taken as a Combined Honours degree or as a Minor. All Women's Studies courses are interdisciplinary, allowing students to explore the relationship between different branches of knowledge and to examine critically different approaches to knowledge construction and theoretical positions in understanding the contributions and social locations of women. Graduates of the Program will be able to choose from a wide career list which includes industrial and government consulting, personnel management, labour relations, education and health care professions. The Program's focus on research prepares students for graduate school.

**Students wishing to enter this program must complete an application for admission to Level II on MUGSI in mid-March to be considered for admission.**

#### ADMISSION

Completion of any Level I program and a Cumulative Average of at least 6.0 including a grade of at least B- in WOMEN ST 1A06.

#### NOTES

1. Beginning in 2007-2008, admission to this program will be revised as follows: Completion of any Level I program and a Cumulative Average of at least 6.0 including a grade of at least B- in each of WOMEN ST 1A03 and 1AA3.
2. Students who have not taken WOMEN ST 1A06 (or 1A03 and 1AA3) because they have transferred from another university may be considered for admission to the program if they are deemed by the Admissions Committee to have fulfilled requirements equivalent to those courses.
3. In Levels II, III and IV, students must take six units of Women's Studies courses appropriate to their level and six additional units of approved discipline-related courses at each level.

4. The courses required for the Women's Studies portion of the Combined Honours program may not include courses offered in the student's other subject area.

#### REQUIREMENTS

120 units total (Levels I to IV)

- 30 units from the Level I program completed prior to admission to the program
- 6 units WOMEN ST 2A03, 2AA3
- 6 units from RELIG ST 2SS3, SOCIOL 2Q06, WOMEN ST 2F03, 2FF3, 2H03, 2HH3, 2J03, 2K06, 2L03
- 6 units WOMEN ST 3A03, 3AA3
- 6 units from LABR ST 3E03, WOMEN ST 3B03, 3BB3, 3DD3, 3E03, 3G03, 3GG3, 3H03, 3HH3, 3I03, 3NN3, 3WW3, 3Z03
- 6 units WOMEN ST 4A06
- 6 units from HISTORY 4I06, KINESIOL 4T03, SOC WORK 4R03, WOMEN ST 4B03, 4C03, 4J03
- 36 units Courses specified for the other subject. (Combinations with Social Sciences may require more than 36 units.)
- 18 units Elective course work beyond Level I to total 120 units

With the permission of the Director of Women's Studies, some courses not listed above may be substituted, at the appropriate level, from: Anthropology, Classics, Comparative Literature, English; French, Geography and Earth Sciences, History, Kinesiology, Labour Studies, Philosophy, Religious Studies and Sociology.

### Minor in Women's Studies

#### NOTE

The courses required for the Minor may not include courses offered in the student's other subject area.

#### REQUIREMENTS

24 units total

- 6 units WOMEN ST 1A06 (or 1A03 and 1AA3)
- 18 units Levels II or III Women's Studies courses as listed under *Women's Studies* in the *Course Listings* section of this Calendar

# FACULTY OF SCIENCE

WEB ADDRESS: <http://www.science.mcmaster.ca>

EMAIL ADDRESS: [science@mcmaster.ca](mailto:science@mcmaster.ca)

General Science Building, Room 116

Ext. 22612

## Dean of Science

J.P. Capone/B.Sc., Ph.D.

## Associate Dean of Science

R.B. Day/B.A., M.A., Ph.D.

## Academic Assistant to the Dean

Joanne Smith/B.A.

## Student Advisors

R. Campbell/B.Sc.

T. Gammon/B.A., B.A.

C. Mackenzie/B.A.Sc.

R. Tebbutt/B.A.

The Faculty of Science provides studies through the following Departments/Schools/Institutes/Units:

- Biochemistry and Biomedical Sciences
- Biology
- Chemistry
- Computing and Software
- Geography and Earth Sciences
- Kinesiology
- Mathematics and Statistics
- Materials Science and Engineering
- Medical Physics and Applied Radiation Sciences
- Origins
- Physics and Astronomy
- Psychology, Neuroscience and Behaviour

## PROGRAMS AND DEGREES

### A. Level I Programs

The Faculty of Science offers three Level I programs:

**SCIENCE I** {0710}

**MATHEMATICS AND STATISTICS I** {0320}

**MEDICAL RADIATION SCIENCES I** {0345}

The Faculty of Science also offers an **Honours B.Sc. Kinesiology Degree**. Please refer to the *Faculty of Social Sciences, Programs and Degrees, Level I Programs* section of this Calendar, for Kinesiology Level I requirements for admission to Honours Kinesiology (B.Sc.).

### LEVEL I PROGRAM NOTES

1. INQUIRY 1SC3 and MATH 1C03 may be taken as electives. The Faculty of Science emphasizes inquiry courses.
2. SCIENCE 1A00 is a one-hour mandatory Health and Safety course which must be completed by all Science students.
3. SCIENCE 1B00 is a web-based interactive university survival course for Science students.

### For Students Registered in Science I:

4. Courses must be selected carefully to meet the admission requirements for entry to Level II of a specific program. (See **Faculty of Science Program Listings in this section of the Calendar for Level II program admission requirements.**) As pre-registration counselling is strongly advised, please contact the Office of the Associate Dean.
5. Up to six units of electives may be taken from any courses offered by any faculty provided the prerequisites have been met and provided the course is open to students in the Faculty of Science.

### For Students Registered in Mathematics and Statistics I:

6. Up to 18 units of electives may be taken from any courses offered by any faculty provided the prerequisites have been met and provided the course is open to students in the Faculty of Science.

### For Students Registered in Medical Radiation Sciences I:

7. As places in the Medical Radiation Sciences program are limited, admission is by selection, and possession of published minimum requirements does not guarantee admission.
8. The University reserves the right to grant admission to a limited number of students, and to refuse readmission to any student whose academic performance or general conduct has been unsatisfactory, or who has withdrawn from the program for a period in excess of one academic year.
9. If Grade 12 Physics U has not been completed with a grade of at least 60%, PHYSICS 1P03 must be completed in Term I in order to register in MEDRADSC 1C03.

### SCIENCE I COURSE LIST

Each course consists of three units and is completed in one term, i.e. from September to December (Term 1) or from January to April (Term 2). Some courses are offered again in the Spring/Summer Session (May to August).

ASTRON 1F03	Introduction to Astronomy and Astrophysics
BIOLOGY 1A03	Cellular and Molecular Biology
BIOLOGY 1AA3	Biodiversity, Evolution and Ecology
CHEM 1A03 <sup>1</sup>	Introductory Chemistry I
CHEM 1AA3	Introductory Chemistry II
COMP SCI 1FC3	Mathematics for Computing
COMP SCI 1MA3 <sup>2</sup>	Computer Based Problem Solving
COMP SCI 1MD3 <sup>2</sup>	Introduction to Programming
COMP SCI 1SA3 <sup>2</sup>	Computing Fundamentals
ENVIR SC 1A03 <sup>3</sup>	Atmosphere and Hydrosphere
ENVIR SC 1B03 <sup>3</sup>	The Living Environment
ENVIR SC 1G03 <sup>3</sup>	Earth and the Environment
MATLS 1M03	Structure and Properties of Materials
MATH 1AA3	Calculus for Science II
MATH 1B03	Linear Algebra I
MATH 1D03	Algebra and Geometry
MATH 1X03	Calculus for Math and Stats I
MATH 1XX3	Calculus for Math and Stats II
PHYSICS 1B03 <sup>4</sup>	Mechanics and Waves
PHYSICS 1BA3	Introduction to Modern Physics A
PHYSICS 1BB3	Introduction to Modern Physics B
PSYCH 1A03	Introduction to Experimental Psychology
PSYCH 1AA3	The Psychology of Interpersonal Behaviour
STATS 1CC3	Introductory Computer-Aided Statistics

1. CHEM 1R03 may be completed as an elective for those students who did not complete Grade 12 Chemistry U and wish to proceed to CHEM 1A03.
2. Students with little or no previous computer experience may substitute COMP SCI 1SA3 for COMP SCI 1MA3; however, students must achieve a grade of at least B+.
3. ENVIR SC 1G03 provides more Level II course and program choices.
4. PHYSICS 1P03 may be completed as an elective to provide the background necessary to proceed to PHYSICS 1B03 for those students who did not complete Grade 12 Physics U or who completed it with a grade of less than 60%.

**SCIENCE I** {0710}

### REQUIREMENTS: 30 UNITS

3 units	MATH 1A03
3 units	from MATH 1AA3, 1B03, 1D03, STATS 1CC3
6 units	from BIOLOGY 1A03 (or 1AA3), CHEM 1A03, PHYSICS 1B03
12 units	from the Science I Course List
6 units	Electives
2 courses	SCIENCE 1A00, 1B00

See Note 4 from Level I Program Notes.

**MATHEMATICS AND STATISTICS I** {0320}

### REQUIREMENTS: 30 UNITS (2006-2007 ONLY)

9 units	MATH 1C03, 1X03, 1XX3
3 units	MATH 1B03
0-3 units	MATH 1D03 (if Grade 12 Geometry and Discrete Mathematics U is not completed)
3 units	from the Science I Course List (see above)
12-15 units	Electives
2 courses	SCIENCE 1A00, 1B00

**REQUIREMENTS: 30 UNITS (EFFECTIVE 2007-2008)**

12 units MATH 1B03, 1C03, 1X03, 1XX3  
 3 units from the Science I Course List (see above)  
 15 units Electives  
 2 courses SCIENCE 1A00, 1B00

**MEDICAL RADIATION SCIENCES I****{0345}****ENROLMENT IN THIS PROGRAM IS LIMITED.****REQUIREMENTS: 30 UNITS**

3 units BIOLOGY 1A03  
 3 units CHEM 1A03  
 6 units KINESIOL 1Y03, 1YY3  
 3 units MATH 1A03  
 9 units MEDRADSC 1A03, 1B03, 1C03  
 3 units STATS 1CC3  
 3 units Electives  
 2 courses SCIENCE 1A00, 1B00

See Note 9 from Level I Program Notes.

**B. Degree Programs****Honours B.Sc. Programs**

**A Cumulative Average of at least 6.0 is required for admission to most Honours B.Sc. Programs.**

Most Departments or Schools offer an Honours B.Sc. Program and one or more Honours B.Sc. Programs with Specialization. An Honours B.Sc. requires the completion of a set of core courses in a specific discipline and allows for interdisciplinary, and/or liberal arts studies through electives from other departments and faculties. All Science students are strongly encouraged to take these electives outside the Faculty of Science. An Honours B.Sc. with Specialization requires the completion of the same set of core courses as well as designated upper level courses in the specialization. Please refer to departmental program descriptions for details.

There are also four **Honours Science Programs** that provide a breadth of study in science. Each program requires a concentration of studies from one of the four areas of science: Geoscience, Life Science, Mathematical Science or Physical Science. They also require the completion of at least 15 units from the remaining three areas of science, completion of 15 units from faculties other than the Faculty of Science and completion of six units of Capstone course work in the final year.

**ORIGINS RESEARCH SPECIALIZATION**

The Specialization in Origins Research is designed to re-introduce Natural Science to students through various themes. This specialization may be combined with some B.Sc. Honours programs. See *Origins Research Specialization* in this section of the Calendar for more information.

**CO-OP PROGRAMS**

The Faculty of Science has instituted Cooperative Education programs, beginning in Level III, in Honours Biochemistry, Honours Biology (Genetics Specialization), Honours Biology and Pharmacology, Honours Chemistry, Honours Earth and Environmental Sciences, Honours Mathematics and Statistics, Honours Medical and Health Physics, and Honours Physics.

Co-op programs have **limited enrolment** and admission is by selection. Please see the admission statement for each program in this section of the Calendar. Employment must be full-time during the work term. Students enrolled in Co-op programs must be registered in full-time studies during the academic terms of their program and will be charged a full-load tuition. An additional Science Co-op fee will be charged for each academic term of a Co-op program. With written permission from the work term supervisor, one three unit course may be taken during each four-month period of a work term and the student will be responsible for the additional tuition.

Students enrolled in the Co-op programs must be registered in full-time studies during the academic terms of their program (24 units in a full-term; 12 units in a half-term) and will be charged per unit registered (new for 2006-2007).

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

**INDUSTRIAL INTERNSHIPS**

The Faculty of Science offers students the opportunity to participate in 12-16 month full-time paid work placements in industry that provide students with technical work experience related to their academic curriculum. Internship placements are available to students registered as Full Time students in Level II or III of an Honours B.Sc.

program, who will have at least 24 units left to complete upon their return and are eligible to return to complete their undergraduate degree. Students who qualify complete pre-employment preparation sessions. Students compete for placements with participating companies through an application and interview process. A fee is assessed following the start of the placement.

For further information, please consult the Associate Dean of Science or Science Cooperative Education in the Faculty of Science. For Computer Science Internships, please consult the Associate Dean of Science or Engineering Co-op and Career Services in the Faculty of Engineering.

**STUDENT EXCHANGES****Exchange Programs Within Canada**

Information concerning student exchanges can be found in the *Academic Facilities, Student Services and Organizations* section of this Calendar under the heading *Centre for Student Development, International Student Services*.

**International Study for Honours Level III**

There are two ways to undertake international studies during Level III of an Honours program; via a Formal Exchange Program or a Third Year Study Elsewhere program.

McMaster University has formal student exchanges with universities in 26 countries abroad.

Third Year Study Elsewhere is available at universities with which McMaster University does not have a Formal Exchange Agreement.

Students registered in any Honours program in the Faculty of Science are encouraged to apply to study the whole Level III elsewhere.

To be eligible to take part in this program, students are expected to complete Level II with a Cumulative Average of at least 7.0. Students must pay all associated travel, study and living expenses. For students in need of financial assistance, OSAP (Ontario Student Assistance Program) grants, loans and bursaries may be available.

Students interested in these opportunities should begin discussions with the Associate Dean of Science about one year before they plan to enrol elsewhere.

Students must propose and submit an academic program to their Department for approval. Academic approval must be completed by the end of February for registration in the following Fall/Winter session.

Students must maintain links through correspondence with their departments at McMaster University while they are engaged in study elsewhere. All credit for work completed may only be confirmed after departments have reviewed the students' academic achievement following their return and registration in their final year of study. The maximum credit available in this way is normally 30 units for the full year of study, equivalent to Level III. In certain cases, students may be recommended for the Deans' Honour List on the basis of work undertaken in the program.

Information concerning student exchanges can be found in the *Academic Facilities, Student Services and Organizations* section of this Calendar under the heading *Centre for Student Development, International Student Services*.

**MINORS**

Within the Faculty of Science, minors are available to students registered in an honours program only. In addition to the University's regulations governing the designation of a Minor, all Departments in the Faculty of Science require the inclusion of at least six units of Level III or IV courses to complete a Minor in a Science subject.

Depending on the student's program, there may be certain minors which are excluded. Please see the Program Notes for individual programs in this section of the Calendar.

Please see *Minors* in the *General Academic Regulations* section in this Calendar for further information.

Minors offered by the Faculty of Science include:

- Astronomy
- Biochemistry
- Biology
- Chemistry
- Computer Science
- Earth Science
- Environmental Science
- Geographical Information Systems (GIS)
- Materials Properties
- Materials Processing
- Mathematics and Statistics
- Physics
- Psychology

**THREE-LEVEL B.Sc. PROGRAMS**

Three-level B.Sc. programs are offered by the Faculty of Science. However students are encouraged to pursue a four-year honours program if they qualify.

**Students who successfully complete the first three levels of any Honours B.Sc. degree may request permission from the Office of the Associate Dean of Science to transfer to graduate with a three-level B.Sc. Science degree.**

Three-level B.Sc. programs are offered in Geoscience, Life Science, Mathematical Science and Physical Science.

Students are advised to seek counselling to ensure that their course selections are appropriate. Students who identify a subject area of emphasis should seek counselling from the corresponding department.

The program requirements for B.Sc. programs are listed under the heading *Three-Level B.Sc. Programs* in this section.

**COURSES****SCIENCE CAPSTONE COURSES**

As the capstone of a building or the keystone of an arch, a Science Capstone course is designed to provide the student with an opportunity to bring all the acquired academic skills and knowledge together in a meaningful way. It may take the form of a thesis, a senior project or an Inquiry course. Capstone courses are restricted to students in an Honours program that specifically requires the completion of such courses.

Normally, no more than six units of Science Capstone may be taken unless permission for a nine unit Senior Project or Thesis is obtained. Please refer to specific programs for their Capstone Course Lists.

**SCIENCE CAPSTONE COURSE LIST**

BIOCHEM 4B06	Senior Project in Biochemistry and Molecular Biology
BIOCHEM 4C03	Inquiry in Biochemistry
BIOCHEM 4F09	Senior Thesis in Biochemistry and Molecular Biology
BIOCHEM 4P03	Research Project in Biochemistry and Molecular Biology
BIOLOGY 4C09	Senior Thesis
BIOLOGY 4F06	Senior Project
BIOLOGY 4GG9	Senior Genetics Co-Op Thesis
BIOLOGY 4I03	Inquiry in Biology II
CHEM 4G06	Senior Thesis
COMP SCI 4ZP6	Capstone Project
GEO 4CC3	Review Paper
GEO 4R06	Senior Thesis
INQUIRY 3S03	Teaching Inquiry (Peer Tutoring)
INQUIRY 4SB3	Inquiry in Science II (Biology)
INQUIRY 4SC3	Inquiry in Science II (Chemistry)
INQUIRY 4SF3	Inquiry in Science II (Mathematics and Statistics)
INQUIRY 4SG3	Inquiry in Science II (Physics and Astronomy)
INQUIRY 4SH3	Inquiry in Science II (Psychology)
INQUIRY 4SI3	Inquiry in Science II (Radiation and Life)
INQUIRY 4SZ3	Inquiry in Science II (Phoenix: Out of the Ashes and into the Atomic Age)
MATH 3Z03	Inquiry: History of Mathematics
MATLS 4K04	Senior Thesis
MATH 3GP3	Geometric Ideas in Physics
MATH 3TP3	Truth and Provability: Gödel's Incompleteness Theorems
MOL BIOL 4R09	Senior Thesis
ORIGINS 4A09	Origins Research Thesis
PHARMAC 4F09	Senior Thesis
PHYSICS 4A03	Inquiry in Physics
PHYSICS 4P06	Senior Research Project
PHYSICS 4Q03	Research Project
PSYCH 4D06	Senior Thesis
PSYCH 4D09	Senior Honours Thesis
PSYCH 4J03	Inquiry in Psychology

**FIELD COURSES**

Field courses are offered through the Departments of Biology, the Medical Physics and Applied Radiation Sciences Unit and the School of Geography and Earth Sciences. Some of these courses are taken outside 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.

**LIMITED ENROLMENT COURSES**

There are three types of limited enrolment courses:

1. Limited enrolment courses requiring permission:  
These courses have a prerequisite stated as: *Permission of the instructor, department, coordinator, chair, etc.* During the March Counselling period and before March 31st, it is the student's responsibility to apply to the corresponding departmental office for permission for courses in which they wish to register for the following Fall/Winter session.

If a limited enrolment course is an absolute requirement for a program, students in that program have a guaranteed place in the course. This will be noted in the course prerequisite.

2. Limited enrolment courses not requiring permission:  
These courses do not have a prerequisite stated as: *Permission of the instructor, department, coordinator, chair, etc.* Registration in these courses is handled on a first-come, first-served basis.

3. Limited enrolment courses requiring pre-registration preferential ballot:

The Psychology, Neuroscience and Behaviour Department pre-registration ballot will be done in two phases. The first phase will include the thesis courses (PSYCH 4D06, 4D09), and the Individual Study courses (PSYCH 2QQ3, 3Q03, 3QQ3, 4Q03, 4QQ3). Students wishing to take these courses must complete and submit a ballot by **February 15, 2006**. Students will be informed of the outcome of the first phase by March 13, 2006. The second phase will include lab courses (PSYCH 3BL3, 3EE3, 3L03, 3LL3, 3S03, 3V03) and limited enrolment courses (PSYCH 3BN3, 4F03, 4J03, 4R03, 4Y03). Students wishing to take these courses must complete and submit a ballot by **March 31, 2006**. Ballots can be obtained from the Psychology, Neuroscience and Behaviour Department web site at <http://www.mcmaster.ca/psychology>. Priority will be given to students registered in Honours Psychology and Combined Honours Psychology programs.

## ACADEMIC REGULATIONS AND ADMINISTRATIVE INFORMATION SPECIFIC TO THE FACULTY OF SCIENCE

**STUDENT ACADEMIC RESPONSIBILITY**

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

*Students enrolled in Science programs, in addition to meeting the General Academic Regulations of the University, shall be subject to additional Faculty Regulations.*

**MUGSI**

McMaster University General Student Information, MUGSI, is an on-line system that, among other options, enables students to track their academic progress. The Degree Audit, available on MUGSI, gives a listing of courses completed or in progress for the program and is continually updated as courses are added and successfully completed.

**GENERAL ACADEMIC COUNSELLING**

Counselling is available throughout the year from the Office of the Associate Dean of Science and the academic departments in the Faculty of Science. It is highly recommended that all students in the Faculty of Science make a counselling appointment with their student advisor in the Office of the Associate Dean of Science and also with their Departmental Undergraduate Advisor.

**MARCH COUNSELLING**

The dates for the March Counselling period may vary somewhat from year to year. The dates and information will be posted on campus, on the Web, outlined in the campus newspaper, and will be announced during classes. It is the student's responsibility to participate in March Counselling activities.

**APPLICATION TO LEVEL II PROGRAMS**

All Level I students who wish to be reviewed for admission to a Level II program in the Faculty of Science for the following Fall/Winter session must submit an *Application for Admission to Level II* on SOLAR (Student On-Line Academic Registration). Students may rank up to four program choices and will be notified on their grade reports in June of their eligibility for the Level II programs. Students will only be able to register for these approved programs.

Admission to limited enrolment programs is by selection and is based on Cumulative Average. See *Limited Enrolment Programs* in this section of the Calendar.

**Level I students must meet the admission criteria for a Level II program according to the Calendar in effect when they registered for Level I. Students must follow the program requirements of the Calendar in force when they enter Level II, except when a later Calendar explicitly modifies such requirements.**

Students who have a *Result of Session of May Continue at the University* but who do not achieve the admission requirements for any Level II program may continue in the Faculty of Science, 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 program.

**ACADEMIC REQUIREMENTS FOR ADMISSION TO PROGRAMS**

The admission criteria for the three-level B.Sc. programs, in each of Geoscience, Life Science, Mathematical Science and Physical Science, are listed under the heading *Three-Level B.Sc. Programs* in this section of the Calendar. Level I students must complete the required courses with the stated grades and a Cumulative Average of at least 3.5.

The admission criteria for the **Honours Programs** are listed under the Department offering the program in this section of the Calendar. Level I students must complete the required courses with the stated grades and a Cumulative Average of at least 6.0 is required for most Honours programs.

**Students beyond Level I who wish to transfer to a Science Program must apply to transfer. Please refer to *Transfers* in this section of the Calendar.**

**LIMITED ENROLMENT PROGRAMS**

Admission is limited for the following programs:

- All Co-op programs
- Honours Biochemistry (Molecular Biology Specialization)
- Honours Biochemistry (Biotechnology and Genetic Engineering Specialization)
- Honours Biochemistry (Computational and Physical Biochemistry Specialization)
- Honours Biology and Psychology
- Honours Biology (Microbiology and Biotechnology Specialization)
- Honours Molecular Biology
- Honours Kinesiology
- Medical Radiation Sciences
- Origins Research Specialization

All of these programs except Medical Radiation Sciences and Honours Kinesiology require a thesis or project in Level IV. Resource limitations in providing a thesis or project supervisor for each student dictate that the number of students admitted must be limited. Admission to the program is by selection based on academic achievement.

For further information please see *Application to Level II Programs* in this section of the Calendar.

**CONTINUATION IN HONOURS B.SC. AND B.SC. PROGRAMS**

For information regarding requirements for continuing in Faculty of Science programs, please see the *General Academic Regulations* section in this Calendar.

**REINSTATEMENT TO THE FACULTY OF SCIENCE**

See *Reinstatement* in the *General Academic Regulations* section in this Calendar. Normally a student may not apply for one full academic year following the *Result of Session of May Not Continue at the University*.

**READMISSION TO THE FACULTY OF SCIENCE**

See *Readmission* in the *Application Requirements* 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.

**LEVEL III, IV REQUIREMENTS**

Students in Honours programs are required to take a minimum of 36 units of Level III, IV work (some programs may require more). Please see the program descriptions in this section of the Calendar for specific courses.

**COURSE CHANGES**

Students are responsible for ensuring that their course selection meets the requirements of their program. All course changes are subject to the deadline dates for adding, cancelling 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. Students who cancel a three unit first term course may not overload in second term. Beyond the January deadline date, second term courses may not be replaced. Students who cancel a full year course by the January deadline date may add a three unit second term course.

**ADDING A LIMITED ENROLMENT COURSE OR A COURSE REQUIRING PERMISSION/WAIVER**

Permission/waiver must be obtained and entered onto the data base before a student completes the on-line registration or changes to the registration.

**WORKLOAD**

All programs in the Faculty of Science may be taken by full-time and part-time students, with the exception of the Honours Co-op programs. Students enrolled in Co-op programs must maintain a full academic load during the study terms of their program.

Students must maintain a full academic load during the Fall/Winter session to be eligible for scholarships available to full-time students.

Students are expected to avoid timetable conflicts among their courses, and students on a full academic load should ensure the number of courses is balanced in each term.

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

**LETTER OF PERMISSION**

All students enrolled in science programs, with the exception of students registered in second degree programs, may apply to the Office of the Associate Dean of Science to take courses at another university on Letter of Permission. 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 program may not be taken elsewhere unless departmental approval is given. Courses required by the program but not given by the department offering the program may be taken elsewhere. For example, for a student registered in a Biology program, all Biology courses must be taken at McMaster, however, the required Chemistry course may be taken elsewhere. Electives may be taken elsewhere.

Courses taken at another university cannot be used to satisfy the university's minimum residence requirements, will not be included in the calculation of the Cumulative or Sessional Averages, and therefore cannot be used to raise standing. Students may take up to six units of courses towards a Minor on Letter of Permission.

Students must be in good standing to be eligible to take courses on a Letter of Permission.

**TRANSFERS**

Students in Level II or III may be permitted to transfer between Faculty of Science programs on the recommendation of the Department concerned and with the approval of the Associate Dean of Science. Students in other Faculties may apply to transfer to a program in the Faculty of Science.

Students are eligible to apply for transfer from a B.Sc. program to a related Honours Program or between Honours programs provided that they have:

1. attained a Cumulative Average of at least 6.0,
2. completed the courses required for admission to the program and
3. completed a reasonable number of Science courses with appropriate grades relevant to the program.

Permission to transfer to a program is subject to any exceptions or special restrictions outlined in the *Admission* statement or the *Program Notes* for that program.

**Note:** The minimum Cumulative Average required to transfer to an Honours program in the Faculty of Science is 6.0. Students entering Level III of a three-level B.Sc. program should note that if they have completed 60 units with a Cumulative Average of 5.5, they must attain a Sessional Average of at least 7.0 on 30 units of course work to raise their Cumulative Average to 6.0.

#### TRANSFER PROCEDURES

Students in Levels II or III who wish to transfer to another program in the Faculty of Science for the following Fall/Winter session must complete an *Application to Transfer to Another Program* during the March Counselling period. This form must be completed and returned to the Office of the Associate Dean of Science **by the end of March**. Students will be notified of the results of their applications on their grade reports in early June. Program transfers are not normally permitted during the Fall/Winter academic session. Students who did not apply to transfer in March, may submit an application to transfer up to the deadline for dropping and adding courses.

#### GRADUATION

##### From Honours B.Sc. and B.Sc. Programs

To graduate from a program, students must meet the course requirements stated in the Calendar in force when they enter that program, with the exception that a later Calendar may explicitly modify such requirements.

The requirements for graduation from these programs are described under the heading *Graduation* in the *General Academic Regulations* section in this Calendar.

##### Transferring to Graduate with a Three-Level

##### B.Sc. Degree from an Honours B.Sc. Program

Students who successfully complete the first three Levels of any Honours B.Sc. degree may request permission from the Associate Dean of Science Office for transfer to graduate with a three-level B.Sc. Science degree.

#### SECOND BACHELOR'S DEGREE PROGRAMS

In addition to the regulations in the *General Academic Regulations* section in this Calendar, the following Faculty regulations apply.

For many of the four-level Honours degrees in science, a Cumulative Average of at least 7.0 (overall average of B-) will be required for admission. For three-level degrees, a Cumulative Average of at least 5.0 (overall average of C) will be required for admission.

Students will be admitted to Second Degree studies only if their studies involve a significant additional component of work in the subject of concentration of a program. Certain subject combinations are not permitted for Second Degrees. Courses for the Second Degree may not be completed on a Letter of Permission. Advanced credit is not given; however, if deemed appropriate, exemptions may be given. Students interested in applying for a Second Degree program should consult the Office of the Associate Dean of Science for further details.

## DEPARTMENT OF BIOCHEMISTRY AND BIOMEDICAL SCIENCES

WEB ADDRESS: <http://www.fhs.mcmaster.ca/biochem/>

### Honours Arts & Science and Biochemistry

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

### Honours Biochemistry

#### NOTES

1. The Honours Biochemistry program consists of four options: a core and three specializations. In the core, this program has a specified set of basic requirements, but otherwise allows a wide choice of other courses (including those from

outside the Faculty of Science). The opportunity is therefore available for interdisciplinary studies possibly leading to a Minor in another subject. Alternatively, students may wish to select one of the specializations which are strongly recommended for students intending to pursue graduate studies.

The options currently available are:

- Biochemistry (Core)
- Molecular Biology Specialization
- Biotechnology and Genetic Engineering Specialization
- Computational and Physical Biochemistry Specialization

**Admission to the specializations is limited.** Selection is based on academic achievement but requires, as a minimum, completion of the Science I requirements listed below for all Honours Biochemistry students.

2. The Honours Biochemistry Core program can also be combined with the Origins Research Specialization. See the section on the *Origins Research Specialization* in this section of the Calendar for more information. Students wishing to combine the Origins Research Specialization with the Biochemistry Core must satisfy all the Biochemistry Core requirements as well as the courses specified by the Origins Research Specialization. Students may do this by selecting Origins courses for Biochemistry Core electives. In addition to the courses specified for the Biochemistry Core, students must complete three units from ASTRON 1F03, PHYSICS 1BA3 or 1BB3 by the end of Level II.
3. Transfer between options is possible at any time, subject to satisfying the specific option requirements and enrolment limits. Registration in a specialization will be noted on the student's transcript.
4. Students in the Molecular Biology Specialization, the Biotechnology and Genetic Engineering Specialization and the Computational and Physical Biochemistry Specialization are normally required to take a course involving a research project or a thesis. Enrolment in any of these courses is limited and admission is dependent on academic performance. Students who fail to achieve the minimum C.A. to register in the required course may request special permission from the department to remain in the specialization or transfer to the core option.
5. Students may apply for admission to Honours Biochemistry Co-op regardless of their option.

#### ADMISSION

Completion of the Science I requirements, including:

- 6 units MATH 1A03, STATS 1CC3
- 6 units BIOLOGY 1A03, 1AA3
- 6 units CHEM 1A03, 1AA3
- 3 units PHYSICS 1B03
- 3 units from Science I Course List
- 6 units Level I electives
- 2 courses SCIENCE 1A00, 1B00

While STATS 1CC3 is strongly recommended, students will also be considered for admission if they have completed MATH 1AA3 instead of STATS 1CC3. Students with other backgrounds such as Health Sciences I may also be admissible and are encouraged to contact the Chair of the Department of Biochemistry and Biomedical Sciences.

#### MINIMUM AVERAGES/GRADES:

A Cumulative Average of 6.0 and a grade of C+ in each of four of BIOLOGY 1A03, 1AA3; CHEM 1A03, 1AA3, and MATH 1A03.

#### NOTES

1. There are Level II (and III) prerequisites for many Level III (and IV) courses. The prerequisites should be considered when choosing Level II and III courses.
2. Students planning to apply for admission to a Biochemistry Co-op program must take BIOLOGY 2B03 in Level II.
3. A minor in Biology or Chemistry is not permitted in the Honours Biochemistry program.
4. Students are reminded that biochemical laboratory experience is highly valuable in many careers. The laboratory course BIOCHEM 2L06 which is required for all Honours Biochemistry students may not, by itself, be sufficient for many purposes. Consequently, students who are not taking a research project or thesis course should consider BIOCHEM 4L03.
5. Students who wish to enrol in the Computational and Physical Biochemistry Specialization in Level II, must complete PHYSICS 1BA3 or 1BB3 by the end of Level II.
6. Students who have obtained appropriate research experience may request permission from the Department to take three units of Level III, IV Biochemistry instead of BIOCHEM 3P03.



# COMBINED B.A. IN INDIGENOUS STUDIES AND ANOTHER SUBJECT

WEB ADDRESS: <http://www.mcmaster.ca/indigenous/default.htm>

Hamilton Hall, Room 103  
Ext. 27426

## Director

D.J. Martin-Hill/B.A., M.A., Ph.D.

## Aboriginal Student Counsellor

R. McLester/B.A.

## ACADEMIC REGULATIONS

### STUDENT ACADEMIC RESPONSIBILITY

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

The Combined B.A. Program in Indigenous Studies is governed by the general Academic Regulations of the University and the regulations described below.

## Combined B.A. Program in Indigenous Studies and Another Subject

### ADMISSION

Completion of any Level I program, with a Cumulative Average of at least 3.5 including an average of at least 4.0 in six units from CAYUGA 1Z03, INDIG ST 1A03, 1AA3, MOHAWK 1Z03, OJIBWE 1Z03 or a grade of at least C- in one of CAYUGA 1Z06, INDIG ST 1A06, MOHAWK 1Z06 or OJIBWE 1Z06 and satisfaction of admission requirements for the B.A. program in the other subject.

### NOTES

- Those students who entered the program prior to September 2005 should follow the requirements as specified in the Calendar which was in effect the year they entered the program.
- Three units of work in the other subject of the combined program which are also in the Course List may be used to fulfill the requirements of both program components.
- Students who previously completed ANTHROP 3F03 or POL SCI 3C03 may use these units toward the Course List requirement.

### COURSE LIST

ANTHROP 2B03, 2H03, 2VV3, 2W03, 3Y03  
SOC WORK 4I03

### REQUIREMENTS

90 units total (Levels I to III), of which 42 may be Level I  
30 units from the Level I program completed prior to admission to the program. (See Admission above.)  
6 units from CAYUGA 2Z03, INDIG ST 2AA3, MOHAWK 2Z03, OJIBWE 2Z03  
3 units from INDIG ST 2C03, 2D03  
15 units from Level II, III Indigenous Studies, CAYUGA 2Z03, MOHAWK 2Z03, OJIBWE 2Z03 (if not taken to satisfy requirement above), courses from the Course List of which at least three units must be Level III. (See Notes 2 and 3 above.)  
24 units courses specified for the other subject  
12 units Electives

## Minor In Indigenous Studies

### NOTES

- No more than six of the 18 units from Course List may be Level I courses.
- At least 12 of the 18 units required for the Minor must be Indigenous Studies or Indigenous language courses.
- Students who previously completed ANTHROP 3F03, INDIG ST 3I03, 3J03 or POL SCI 3C03 may use these units toward the Course List requirement.

### COURSE LIST

INDIG ST 1A03	Introduction to Indigenous Studies
INDIG ST 1AA3	Introduction to Contemporary Indigenous Studies
INDIG ST 2A03	Indigenous Peoples' Spirituality
INDIG ST 2AA3	Indigenous Knowledge and Methodology
INDIG ST 2B03	History of Indigenous Peoples' Sovereignty
INDIG ST 2C03	Contemporary Indigenous Societies and Issues: Selected Topics Topic 2006-2007: TBA
INDIG ST 2D03	Traditional Indigenous Ecological Knowledge
INDIG ST 3C03	Study of Iroquois First Nations in Contemporary Times
INDIG ST 3CC3	Contemporary Indigenous Societies: Selected Topics Topic 2006-2007: TBA
INDIG ST 3D03	Contemporary Native Literature in Canada
INDIG ST 3E03	Contemporary Native Literature in the United States
INDIG ST 3G03	Indigenous Creative Arts and Drama: Selected Topics Topic 2006-2007: TBA
INDIG ST 3H03	Indigenous Medicine I - Philosophy
INDIG ST 3HH3	Indigenous Medicine II - Practical
INDIG ST 3K03	Indigenous Human Rights
INDIG ST 3L03	Indigenous Independent Study
CAYUGA 1Z03	Introduction to Cayuga Language and Culture
CAYUGA 2Z03	Intermediate Cayuga
MOHAWK 1Z03	Introduction to Mohawk Language and Culture
MOHAWK 2Z03	Intermediate Mohawk
OJIBWE 1Z03	Introduction to Ojibwe Language and Culture
OJIBWE 2Z03	Intermediate Ojibwe
ANTHROP 2B03	Indigenous Peoples of North America
ANTHROP 2H03	Environment and Culture
ANTHROP 2VV3	The Ancient Maya
ANTHROP 2W03	The Aztecs and Incas
ANTHROP 3Y03	Aboriginal Community Health and Well-Being
SOC WORK 4I03	Social Work and Indigenous Peoples

### REQUIREMENTS

6 units from INDIG ST 1A03, 1AA3, CAYUGA 1Z03, MOHAWK 1Z03, OJIBWE 1Z03  
18 units from the Course List (See Notes 2 and 3 above.)

# INTERDISCIPLINARY MINORS AND THEMATIC AREAS

## INTERDISCIPLINARY MINORS

The following two listings constitute University-sanctioned Minors in Archaeology and Jewish Studies.

No degree is granted for these programs of study, but students registered in four- or five-level programs can receive a Minor designation on their transcripts following graduation if their chosen Minor program is successfully completed. Please see the *Minor* subsection in the *General Academic Regulations* section of this Calendar for further information.

**NOTE:** Students should note that not all courses listed are available each year. As well, it is the student's responsibility to check carefully for prerequisites, corequisites and enrolment restrictions.

### Archaeology

#### Coordinator

Eduard Reinhardt (*Geography and Earth Sciences*)

#### Committee of Instruction

Joe Boyce (*Geography and Earth Sciences*)

Aubrey Cannon (*Anthropology*)

Laura Finsten (*Anthropology*)

Michele George (*Classics*)

Darren Gröcke (*Geography and Earth Sciences*)

Celina Gray (*Classics*)

Alexandra Retzleff (*Classics*)

Hendrik Poinar (*Anthropology*)

Kostalena Michelaki (*Anthropology*)

W. Jack Rink (*Geography and Earth Sciences*)

Shelley Saunders (*Anthropology*)

Henry Schwarcz (*Geography and Earth Sciences*)

The Interdisciplinary Minor in Archaeology is based on archaeology and archaeology-related courses offered in the School of Geography and Earth Sciences, and in the Departments of Classics and Anthropology. It requires students to gain knowledge and understanding of a broad range of arts and sciences relevant to the practice of archaeology, but also permits students the flexibility to specialize in topics of particular interest within related disciplines. Students planning a minor in Archaeology may wish to take CLASSICS 1L03 (History and Archaeology of the Ancient World I) and CLASSICS 1LL3 (History and Archaeology of the Ancient World II).

#### COURSE LIST

ANTHROP 2C03	Environmental Crises in Archaeological Perspectives
ANTHROP 2FF3	Human Skeletal Biology and Bioarchaeology
ANTHROP 2Q03	North American Prehistory
ANTHROP 2VV3	The Ancient Maya
ANTHROP 2W03	The Aztecs and Incas
ANTHROP 3AS3	Archaeology and Society
ANTHROP 3CA3	Ceramic Analysis
ANTHROP 3CC6	Archaeological Field School
ANTHROP 3DD3	Archaeology of Death
ANTHROP 3E03	Special Topics in Archaeology I
ANTHROP 3EE3	Special Topics in Archaeology II
ANTHROP 3K03	Archaeological Interpretation
ANTHROP 3N03	Primate Evolution
ANTHROP 3PP3	Paleopathology
ANTHROP 3X03	Zooarchaeology
ANTHROP 4E03	Advanced Topics in Archaeology I
ANTHROP 4EE3	Advanced Topics in Archaeology II
ANTHROP 4F03	Archaeological Theory
ANTHROP 4HF3	Archaeology of Hunters and Foragers
ANTHROP 4R03	Skeletal Biology of Earlier Human Populations
CLASSICS 2B03	Greek Art
CLASSICS 2C03	Roman Art
CLASSICS 3Q03	Greek Sanctuaries
CLASSICS 3S03	The Archaeology of the City of Rome and Roman Italy

CLASSICS 4B03	Seminar in Classical Archaeology
ENVR SC 1G03	Earth and the Environment
GEO 2B03	Soils and the Environment
GEO 2E03	Earth History
GEO 2G03	Earth Surface Processes
GEO 2GG3	Natural Disasters
GEO 2I03	GIS and Digital Cartography
GEO 3CC3	Earth's Changing Climate
GEO 3DD3	Geoarchaeology of the Underwater Realm
GEO 3E03	Sedimentary Environments
GEO 3G03	Glacial Sediments and Environments
GEO 3I03	Applied GIS
GEO 3P03	Environmental Paleontology
GEO 3Q03	Environmental Reconstruction Using Stable Isotopes
GEO 3V03	Environmental Geophysics
GEO 4E03	Coastal Environments
GEO 4FF3	Topics of Field Research
GEO 4G03	Glacial Sediments and Environments
GEO 4I03	Advanced GIS

#### REQUIREMENTS

24 units total

12 units ANTHROP 1B03 (or 1Z03, if completed prior to 1999), 2PA3, CLASSICS 1A03 (formerly CLASSICS 2A03), ENVR SC 1G03

12 units from Course List (see above). At least nine of the 12 units must be selected from outside the student's own department.

**Please see the Course Listings section for a detailed description of the above courses.**

### Jewish Studies

Jewish Studies is an international, multidisciplinary field devoted to the study of Judaism, Jewish history, thought, culture and community. The Minor in Jewish Studies is open to all students registered in a four- or five-level program in any Faculty. Students will be required to complete a minimum of 24 units from the lists below. At least 12 of these units will be taken from List A, comprised of courses focusing directly on an area of Jewish Studies. Students are urged to take at least six units of Hebrew language as part of their List A requirements. A minimum of six units will be taken from List B, comprised of courses which provide crucial background for understanding important issues in Jewish Studies. Students taking List B courses as part of their minor are required to write assignments and research papers on topics directly related to Jewish Studies.

Students are also encouraged to engage in a year of study in Israel, normally done in the third year of a four-year program. Details are available through the Department of Religious Studies, University Hall, Room 104, ext. 24567, or the Office of International Affairs, Alumni Memorial Hall, Room 203.

Students wishing to pursue a Minor in Jewish Studies may obtain more information from the Jewish Studies Minor Area Coordinator in the Department of Religious Studies, University Hall, Room 104.

#### LIST A

COMP LIT 2G03	The Bible as Literature
COMP LIT 3MM3	Topics in Modern Literature: Israel/Palestine: Boundaries Crossing Boundaries
HEBREW 2A03	Introduction to Biblical Hebrew I
HEBREW 2B03	Introduction to Biblical Hebrew II
HEBREW 3A03	Intermediate Hebrew I
HEBREW 3B03	Intermediate Hebrew II
HISTORY 3DD3	The Jewish World in New Testament Times
HISTORY 3Z03	Judaism, the Jewish People and the Birth of the Modern World
HISTORY 3ZZ3	Judaism and the Jewish People in the Twentieth Century
PHILOS 3J03	Modern Jewish Thought
RELIG ST 2B03	Women in the Biblical Tradition
RELIG ST 2DD3	The Five Books of Moses
RELIG ST 2EE3	Prophets of the Bible
RELIG ST 2VV3	The Bible as Literature
RELIG ST 2YY3	The Bible and Film
RELIG ST 3A03	Modern Jewish Thought

- RELIG ST 3DD3 The Jewish World in New Testament Times  
 RELIG ST 3J03 Jews, Christians, and Others in Antiquity  
 RELIG ST 3K03 The Bible through the Ages  
 RELIG ST 3M03 Songs of David: Poetry in the Hebrew Bible  
 RELIG ST 3R03 Death and the Afterlife in Early Judaism and Christianity  
 RELIG ST 3Z03 Judaism, the Jewish People and the Birth of the Modern World  
 RELIG ST 3ZZ3 Judaism and the Jewish People in the Twentieth Century

**LIST B**

- ANTHROP 3B03 Ethnology: Europe  
 ANTHROP 3G03 Comparative Mythology  
 ANTHROP 3H03 Anthropological Demography  
 CLASSICS 2P06 Ancient Greek Philosophy  
 HISTORY 3AA3 The Modern Middle East  
 HISTORY 3I03 The International Relations of the European Powers, 1870-1945  
 PEACE ST 3F03 The Modern Middle East  
 PEACE ST 3I03 The International Relations of the European Powers, 1870-1945  
 PHILOS 2A06 Ancient Greek Philosophy  
 PHILOS 2D03 Moral Issues  
 PHILOS 3A06 From Kant to Hegel  
 PHILOS 3H03 Philosophy of Religion  
 POL SCI 3AA3 International Politics in the Postwar Period  
 POL SCI 4D06 Human Rights and International Politics  
 RELIG ST 2C03 Moral Issues  
 SOC WORK 4C03 Racism and Social Marginalization in Canadian Society  
 SOC WORK 4J03 Social Change: Social Movements and Advocacy  
 SOC WORK 4M03 International and Comparative Social Welfare  
 SOCIOL 2E06 Racial and Ethnic Group Relations  
 SOCIOL 3Z03 Ethnic Relations

*Please see the Course Listings section for a detailed description of the above courses.*

**THEMATIC AREAS**

The following listing is designed to assist you in choosing courses in areas of study, in which there is currently no B.A. program.

**Asian Studies**

While there is no B.A. program in Asian Studies, students interested in concentrating in this area may choose from among the following courses offered by various departments. Those desiring further information on specific courses should consult the departmental listing in the Calendar.

Students wishing to pursue Asian Studies may obtain further information from Dr. D. Barrett, Chester New Hall, Room 625, ext. 24130.

**COURSES DEALING STRICTLY WITH ASIAN MATERIAL**

- ART HIST 2Z03 Art and Visual Culture in East Asia  
 ART HIST 3Z03 Chinese Art and Visual Culture, 200 - 750  
 CMST 2AA3 Japanese Communication  
 COMMERCE 4SF3 Japanese Business  
 COMP LIT 3M03 Asian Literatures  
 COMP LIT 3N03 Arabic and Persian Literatures  
 GEO 3HJ3 Geography of Japan  
 HISTORY 3AA3 The Modern Middle East  
 HISTORY 3B03 Modern Japan  
 HISTORY 3GG3 China: the Revolutionary Century, 1895-1995  
 HISTORY 4BB6 Special Topics in the History of Modern Japan  
 HISTORY 4GG6 Topics in Middle Eastern and Islamic History  
 POL SCI 2N03 Politics of India and South Asia  
 RELIG ST 2F03 Storytelling in East Asian Religions  
 RELIG ST 2I03 Storytelling in Indian Religion  
 RELIG ST 2L03 Life, Work and Teachings of Mahatma Gandhi  
 RELIG ST 2P06 Japanese Civilization  
 RELIG ST 3AA3 Popular Religion in the Indian Tradition  
 RELIG ST 3E03 Japanese Religion  
 RELIG ST 3L03 The Indian Religious Tradition  
 RELIG ST 3P03 Buddhism in Tibet

- RELIG ST 3S03 The East Asian Religious Tradition  
 RELIG ST 3U03 The Buddhist Tradition in India  
 RELIG ST 3UU3 Buddhism in East Asia  
 RELIG ST 3V03 Indian Philosophy  
 RELIG ST 4H03 Topics in Asian Religions  
 THTR&FLM 2H03 The Contemporary Japanese Film

**COURSES WITH SIGNIFICANT ASIAN CONTENT**

- ECON 2C03 Asian-Pacific Economies  
 HISTORY 2HH3 Mediterranean Encounters, 1500-1800  
 POL SCI 4MM6 Topics in International Political Economy  
 RELIG ST 1B06 World Religions  
 RELIG ST 2BB3 Images of the Divine Feminine  
 RELIG ST 2H03 Theory and Practice of Non-Violence  
 RELIG ST 2QQ3 Cults in North America  
 RELIG ST 2SS3 Women and Religion  
 RELIG ST 2WW3 Health, Healing and Religion

**LANGUAGE COURSES**

- JAPANESE 1Z06 Beginner's Intensive Japanese  
 JAPANESE 2Z03 Intermediate Intensive Japanese I  
 JAPANESE 2ZZ3 Intermediate Intensive Japanese II  
 JAPANESE 3A03 Advanced Intensive Japanese I  
 JAPANESE 3AA3 Advanced Intensive Japanese II  
 JAPANESE 3B03 Business Japanese I  
 JAPANESE 3CC3 Business Japanese II  
 JAPANESE 4A03 Advanced Readings in Current Affairs in Japanese  
 JAPANESE 4Z03 Advanced Practice in Japanese  
 JAPAN ST 4A06 Guided Reading in Japanese Studies  
 JAPAN ST 4B03 Guided Reading in Japanese Studies  
 SANSKRIT 3A06 Introduction to Sanskrit Grammar  
 SANSKRIT 4B06 Readings in Sanskrit Texts

*Please see the Course Listings section for a detailed description of the above courses.*

**Canadian Studies**

There is no B.A. in Canadian Studies, but students interested in this area may choose from among the following courses, subject to meeting the prerequisites.

**HUMANITIES**

- ART HIST 3B03 Aspects of Canadian Art  
 ENGLISH 2C03 Contemporary Canadian Fiction  
 FRENCH 2E03 Literature of Quebec  
 FRENCH 3AA3 The Modern French-Canadian Novel  
 FRENCH 4U03 Topics in French-Canadian Literature  
 HISTORY 2T03 Survey of Canadian History, Beginnings to 1885  
 HISTORY 2TT3 Survey of Canadian History, 1885 to the Present  
 HISTORY 3G03 Business History: The Canadian Experience in International Perspective  
 HISTORY 3NN3 Canada's Revolutions: 1939-1982  
 HISTORY 3P03 Religion and Society in Canada  
 HISTORY 3W03 Women in Canada and the U.S. to 1920  
 HISTORY 3WW3 Women in Canada and the U.S. from 1920  
 HISTORY 3Y03 Death, Disease and Degeneration: A History of Health and Health Care in Canada  
 Canadian Music

**SOCIAL SCIENCES**

- ANTHROP 3Y03 Aboriginal Community Health and Well-Being  
 ECON 2K03 Economic History of Canada  
 GEO 2HC3 Canada  
 GEO 3HT3 Geography of Planning  
 GEO 4HZ3 Urban Housing  
 POL SCI 1G06 Politics and Government  
 POL SCI 3FF3 Canadian Foreign Policy  
 POL SCI 3GG3 Federalism: Theoretical, Constitutional and Institutional Issues  
 POL SCI 3HH3 Intergovernmental Policy Issues in Canada  
 POL SCI 3JJ3 Provincial Politics in Canada  
 POL SCI 4O06 Canadian Public Policy

*Please see the Course Listings section for a detailed description of the above courses.*

## PART-TIME DEGREE STUDIES

The University offers a broad range of educational opportunities if you wish to take degree studies on a part-time basis. In addition to the daytime offerings in the Fall/Winter there is a wide selection of evening classes available in the Fall/Winter and Spring/Summer sessions. There is a limited number of daytime classes scheduled for the Spring/Summer session.

If you take degree courses, 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 program of study. The Level I courses will give you the information you need for this purpose, as well as provide the prerequisites for more advanced courses and admission to programs of study. The programs of study which are available entirely through evening and summer courses are indicated on the *Degrees by Program* chart, in the *Degrees, Programs and Courses* section of this Calendar. You should also familiarize yourself with the requirements and information found in the following sections: *Admission Requirements*, *General Academic Regulations* and *Sessional Dates*, as well as the program descriptions found in the specific Faculty sections.

## ADMISSION

**Before you register for any degree course or program, you must apply for admission.**

- If you have already completed some university, community college, or other post-secondary education, you will be required to submit official transcripts of this work in order to be considered for admission and possible credit towards your McMaster program.
- If you satisfy the University's normal admission requirements for full-time study, you may choose to register for part-time study in most programs.
- If you do not satisfy these requirements, you may be admissible as a **Mature Student** and given the opportunity to show that you can deal successfully with university work. 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.

## INFORMATION AND COUNSELLING

**WEB ADDRESS:** <http://www.mcmaster.ca/parttime>

Interested students may telephone the Office of the Registrar, Admissions, at (905) 525-4600 for information about application procedures and admission regulations. The Office is located in Gilmour Hall, Room 108, and is open Monday through Friday until 4:00 p.m. Hours are extended various times throughout the year to accommodate the registration process.

More detailed information and advice concerning programs and courses is provided by the Academic Counsellors within each Faculty as follows:

- Business: ext. 23941
- Humanities: ext. 27532
- Science: ext. 27590
- Social Sciences: ext. 23772

Information about non-degree courses and programs is available through the Centre for Continuing Education (905) 525-9140, ext. 24321 or at the following url: <http://www.mcmaster.ca/conted/> or in the *Certificate and Diploma Programs* section in this Calendar.

## MAPS

The McMaster Association of Part-time Students (MAPS) maintains an office and student lounge in the McMaster University Student Centre, Room 234, telephone (905) 525-9140, ext. 22021. MAPS also publishes a newsletter, *The Link*, which is sent to all part-time students. The office and lounge are open from Monday to Thursday, day and evening, and Friday during the day.

MAPS staff is available during these hours to help students. All part-time students are invited to use these facilities and to assist their Association in its efforts to improve the quality and range of educational opportunities available to students who can only attend university on a part-time basis.

# CERTIFICATE AND DIPLOMA PROGRAMS

## CENTRE FOR CONTINUING EDUCATION

Located at The Downtown Centre, 50 Main Street East, Hamilton, 2nd Floor, the Centre for Continuing Education offers Certificate and Diploma programs. Short courses and workshops for personal and professional development are also available. The Centre offers registration in degree courses as a *Listener*. For details, please contact the Centre for Continuing Education at extension 24321 or <http://www.mcmastercce.com>

## CERTIFICATE AND DIPLOMA PROGRAMS APPROVED FOR ADVANCED CREDIT

All CCE Certificate and Diploma programs have been approved by the Senate of McMaster University for advanced credit, as shown below. Information regarding advanced credit for degree study is outlined in *Graduatés of McMaster Certificate/Diploma Programs* in the *Admission Requirements* section of this Calendar.

### ACCOUNTING, DIPLOMA IN {8956}

**Maximum Credit Toward Degree Studies - 24 units**

This eleven-course program is designed for individuals planning a career in managerial or financial accounting. All courses satisfy program requirements for both the Society of Management Accountants of Ontario (SMA) and the Certified General Accountants Association (CGA).

### ADDICTION CAREWORKER, DIPLOMA IN {8951}

**Maximum Credit Toward Degree Studies - 24 units**

The diploma requirements consist of 24 units of study organized in compulsory courses and skill and knowledge electives. The program meets the core education hours required by The Canadian Addiction Counsellors Certification Federation (CACCF) for professional certification.

### ADDICTION STUDIES, CERTIFICATE IN {8969}

**Maximum Credit Toward Degree Studies - 15 units**

This 15 unit program is designed to provide elective studies in the field of addictions.

### BUSINESS ANALYSIS, DIPLOMA IN {8931}

**Maximum Credit Toward Degree Studies - 24 units**

The Diploma in Business Analysis, is a two-tiered program that combines the technical and management skills, techniques and practices required of an effective business analyst in an information systems environment.

### CASE MANAGEMENT, CERTIFICATE IN {8939}

**Maximum Credit Toward Degree Studies - 15 units**

This six-course program, is designed to develop and/or enhance the ability of health and social service professionals to perform case management functions in a variety of practice settings. Available in-class or on-line.

### CERTIFIED CLINICAL RESEARCH ASSOCIATE, CERTIFICATE IN {8924}

**Maximum Credit Toward Degree Studies - 15 units**

This five-course program is designed to develop the concepts, skills, strategies, attitudes and knowledge required to perform clinical trials.

### CREATIVE WRITING, CERTIFICATE IN {8941}

**Maximum Credit Toward Degree Studies - 15 units**

This program covers the fundamentals and advanced study of writing and publishing across many different genres. It has been developed in collaboration with the Faculty of Humanities and members of the local writing community.

### FAMILY MEDIATION, CERTIFICATE/DIPLOMA IN {8938/8948}

**Maximum Credit Toward Degree Studies**

- 15 units (Certificate)
- 24 units (Diploma)

This five-course (Certificate)/eight-course (Diploma) program offers a rewarding career opportunity for people in a variety of professions to either gain new experience or expand their skills and knowledge in the fields of alternative dispute resolution and family mediation.

### HUMAN RESOURCES MANAGEMENT, DIPLOMA IN {8958}

**Maximum Credit Toward Degree Studies - 24 units**

The Diploma in Human Resources Management will provide the knowledge and skills essential to succeed as a practitioner in Human Resources Management. This program offers all courses required to fulfill the academic requirement of HRPAC to become eligible to write the certification exam for the Certified Human Resources Professional (CHRP) designation.

### MANAGEMENT STUDIES, DIPLOMA IN {8929}

**Maximum Credit Toward Degree Studies - 24 units**

This eight course program offered in association with the Michael G. DeGroot School of Business at McMaster is designed to develop and/or enhance the business management skills needed to function within a management position.

### METALLURGY OF IRON AND STEEL CERTIFICATE {8991}

**Maximum Credit Toward Degree Studies - 15 units**

This six-course program comprehensively covers metallurgical principles involved in the extraction, refining and manufacturing of ferrous products.

### POLICE STUDIES, DIPLOMA IN {8921}

**Maximum Credit Toward Degree Studies - 24 units**

This program is designed to develop a capacity for critical inquiry at the university level, while augmenting the training received by police and security personnel.

### WEB DESIGN AND DEVELOPMENT, CERTIFICATE/DIPLOMA IN {8932/8930}

**Maximum Credit Toward Degree Studies**

- 15 units (Certificate)
- 24 units (Diploma)

This program focuses on the development of technical, design and communication skills as they relate to development in the field of website management.

### PROFESSIONAL ASSOCIATIONS AND INSTITUTES

Many McMaster Certificate and Diploma credit courses are recognized as course equivalencies by the following external associations and institutes:

- Addiction Intervention Association (AIA)
- Association of Administrative Assistants (QAA)
- Canadian Addiction Counsellors Certification Federation (CACCF)
- Canadian Institute of Certified Administrative Managers (CAM)
- Canadian Institute of Management (CIM)
- Certified General Accountants Association of Ontario (CGA)
- Credit Institute of Canada
- Credit Union Institute of Canada (CUIC)
- Global Risk Management Institute (CRM and FRM)
- Human Resources Professionals Association of Ontario (HRPAO)
- Institute of Canadian Bankers (ICB)
- Insurance Institute of Canada-Fellowship (FCIP)
- International Personnel Management Association (IPMA)
- Purchasing Management Association of Canada (PMAC)
- Society of Management Accountants of Ontario

Please contact the Centre for Continuing Education for details.

## SCHOOL OF GEOGRAPHY AND EARTH SCIENCES

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The part-time certificate and diploma programs offered by the School of Geography and Earth Sciences can be completed in one or two years and are intended for students with basic academic or experiential training in GIS/Geomatics who wish to obtain a qualification in the theoretical and practical aspects of spatial analysis as well as in the more technical aspects of GIS. Further information can be obtained at <http://sciwebserver.science.mcmaster.ca/gislab/programs/index.html> or by contacting the GIS Laboratory, School of Geography and Earth Sciences at (905) 525-9140 ext. 22542.

### **DIPLOMA IN SPATIAL INFORMATION SCIENCE {8919}**

The eight-course diploma program focuses on advanced concepts in spatial analysis and GIS, complemented with skills in software development and large spatial database design and management. Professionals and graduates are encouraged to register for single courses in this diploma to upgrade their skills.

### **CERTIFICATE IN GIS {8947}**

#### **(GEOGRAPHIC INFORMATION SYSTEMS)**

The six-course certificate program provides expertise and applied skills in desktop GIS tools, remote sensing and spatial statistics for multidisciplinary applications. This program provides an introduction to geographic information systems (GIS) for students or professionals with no prior GIS experience.

For information concerning other Diploma programs offered at the University, please see the *Post-Professional Health Sciences Education Programs* in the *Faculty of Health Sciences* section as well as the *Diploma in Music Performance* in the *Faculty of Humanities* section of this Calendar.

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# COURSE LISTINGS

The courses listed in this section include all courses approved for the undergraduate curriculum for the 2006-2007 academic year. Not all courses in the approved curriculum will be offered during the year. Students are advised to refer to the course timetables available annually in March, May and August to determine which specific courses will be offered in the upcoming sessions.

## ANTHROPOLOGY

WEB ADDRESS: <http://www.socsci.mcmaster.ca/anthro/>

Chester New Hall, Room 524

Ext. 24423

### Faculty as of January 15, 2006

#### Chair

Matthew Cooper

#### Professors

- Aubrey Cannon/B.A. (Simon Fraser), Ph.D. (Cambridge)
- John J. Colarusso/(Linguistics and Languages) B.A. (Cornell), M.A. (Northwestern), Ph.D. (Harvard)
- Matthew Cooper/B.A. (Brooklyn College), M.Phil., Ph.D. (Yale)
- Harvey Feit/B.A. (Queen's), M.A. Ph.D. (McGill) F.R.S.C.
- Laura Finsten/B.A. (Western Ontario), M.A. (Calgary), Ph.D. (Purdue)
- D. Ann Herring/B.A., M.A., Ph.D. (Toronto)
- William L. Rodman/B.A. (Sydney), M.A., Ph.D. (Chicago)
- Shelley Saunders/B.A., M.A., Ph.D. (Toronto), F.R.S.C./Canada Research Chair in Human Disease and Population Relationships

#### Adjunct Professors

- Regna Darnell/(Western Ontario) B.A. (Bryn Mawr), M.A., Ph.D. (Pennsylvania)
- Christopher Ellis/(Western Ontario), B.A. (Waterloo), M.A. (McMaster), Ph.D. (Simon Fraser)
- Michael Spence/(Western Ontario) B.A., M.A. (Toronto), Ph.D. (Southern Illinois)

#### Associate Professors

- Ellen Badone/(Religious Studies) B.A., M.A. (Toronto), Ph.D. (California-Berkeley)
- Petra Rethmann/B.A. (Vienna), M.A. (Munich), Ph.D. (McGill)
- Wayne Warry/B.A., M.A. (McMaster), Ph.D. (ANU)
- Dennis Willms/B.A. (Waterloo), M.A. (McMaster), Ph.D. (British Columbia)

#### Adjunct Associate Professors

- Trudy Nicks/(Royal Ontario Museum), B.A., M.A., Ph.D. (Alberta)
- Robert W. Park/(Waterloo) B.A. (Toronto), M.A. (McMaster), Ph.D. (Alberta)

#### Assistant Professors

- Eva Mackey/B.A. (Toronto), M.A., Ph.D. (Sussex)
- Kostalena Michelaki/B.A. (Greece), M.A., Ph.D. (Michigan)
- Christina Moffat/B.Sc. (Toronto), B.A., Ph.D. (McMaster)
- Ana Ning/B.A., M.A., Ph.D. (York)
- Hendrik Poinar /B.Sc., M.Sc.(California), Ph.D. (Germany)

#### Associate Members

- Darren Gröcke/(Geography and Earth Sciences) B.Sc., (Adelaide), M.Sc. (Monash), D.Phil. (Oxford)
- Eduard G. Reinhardt/(Geography and Earth Sciences) B.A., Ph.D. (Carleton)
- Celia Rothenberg/(Religious Studies) B.A. (Wellesley College), M.S. (Oxford), Ph.D. (Toronto)

### Department Notes:

1. Not all Anthropology courses listed in this Calendar are taught every year. Students are advised to consult the department's webpage and the timetable which is published annually by the Registrar's Office to determine whether a course is offered.
2. Registration in all courses with a course code ending \*\* listed as selected topics and independent research require prior arrangement with the instructor; otherwise, no grade will be submitted for the course.
3. To identify Anthropology courses by subdiscipline, students should refer to the lists of courses under Anthropology Subfields in the section Faculty of Social Sciences, Department of Anthropology.

### Courses *If no prerequisite is listed, the course is open.*

#### ANTHROP 1A03 INTRODUCTION TO ANTHROPOLOGY: CULTURE AND SOCIETY

An introduction to the cross-cultural study of existing peoples, their ways of life, and the ways in which they interpret and experience the world. The course discusses a broad range of societies in order to explore some fundamental issues involving human knowledge and behaviour. Two hours (lecture), one hour (tutorial); one term

#### ANTHROP 1B03 WORLD ARCHAEOLOGY

An overview of the chronology and diversity of human prehistory. Examples of archaeological evidence from around the world are used to illustrate the long-term processes of cultural history. Two hours (lecture), one hour (tutorial); one term

#### ANTHROP 1Z03 THE HUMAN SPECIES: BECOMING AND BEING HUMAN

The study of the interaction between biology and culture. Topics may include: human origins, non-human primates, the concept of race, disease, sex and gender. Two hours (lecture), one hour (tutorial); one term

#### ANTHROP 2AN3 THE ANTHROPOLOGY OF FOOD AND NUTRITION

An anthropological perspective on nutrition at the population level. Pre-historic, historic, and contemporary human nutrition, emphasizing links with the environment. Three hours (lectures and discussion); one term  
Prerequisite: Three units of Level I Anthropology

#### ANTHROP 2B03 INDIGENOUS PEOPLES OF NORTH AMERICA

A comparative study of selected cultures of this continent, dealing with traditional and modern situations. Three hours (lectures and discussion); one term

#### ANTHROP 2C03 ENVIRONMENTAL CRISES IN ARCHAEOLOGICAL PERSPECTIVES

Examination of the influence of natural and human-induced environmental crises on long-term culture histories. Three hours (lectures and discussion); one term  
Prerequisite: ANTHROP 1B03

#### ANTHROP 2D03 GENETICS IN ANTHROPOLOGY

An introduction to human genetics, microevolution and macroevolution. Three hours (one hour lecture, two hour lab); one term  
Prerequisite: ANTHROP 1Z03  
(There will be a supplementary fee for supplies used in labs.)  
Enrolment is limited.

#### ANTHROP 2DD3 PRIMATE BEHAVIOUR

A survey of current issues in primate behaviour, including taxonomy, demography, social structure, reproduction, play cognition and sociobiology. Students will conduct a zoo observation study. Three hours (lecture and discussion); one term  
Prerequisite: Six units of Level I Anthropology

#### ANTHROP 2E03 HUMAN VARIATION AND EVOLUTIONARY CHANGE

An introduction to the study of human evolution and variability in living species of human and non-human primates. Three hours (lectures and discussion); one term  
Prerequisite: Six units of Level I Anthropology. ANTHROP 1Z03 is strongly recommended.

*This course is required of all students registered in an Honours Program in Anthropology, and is a prerequisite for advanced courses in Physical Anthropology.*

#### ANTHROP 2F03 CULTURAL ANTHROPOLOGY

An introduction to concepts, theories, and current debates in cultural anthropology. This course is designed to prepare students for more advanced courses in social and cultural anthropology. Three hours (lectures and discussion); one term  
Prerequisite: Six units of Level I Anthropology. ANTHROP 1A03 is strongly recommended.

*This course is required of all students registered in an Honours Program in Anthropology.*

#### ANTHROP 2FF3 HUMAN SKELETAL BIOLOGY AND BIOARCHAEOLOGY

Study of the human skeleton (bones and dentition) for application in archaeology and forensic anthropology. Includes determination of sex, age, stature and other individual characteristics. Three hours (lectures, discussion and lab); one term  
Prerequisite: Registration in an Honours Anthropology program. Completion of ANTHROP 1Z03 is strongly recommended  
Enrolment is limited.

**ANTHROP 2G03 READINGS IN INDO-EUROPEAN MYTH**

This course will acquaint students with the myths of Ancient Greece, Ancient India, the Celts, and the Norse. Other traditions may also be examined. Three hours (lectures and discussion); one term

**ANTHROP 2GG3 MYTHS OF EURASIA AND THE NEW WORLD**

An introduction to selected themes in the myths of non-Indo-European peoples of Europe, Asia, and North America.

Three hours (lectures and discussion); one term

Prerequisite: ANTHROP 2G03

*Enrolment is limited.*

**ANTHROP 2H03 ENVIRONMENT AND CULTURE**

Relationships between human societies and their environments are examined. A focus is how culture shapes our ideas of nature and the consequence of our actions. Case studies explore both environmental movements and aboriginal societies.

Three hours (lectures and discussion); one term

**ANTHROP 2L03 PHONETICS**

A study of the sounds of language and human articulatory capabilities.

Three hours (lectures); one term

Prerequisite: LINGUIST 1A03 or permission of the instructor

Cross-list: LINGUIST 2L03

*This course is administered by the Department of Linguistics and Languages.*

**ANTHROP 2LC3 LINGUISTICS AND CULTURE A: STRUCTURALISM**

A study of the application of linguistic models, particularly structuralism, to sociocultural anthropology and related disciplines.

Three hours (lectures and discussion); one term

Prerequisite: Registration in Level II and above

Antirequisite: ANTHROP 2Q03, 3LC3, LINGUIST 2Q03

**ANTHROP 2LL3 INTRODUCTION TO LINGUISTIC TYPOLOGY**

The study of diversity in the languages of the world, language universals and the parameters of cross-linguistic analysis of grammatical systems.

Three hours (lectures and discussion); one term

Prerequisite: LINGUIST 1A03 and 1AA3 (or 1A06); or permission of the Department

Cross-list: LINGUIST 2LL3

*This course is administered by the Department of Linguistics and Languages.*

**ANTHROP 2LP3 LANGUAGE AND PREHISTORY**

A survey of the language families of the world, emphasizing the historical implications of language distributions. Historical linguistic methods will be introduced and compared with archaeological findings for prehistoric Eurasia, Africa, Oceania and North America.

Three hours (lectures and discussion); one term

**ANTHROP 2O03 NORTH AMERICAN PREHISTORY**

An examination of the origins and development of the major indigenous cultural groups of prehistoric North America.

Three hours (lectures and discussion); one term

Prerequisite: Three units of Anthropology. ANTHROP 1B03 or 2PA3 is strongly recommended.

**ANTHROP 2P03 PEOPLES OF THE PACIFIC**

Introduction to the peoples of the islands of the Pacific - their history, traditions and current ways of life, and their responses to contact, colonialism and cultural change. Focus will be equally upon the past and the present in Oceania.

Three hours (lectures and discussion); one term

**ANTHROP 2PA3 INTRODUCTION TO PREHISTORIC ARCHAEOLOGY**

An introduction to the goals and methods of archaeological research with a focus on specific problems in human prehistory.

Three hours (lectures and discussion); one term

Prerequisite: Three units of Level I Anthropology

*This course is required of all students registered in an Honours Program in Anthropology.*

**ANTHROP 2R03 RELIGION, MAGIC, AND WITCHCRAFT**

Selected issues in the study of religion, magic, and witchcraft, science, and the supernatural. Perspectives from history, psychology, and sociology also will be discussed.

Three hours (lectures and discussion); one term

Prerequisite: ANTHROP 1A03 or 2F03

**ANTHROP 2U03 PLAGUES AND PEOPLE**

A consideration of the role played by infectious disease in human evolution. The social and biological outcomes of major epidemics and pandemics, past and present, will be explored.

Two hours (lecture), one hour (tutorial); one term

*Enrolment is limited.*

**ANTHROP 2VV3 THE ANCIENT MAYA**

An introduction to prehistoric Maya society and culture, with an emphasis on the Classic period civilization.

Three hours (lectures); one term

*Not open to students with credit in ANTHROP 2V03, AZTECS, MAYA AND INKA prior to September 2001.*

**ANTHROP 2W03 THE AZTECS AND INCAS**

An introduction to and comparison of the late pre-Columbian Aztec empire of Mexico and the Inca empire of Andean South America.

Three hours (lectures); one term

Antirequisite: ANTHROP 2V03

**ANTHROP 2X03 VIOLENCE IN ANTHROPOLOGICAL PERSPECTIVE**

The aim of the course is to assess the extent to which violence is both controlled by and an expression of society and culture.

Three hours (lectures and discussion); one term

**ANTHROP 2Z03 INTRODUCTION TO SOCIAL RESEARCH**

This course is designed to develop those skills necessary to pursue and understand research. Several general methods of sociological research will be examined.

Three hours (lectures and discussion); one term

Prerequisite: Registration in any Anthropology program

Cross-list: SOCIOL 2Z03

Antirequisite: CMST 2A03, GEO 2HR3, GERONTOL 2C03, HEALTH ST 2B03

*This course is administered by the Department of Sociology.*

**ANTHROP 3A03 PHONOLOGY**

A study of the patterns of distinctive sounds in the world's languages.

Three hours (lectures); one term

Prerequisite: One of ANTHROP 2L03 or LINGUIST 2L03; or permission of the instructor

Prerequisite (Beginning in 2006-2007): One of ANTHROP 2L03, LINGUIST 2L03

Antirequisite: ANTHROP 2M03, LINGUIST 3A03

Cross-list: LINGUIST 3A03

*This course is administered by the Department of Linguistics and Languages.*

**ANTHROP 3AS3 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 THE EUROPEAN MOSAIC**

An introduction to the social and cultural diversity of contemporary Europe. Issues to be explored include socioeconomic change regionalism, nationalism and the European Union; religion and ethnicity; racism and xenophobia.

Three hours (lectures and discussion); one term

Prerequisite: Six units of Cultural/Social Anthropology

**ANTHROP 3C03 HEALTH AND ENVIRONMENT: ANTHROPOLOGICAL APPROACHES**

Examination of the ways in which humans alter and cope with their environment. Topics include: health inequalities, nutrition, population, urbanization, resource utilization, and industrial pollution.

Three hours (lectures and discussion); one term

Prerequisite: Three units of Level I Anthropology, and registration in Level III or IV of any program. ANTHROP 2E03 is strongly recommended.

**ANTHROP 3CA3 CERAMIC ANALYSIS**

Examination of theories and methods used by archaeologists to analyze ceramics and understand past ceramic technologies. The class will include strong hands-on and original-research components.

Three hours (lectures, labs, discussion); one term

Prerequisite: ANTHROP 2PA3

*Not open to students with credit in ANTHROP 3EE3, if the topic was Ceramic Analysis.*

*Enrolment is limited.*



**ANTHROP 3CC6 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 3DD3 ARCHAEOLOGY OF DEATH**  
Archaeological analysis and interpretation of burial practices and other death-ritual.

Three hours (lectures and discussion); one term

Prerequisite: ANTHROP 2PA3

**ANTHROP 3E03 SPECIAL TOPICS IN ARCHAEOLOGY I**  
2006-2007 Topic: Farming, Frontiers and Transitions  
The topic varies with each instructor (e.g. one class may examine *Ancient Mesoamerican Cities* and another focus on *The Archaeology of Hierarchy*).  
Three hours (lectures and discussion); one term

Prerequisite: ANTHROP 2PA3

**ANTHROP 3EE3 SPECIAL TOPICS IN ARCHAEOLOGY II**  
2006-2007 Topic: Northwest coast Archaeology and Ethnology  
As per ANTHROP 3E03.

Three hours (lectures and discussion); one term

Prerequisite: ANTHROP 2PA3

**ANTHROP 3G03 COMPARATIVE MYTHOLOGY**  
The reconstruction of lost mythic traditions by means of comparative techniques drawn from historical linguistics. The Indo-European traditions of Eurasia will be examined.

Three hours (lectures and discussion); one term

Prerequisite: ANTHROP 2G03 or permission of the instructor

**ANTHROP 3H03 ANTHROPOLOGICAL DEMOGRAPHY**  
This course offers an introduction to the study of population dynamics (birth, death, migration) and population structure. It focuses on issues particularly pertinent to anthropological studies of past and present populations.

Three hours (lectures and discussion); one term

Prerequisite: ANTHROP 2E03

**ANTHROP 3I03 SYNTAX**  
A study of how words are organized into sentences. The emphasis will be on the Functional approach in comparison with other syntactic theories.

Three hours (lectures); one term

Prerequisite: One of ANTHROP 2LL3, LINGUIST 2LL3 or permission of the Department

Cross-list: LINGUIST 3I03

*Offered in alternate years.*

*This course is administered by the Department of Linguistics and Languages.*

**ANTHROP 3I13 SEMANTICS**  
A study of patterns of meaning in language; a critical survey of current theories and issues.

Three hours (lectures); one term

Prerequisite: One of ANTHROP 3I03, 3M03, LINGUIST 3I03, or 3M03, and six units of a language other than English; or permission of the Department  
Cross-list: LINGUIST 3I13

*Offered in alternate years.*

*This course is administered by the Department of Linguistics and Languages.*

**ANTHROP 3IS3 INDEPENDENT STUDY IN ANTHROPOLOGY**  
Independent study of a research problem through published materials and/or fieldwork. It is incumbent upon the student to secure arrangements with the supervising instructor prior to registration in this course; otherwise, no grade will be submitted.

One term

Prerequisite: Registration in any program in Anthropology and permission of the instructor

*ANTHROP 3IS3 may be repeated, if on a different study, to a total of six units.*

**ANTHROP 3K03 ARCHAEOLOGICAL INTERPRETATION**  
Technique and methodology in the investigation of archaeological material.

Three hours (lectures and discussion); one term

Prerequisite: ANTHROP 2PA3

*Enrolment is limited.*

**ANTHROP 3L03 HISTORY OF ANTHROPOLOGY**  
Some of the major developments and personalities in the history of anthropology as a discipline, with emphasis upon the English-speaking world.

Three hours (lectures and discussion); one term

Prerequisite: Registration in Honours Anthropology

Antirequisite: ANTHROP 2I03

*This course is required of all students registered in an Honours Program in Anthropology.*

**ANTHROP 3M03 MORPHOLOGY**  
The study of word formation in languages of the world; a critical survey of current theories and issues.

Three hours (lectures); one term

Prerequisite: One of ANTHROP 2LL3, LINGUIST 2LL3 or permission of the Department

Cross-list: LINGUIST 3M03

*Offered in alternate years.*

*This course is administered by the Department of Linguistics and Languages.*

**ANTHROP 3N03 PRIMATE EVOLUTION**  
Comparative anatomy and evolutionary development of humans and our nearest living relatives, the other primates.

Three hours (lectures and discussion); one term

Prerequisite: ANTHROP 2E03

Antirequisite: ANTHROP 3NN3

**ANTHROP 3P03 RESEARCH METHODS IN CULTURAL ANTHROPOLOGY**  
Methodologies and techniques of research, especially field study, in sociocultural anthropology.

Three hours (lectures and discussion); one term

Prerequisite: Registration in any program in Anthropology

**ANTHROP 3PP3 PALEOPATHOLOGY**  
The origins and evolution of human diseases and methods of identifying disease in ancient human remains.

Three hours (lectures, discussion and lab); one term

Prerequisite: ANTHROP 2FF3

*Enrolment is limited.*

**ANTHROP 3R03 GENETICS AND MODERN HUMAN ORIGINS**  
This course surveys genetic studies in anthropology and considers key issues in the field, such as the human genome diversity project.

Three hours (one hour lecture, two hour lab), one term

Prerequisite: ANTHROP 2D03 or BIOLOGY 3J03

*(There will be a supplementary fee for supplies used in labs.)*

*Enrolment is limited.*

**ANTHROP 3RR3 THE ANTHROPOLOGY OF GENDER**  
Selected topics relating to the construction and practice of gender in various cultural contexts.

Three hours (lectures and discussion); one term

Prerequisite: Registration in Level III or IV of any Anthropology program

**ANTHROP 3T03 POWER AND RESISTANCE**  
A critical examination of power in post-colonial conflicts. Examines concepts and case studies of local resistance to economic globalization, the re-defining of nationalities, and the spread of universalizing cultures.

Three hours (lectures and discussion); one term

Prerequisite: Six units of Social/Cultural Anthropology

**ANTHROP 3V03 ANTHROPOLOGY AND THE HISTORICAL IMAGINATION**

This course is situated at the intersection of history and anthropology, and focuses especially on the ways in which social actors represent, give meaning to, and strategically employ constructions of the past.

Three hours (lectures and discussion); one term

Prerequisite: ANTHROP 2F03 and registration in any program in Anthropology  
*Enrolment is limited.*

**ANTHROP 3W03\*\* SPECIAL TOPICS IN ANTHROPOLOGY I**  
The topic varies with each instructor (e.g. one class may examine Current Issues in Medical Anthropology and other classes may focus on Readings in Myth or Contemporary Issues in Archaeology).

One term

Prerequisite: Registration in any program in Anthropology

**ANTHROP 3X03 ZOOARCHAEOLOGY**

Study of the long-term histories of human-environment interaction through analysis of archaeologically recovered animal remains.

Three hours (labs and discussion); one term

Prerequisite: ANTHROP 2PA3

*Enrolment is limited.*

**ANTHROP 3Y03 ABORIGINAL COMMUNITY HEALTH AND WELL-BEING**

A critical examination of the determinants of health in Aboriginal communities, processes of community revitalization, and recent government policy initiatives.

Three hours (lecture and discussion); one term

**ANTHROP 3Z03 MEDICAL ANTHROPOLOGY: THE BIOMEDICAL APPROACH**

Patterns of stress and disease with emphasis on the modern biomedical approach. Disease in the evolutionary context with emphasis on disease as a failure of adaptation and response.

Three hours (lectures and discussion); one term

Prerequisite: Registration in Level III or IV of any program. ANTHROP 2E03 or 2F03 is strongly 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 program. ANTHROP 2E03 or 2F03 is strongly recommended.

**ANTHROP 4AE3 ANTHROPOLOGY AND ENVIRONMENT**

This course examines the different and rapidly changing ways in which anthropologists study relationships between humans and their environments. It also considers the contributions which anthropologists are making to environmentalism and knowledge about current ecological issues.

Three hours (seminar); one term

Prerequisite: ANTHROP 2F03 and registration in an honours program; or permission of the instructor

**ANTHROP 4B03 CURRENT PROBLEMS IN ANTHROPOLOGY I**

2006-2007 Topic: Rights, Culture and Conflict

The topic varies with each instructor.

Three hours (seminar); one term

Prerequisite: Registration in Level IV Honours Anthropology or permission of the instructor

*ANTHROP 4B03 may be repeated, if on a different topic, to a total of six units.*

**ANTHROP 4BB3 CURRENT PROBLEMS IN ANTHROPOLOGY II**

2006-2007 Topic: Museum Anthropology

As per ANTHROP 4B03.

Three hours (seminar); one term

Prerequisite: Registration in Level IV Honours Anthropology

*ANTHROP 4BB3 may be repeated, if on a different topic, to a total of six units.*

**ANTHROP 4D03 APPLIED ANTHROPOLOGY**

An examination of how anthropology is applied to solve human problems. Includes discussion of how students can use their anthropological training in non-academic occupations.

Three hours (lectures and discussion); one term

Prerequisite: Registration in Level IV Honours Anthropology

**ANTHROP 4E03 ADVANCED TOPICS IN ARCHAEOLOGY I**

2006-2007 Topic: The Peopling of the New World

Study at an advanced level of selected topics in the sub-discipline. Topics may change from year to year.

Three hours (seminar); one term

Prerequisite: ANTHROP 2PA3

**ANTHROP 4F03 ARCHAEOLOGICAL THEORY**

A seminar in current topics and issues in archaeological theory.

Three hours (lectures and discussion); one term

Prerequisite: ANTHROP 2PA3 and registration in any honours program

**ANTHROP 4G03\*\* INDEPENDENT RESEARCH I**

Independent study of a research problem through published materials and/or fieldwork. Study may include museum internship, participation in faculty research, or student-initiated practica or library research. Students will be required to write up the results of their inquiry in scholarly form. It is incumbent upon the student to secure arrangements with the supervising instructor prior to registration in this course; otherwise, no grade will be submitted.

One term

Prerequisite: Registration in any program in Anthropology

**ANTHROP 4GG3\*\* INDEPENDENT RESEARCH II**

As per ANTHROP 4G03, but on a different topic.

One term

Prerequisite: Registration in Level IV Honours Anthropology

**ANTHROP 4HF3 ARCHAEOLOGY OF HUNTER-FISHER-GATHERERS**

Study of the prehistoric technologies and organizational strategies used in making a living from the natural environment, and examination of the cultural contexts of foraging economies.

Three hours (seminar); one term

Prerequisite: ANTHROP 2PA3

**ANTHROP 4H03 HUMAN EVOLUTIONARY GENETICS**

The use of population genetics for resolving the origins of modern humans.

Three hours (seminar); one term

Prerequisite: ANTHROP 3R03

*Enrolment is limited. Priority will be given to Level IV Honours Anthropology students.*

**ANTHROP 4I03 CONTEMPORARY ANTHROPOLOGICAL THEORY**

Seminar on selected recent developments in anthropological theory.

Three hours (seminar); one term

Prerequisite: ANTHROP 3L03 and 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 I**

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 4J03 may be repeated, if on a different topic, to a total of six units.*

**ANTHROP 4JJ3 ADVANCED TOPICS IN PHYSICAL ANTHROPOLOGY II**

As per ANTHROP 4J03

Three hours (seminar); one term

Prerequisite: ANTHROP 2E03

*ANTHROP 4JJ3 may be repeated, if on a different topic, to a total of six units.*

**ANTHROP 4LB3 ADVANCED PHONETICS, PHONOLOGY AND MORPHOLOGY**

This course will examine advanced issues in phonetics, phonology and morphology, seeking to evaluate current theory and to address data that fall beyond the explanatory capacities of those paradigms. The course is strongly data oriented, with material taken from several languages of the Caucasus.

Three hours (lectures and discussion); one term

Prerequisite: Nine units of Linguistics or Linguistic Anthropology Courses above Level I. (See Department of Anthropology in the Faculty of Social Sciences section in this Calendar)

Cross-list: LINGUIST 4LB3

Antirequisite: ANTHROP 4LA3, LINGUIST 4LA3

*This course is administered by the Department of Linguistics and Languages.*

**ANTHROP 4LC3 ADVANCED SYNTAX AND SEMANTICS**

This course will examine advanced issues in syntax and semantics, seeking to evaluate current theory and to address data that fall beyond the explanatory capacities of those paradigms. The course is strongly data oriented, with material taken from several languages of the Caucasus.

Three hours (lectures and discussion); one term

Prerequisite: Nine units of Linguistics or Linguistic Anthropology Courses above Level I. (See Department of Anthropology in the Faculty of Social Sciences section in this Calendar)

Cross-list: LINGUIST 4LC3

Antirequisite: ANTHROP 4LA3, LINGUIST 4LA3

*This course is administered by the Department of Linguistics and Languages.*

**ANTHROP 4M03 ADVANCED TOPICS IN MYTHOLOGY**

A seminar in current topics and issues in comparative mythology.

Three hours (seminar); one term

Prerequisite: ANTHROP 2G03, 2GG3, 3G03 and registration in any Honours program

**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 any Honours program in the Faculty of Social Sciences

**ANTHROP 4Q03 GLOBAL PROCESSES AND LOCAL CONSEQUENCES**

The seminar seeks: 1) to discern the linkages between some of the main processes at work in *global systems*; 2) to discuss in what ways these processes are global and in what ways they are systematic; 3) to develop hypotheses for the framework of global scale social theory.

Three hours (seminar); one term.

Prerequisite: Registration in any Honours program in the Faculty of Social Sciences

**ANTHROP 4R03 SKELETAL BIOLOGY OF EARLIER HUMAN POPULATIONS**

The analysis of human skeletal samples, including such topics as paleopathology, paleodemography, paleonutrition and biological distance analyses.

Three hours (lectures and discussion); one term

Prerequisite: ANTHROP 2FF3

Antirequisite: ANTHROP 3O06

**ANTHROP 4S03 THE ANTHROPOLOGY OF INFECTIOUS DISEASE**

The critical examination of the role of infectious diseases in the course of human history and contemporary society. Self-directed learning format.

Three hours (seminar); one term

Prerequisite: ANTHROP 2E03 and registration in Level IV Honours Anthropology

*Not open to students with credit in ANTHROP 4J03, if the topic was Infectious Disease and Human Evolution.*

**ANTHROP 4XX3 ADVANCED TOPICS IN LINGUISTIC THEORY**

Issues in different aspects of Linguistic Theory and Advanced Philology. Consult the Department of Linguistics and Languages for the topic to be offered.

Two hours (seminar); one term

Prerequisite: One of ANTHROP 3I03, 3M03, LINGUIST 3I03, 3M03

Cross-list: LINGUIST 4XX3

*ANTHROP 4XX3/LINGUIST 4XX3 may be repeated, if on a different topic, to a total of six units.*

*Offered in alternate years.*

*This course is administered by the Department of Linguistics and Languages.*

**ART**

**WEB ADDRESS:** <http://www.humanities.mcmaster.ca/~sota/>

**Togo Salmon Hall, Room 414**

**Ext. 27671**

Courses and programs in Art are administered within the School of the Arts of the Faculty of Humanities.

**Note:**

Art courses are open **only** to students registered in a program in Honours Art.

**Courses****ART 1F03 STUDIO FUNDAMENTALS I**

Module one: colour studies, theoretical and practical application of colour.

Module two: Dimensional studies; an exploration of form and space.

Lectures, critiques and studio practice (four hours); one term

Prerequisite: Portfolio Interview (See below.)

Antirequisite: ART 1F06

**ART 1FF3 STUDIO FUNDAMENTALS II**

Module one: research studies, strategies inherent within visual practice.

Module two: drawing studies, the development of drawing practice.

Lectures, critiques and studio practice (four hours); one term

Prerequisite: ART 1F03

Antirequisite: ART 1F06

Portfolio review required. Entrance to any Honours Art Program requires the permission of the School of the Arts as these programs and courses have limited enrolments. Students who wish to enrol in ART 1F03 and 1FF3 must first complete a portfolio interview. Portfolio interviews occur between January and April each year for entrance in September of the same calendar year. Only those students who call the Office of the School of the Arts (ext. 27671) before March 1st to book appointments for portfolio interviews will be guaranteed consideration for entrance into ART 1F03 and 1FF3. (Late applicants will only be interviewed if space availability permits). Acceptance into ART 1F03 and 1FF3 will be verified with written confirmation from the School of the

Arts. School of the Arts verification and a Letter of Acceptance from the University guarantee a space in the program as long as the student meets the minimum academic requirements as outlined under *School of the Arts* programs in the *Faculty of Humanities* section of the Calendar.

**Applicants for Art should use the MHA OUAC code.** The portfolio should contain a variety of works in different media that represent the applicant's creative abilities and interests. Aptitude in art, academic ability and demonstrated commitment to the discipline are considered in the selection process. In exceptional circumstances, where distance does not allow for an interview, portfolios may be submitted in the form of colour slides or photographs.

Corequisite: SCIENCE 1A00. Students registering in ART 1F03 must also register in SCIENCE 1A00 when completing their registration. Students who receive advanced credit for ART 1F03 must also register in SCIENCE 1A00 when registering in ART 1FF3.

**ART 2A03 INTRODUCTORY PAINTING I**

A series of studio projects designed to inform and expand the student's technical and conceptual abilities in painting.

Four hours; one term

Prerequisite: ART 1F03, 1FF3 (or ART 1F06)

Antirequisite: ART 2A06

**ART 2AA3 INTRODUCTORY PAINTING II**

A continuation of studio projects designed to provide technical and conceptual investigations in the field of painting.

Four hours; one term

Prerequisite: ART 1F03, 1FF3 (or ART 1F06)

Antirequisite: ART 2A06

**ART 2B03 INTRODUCTORY SCULPTURE I**

A series of three-dimensional studio projects designed to provide technical and conceptual abilities in the field of sculpture.

Four hours; one term

Prerequisite: ART 1F03, 1FF3 (or ART 1F06)

Antirequisite: ART 2B06

**ART 2BB3 INTRODUCTORY SCULPTURE II**

A continuation of three-dimensional studio projects designed to provide technical and conceptual investigations in the field of sculpture.

Four hours; one term

Prerequisite: ART 1F03, 1FF3 (or ART 1F06)

Antirequisite: ART 2B06

**ART 2C03 INTRODUCTORY DRAWING I**

A series of studio projects designed to inform and expand the student's technical and conceptual abilities in drawing.

Four hours; one term

Prerequisite: ART 1F03, 1FF3 (or ART 1F06)

Antirequisite: ART 2C06

**ART 2CC3 INTRODUCTORY DRAWING II**

A continuation of studio projects designed to provide technical and conceptual investigations in the field of drawing.

Four hours; one term

Prerequisite: ART 1F03, 1FF3 (or ART 1F06)

Antirequisite: ART 2C06

**ART 2F03 INTRODUCTORY PRINTMAKING I**

A series of studio projects designed to inform and expand the student's technical and conceptual abilities in printmaking.

Four hours; one term

Prerequisite: ART 1F03, 1FF3 (or ART 1F06)

Antirequisite: ART 2F06

**ART 2FF3 INTRODUCTORY PRINTMAKING II**

A continuation of studio projects designed to provide technical and conceptual investigations in the field of printmaking.

Four hours; one term

Prerequisite: ART 1F03, 1FF3 (or ART 1F06)

Antirequisite: ART 2F06

**ART 3D03 PRACTICAL ISSUES IN STUDIO ART**

This course is designed to familiarize students with a range of topics associated with the professional and practical aspects of producing art. This course utilizes the McMaster Museum of Art collections as a research base for studio production.

Three hours; one term

Prerequisite: Registration in Level III Honours Art or a Combined Program with Honours Art

**ART 3E06 STUDIO PRACTICE AND CRITICISM**

This course introduces self-directed studio study. Weekly critiques, evening Visiting Artists' lectures; two terms  
Prerequisite: Registration in Level III Honours Art or Combined Program with Honours Art and a grade of at least B- in a minimum of six units of Level II Art

**ART 3F03 INTEGRATED DRAWING AND PRINT MEDIA**

This course enables advanced level studio exploration via the interconnections between print media and drawing which may include production of an image in multiple states and integration of a diverse range of two dimensional processes.

Four hours; one term  
Prerequisite: Registration in Level III Honours Art or a Combined Program with Honours Art

**ART 3G03 INTERDIMENSIONAL STUDIES IN PAINTING AND SCULPTURE**

This course enables advanced level studio exploration via the interconnections between sculpture and painting which may include the exchange between three dimensional and two dimensional concepts of colour in painted reliefs, polychrome works and installations.

Four hours; one term  
Prerequisite: Registration in Level III Honours Art or a Combined Program with Honours Art

**ART 3H03 INTEGRATED PAINTING AND PRINT MEDIA**

This course enables advanced level studio exploration via the interconnections between print media and painting which may include: photo-based image making, cyanotypes, stencilling, hand-painted monotypes, etc.

Four hours; one term  
Prerequisite: Registration in Level III Honours Art or a Combined Program with Honours Art

**ART 3I03 INTERDIMENSIONAL STUDIES IN SCULPTURE AND DRAWING**

This course enables advanced level studio exploration via the interconnections between sculpture and drawing and may include exploration in media such as two dimensional studies for three dimensional productions, installation designs, etc.

Four hours; one term  
Prerequisite: Registration in Level III Honours Art or a Combined Program with Honours Art

**ART 4C06 MINOR STUDIO PROJECT**

This course combines advanced level, self-directed studio study with critique sessions and a visiting artist lecture series.

Weekly critiques, evening Visiting Artists' lectures; two terms  
Prerequisite: Registration in Level IV of a Combined Honours Art and Another Subject program and a grade of at least B- in ART 3E06  
Antirequisite: Credit or registration in ART 4E12

**ART 4E12 ADVANCED STUDIO PRACTICE AND CRITICISM**

This course combines an intensive block of advanced level, self-directed studio study with critique sessions and a visiting artist lecture series.

Weekly critiques, evening Visiting Artists' lectures; two terms  
Prerequisite: Registration in Level IV of any Honours Art Program and a grade of at least B- in ART 3E06  
Antirequisite: ART 4C06

**ART HISTORY**

Courses and programs in Art History are administered within the School of the Arts of the Faculty of Humanities.

**Courses****ART HIST 1A03 INTRODUCTION TO THE STUDY OF ART**

A course that introduces students to the visual arts through a consideration of principles and elements of painting, sculpture and architecture and a discussion of various genres.  
Two lectures, one tutorial; one term

**ART HIST 1AA3 INTRODUCTION TO THE HISTORY OF ART**

A brief overview of the Western artistic tradition as embodied in the history of painting, sculpture and architecture.  
Two lectures, one tutorial; one term

**ART HIST 2A03 VISUAL LITERACY**

A course of lectures and discussions that explores the concept of visual literacy and examines the ways in which fine and popular arts structure our understanding through images.

One lecture (two hours), one tutorial/discussion; one term  
Prerequisite: Registration in Level II or above  
Cross-list: CMST 2103

**ART HIST 2B03 GREEK ART**

The architecture, sculpture and painting of the Greek and Hellenistic worlds.  
Three lectures; one term

Prerequisite: Registration in Level II or above  
Cross-list: CLASSICS 2B03

*This course is administered by the Department of Classics.*

**ART HIST 2C03 ROMAN ART**

The architecture, sculpture and painting of the Roman world.  
Three lectures; one term

Prerequisite: ART HIST 2B03  
Cross-list: CLASSICS 2C03

*This course is administered by the Department of Classics.*

**ART HIST 2D03 19TH- AND 20TH-CENTURY ART AND VISUAL CULTURE**

A study of art and visual culture from c. 1800 to c. 1970 and an examination of critical frameworks such as modernism and postmodernism.

Three lectures; one term  
Prerequisite: Registration in Level II or above

**ART HIST 2F03 THE HISTORY OF GRAPHIC DESIGN**

An introduction to the history of graphic, two-dimensional design. The course demonstrates the admixture of high and popular culture that informs advertising, posters, book design and illustration, etc.

Three lectures; one term  
Prerequisite: Registration in Level II or above. Prior completion of ART HIST 1A03 and 1AA3 is recommended  
Cross-list: CMST 2N03, MMEDIA 2F03

*This course is administered by the Department of Communication Studies & Multimedia.*

**ART HIST 2G03 FILM HISTORY TO THE SECOND WORLD WAR**

An introduction to the history of narrative film from its beginnings to the Second World War. It focuses on narrative cinema's development from aesthetic, social, technological and economic perspectives while also touching on a selected number of issues in film theory.

Two lectures, plus one weekly film screening; one term  
Prerequisite: Registration in Level II or above  
Cross-list: CMST 2X03 (formerly CMST 2X06), THTR&FLM 2F03  
Antirequisite: DRAMA 2X06

*This course is administered by Theatre & Film.*

*Enrolment is limited to 150 students.*

**ART HIST 2H03 AESTHETICS**

An introduction to some main theories of the nature of art, criticism and the place of art in life and society.

Three lectures; one term  
Prerequisite: Registration in Level II or above  
Cross-list: CMST 2O03, PHILOS 2H03

*Offered in alternate years.*

*This course is administered by the Department of Philosophy.*

**ART HIST 2I03 RENAISSANCE AND BAROQUE ART**

An introduction to the history of European art in the period 1400 to 1750.  
Three lectures; one term

Prerequisite: Registration in Level II or above

**ART HIST 2Z03 ART AND VISUAL CULTURE IN EAST ASIA**

An introduction to the history of the arts in China, Korea and Japan from antiquity to modern times, highlighting the impact of cultural exchange and diversity.

Three lectures; one term  
Prerequisite: Registration in Level II or above

**ART HIST 3AA3 CONTEMPORARY ART AND VISUAL CULTURE**

An examination of international art and visual culture applying theoretical approaches such as modernism, postmodernism, feminism, masculism, post-colonial and queer theories.

Three lectures; one term  
Prerequisite: ART HIST 2D03 and registration in Level II or above  
*Alternates with ART HIST 3J03.*

**ART HIST 3B03 ASPECTS OF CANADIAN ART**

A survey of the visual arts in Canada from the earliest explorations and settlements to the present.

Three lectures; one term

Prerequisite: Registration in Level III or IV of any program.

*Alternates with ART HIST 3D03.*

**ART HIST 3D03 17TH-CENTURY ART**

An examination of art and architecture produced in the seventeenth century and global variations of Baroque Art.

Three lectures; one term.

Prerequisite: Registration in Level II or above. Prior completion of ART HIST 2I03 is recommended

*Alternates with ART HIST 3B03.*

**ART HIST 3G03 LATE ANTIQUE AND EARLY CHRISTIAN ART**

The art and architecture of the later Roman Empire and the birth of Christian Art (A.D. 200-600).

Three lectures; one term

Prerequisite: ART HIST 2C03

Cross-list: CLASSICS 3G03

*Alternates with ART HIST 3H03.*

*This course is administered by the Department of Classics.*

**ART HIST 3H03 ARCHAIC GREEK ART**

The formative period of Greek Art from its rebirth after the Dark Ages to the Persian Wars (c. 1000-480 B.C.) and its relationship to the art of the Near East.

Three lectures; one term

Prerequisite: ART HIST 2B03

Cross-list: CLASSICS 3H03

*Alternates with ART HIST 3G03.*

*This course is administered by the Department of Classics.*

**ART HIST 3I03 ITALIAN PAINTING AND SCULPTURE 1400-1580**

An advanced level lecture course dealing with selected artists and works from the Early Renaissance to Mannerism.

Three lectures; one term

Prerequisite: Registration in Level II or above. Prior completion of ART HIST 2I03 is recommended

*Alternates with ART HIST 3S03.*

**ART HIST 3J03 ISSUES IN 19TH-CENTURY ART AND VISUAL CULTURE**

An historical and critical investigation of selected issues and artists of the 19th Century.

Three lectures; one term

Prerequisite: ART HIST 2D03 and registration in Level II or above

*Alternates with ART HIST 3AA3.*

**ART HIST 3L03 THEORIZING CULTURE THROUGH PERFORMANCE**

Students will explore artists' practises in making performances and will analyze how artists work with theories, texts, spaces, bodies, audiences and produce challenges to artistic, social and political norms.

Three hours; one term

Prerequisite: One of ART HIST 2D03, 3AA3, CMST 2G03, 2P03, 2S03, THTR&FLM 2C03, 2D03, 2E03

Cross-list: CMST 3L03, THTR&FLM 3I03

*Not open to students with credit in DRAMA 2B03, NEW MEDIA AND PERFORMANCE, if taken in 2001-2002 or credit in THTR&FLM 2E03 if taken in 2002-2003.*

*This course is administered by Theatre & Film.*

*Offered in alternate years.*

**ART HIST 3P03 ISSUES IN STUDIO CRITICISM**

A course that allows non-Art students to explore current studio practice and to investigate approaches to the evaluation of quality in contemporary art. Students taking this course are required to attend a preset number of Studio Critiques and Visiting Artists' Talks\*

Seminar (two hours); one term

Prerequisite: Registration in Level III of an Art History program

\*Studio Art Critiques are regularly scheduled sessions during which the work of Art students is discussed by their peers, faculty members and visiting professionals from the art world. Visiting Artists' talks are held on weekday evenings on the same day as the Studio Critiques.

**ART HIST 3PP3 HISTORY OF PHOTOGRAPHY**

This course examines historical and contemporary photographic images in the visual arts and considers the connections and distinctions between artistic and media uses of the medium.

Three hours (lectures and discussion); one term

Prerequisite: Registration in Level II or above

Cross-list: CMST 3P03

**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 II or above. Prior completion of ART HIST 2I03 is recommended

*Alternates with ART HIST 3I03.*

**ART HIST 3XX3 FILM HISTORY: 1941 TO THE PRESENT**

An exploration of narrative film from 1941 to the present day, incorporating a study of a variety of narrative cinema styles. Theoretical issues will include questions of cinema's relationships to other art forms, narrative, genre and authorship.

Two lectures, plus one weekly film screening; one term

Prerequisite: ART HIST 2G03

Cross-list: CMST 3XX3, THTR&FLM 3L03

*Offered in alternate years.*

*This course is administered by the Theatre & Film program.*

**ART HIST 3Z03 CHINESE ART AND VISUAL CULTURE 200-750**

An examination of how recent archaeological finds are re-defining our understanding of the pluralistic achievements in various arts during the transformative Period of Disunity leading to the Golden Age in China.

Three lectures; one term

Prerequisite: ART HIST 2Z03

**ART HIST 4AA3 SEMINAR IN CONTEMPORARY ART AND VISUAL CULTURE**

An in-depth examination of one or more significant movements in contemporary art, theory and criticism from c. 1970 to the present.

Seminar (two hours); one term

Prerequisite: ART HIST 3AA3 and permission of the School of the Arts

*Offered in alternate years.*

*Enrolment is limited.*

**ART HIST 4BB3 SEMINAR IN ANCIENT ART**

Consult the School of the Arts concerning the topic to be offered.

Seminar (two hours); one term

Prerequisite: ART HIST 2B03, 2C03 and registration in Level III or IV of an Honours program in Art History

Cross-list: CLASSICS 4BB3

*ART HIST 4BB3 may be repeated, if on a different topic, to a total of six units.*

*Enrolment is limited.*

*This course is administered by the Department of Classics.*

**ART HIST 4C03 SEMINAR IN ART AND VISUAL CULTURE 900-1400**

A focused study of issues concerning art and visual culture of the tenth through fourteenth centuries. Consult the School of the Arts concerning the topic to be offered.

Seminar (two hours); one term

Prerequisite: Registration in Level III or IV of an Honours program in Art or Art History. Prior completion of one of ART HIST 3I03, 3S03 or 3Z03 is recommended.

*Offered in alternate years.*

*ART HIST 4C03 may be repeated, if on a different topic, to a total of six units.*

*Enrolment is limited.*

**ART HIST 4E03 SEMINAR IN ART AND VISUAL CULTURE 1400 - 1750**

A focused study of issues concerning art and visual culture of the fourteenth through eighteenth centuries. Consult the School of the Arts concerning the topic to be offered.

Seminar (two hours); one term

Prerequisite: Registration in Level III or IV of an Honours program in Art, Art History or Multimedia. Prior completion of one of ART HIST 3D03, 3I03 or 3S03 is recommended.

*Offered in alternate years.*

*ART HIST 4E03 may be repeated, if on a different topic, to a total of six units.*

*Enrolment is limited.*

**ART HIST 4H03 SEMINAR IN ART AND VISUAL CULTURE 1750 TO THE PRESENT**

A focused study of issues concerning art and visual culture of the eighteenth through twentieth centuries. Consult the School of the Arts concerning the topic to be offered.

Seminar (two hours); one term

Prerequisite: Registration in Level III or IV of an Honours program in Art or Art History. Prior completion of one of ART HIST 3AA3 or 3J03 is recommended.

*Offered in alternate years.*

*ART HIST 4H03 may be repeated, if on a different topic, to a total of six units.*

*Enrolment is limited.*

**ART HIST 4006 THESIS**

Supervised study of a problem in the history of art of special interest to the student.

Tutorials; two terms

Prerequisite: Registration in Level IV of any Honours program in Art History; and a grade of at least A- in a previous course in the chosen field; and permission of the School of the Arts

**ART HIST 4V03 THE STUDY, CRITICISM AND EVALUATION OF ART**

A seminar to introduce students to the history, theory and practice of connoisseurship. Its focus will be to develop skills in confronting the single work of art.

Seminar (two hours); one term

Prerequisite: Registration in Level III or IV of a program in Art or Art History, Communication Studies or Multimedia

Offered in alternate years.

Enrolment is limited.

**ART HIST 4X03 INTRODUCTION TO ART GALLERIES AND MUSEUMS**

A study of the history and methods of institutions created for the purpose of collecting, preserving, displaying and interpreting art objects.

Seminar (two hours); one term

Prerequisite: Registration in Level III or IV of a program in Art or Art History

Offered in alternate years.

Enrolment is limited.

**ARTS AND SCIENCE**

**WEB ADDRESS:** <http://www.mcmaster.ca/artsci>

**Commons Building, Room 105**

**Ext. 24655 or 23153**

**Faculty as of January 15, 2006****Director**

Peter G. Sutherland

**Council of Instructors**

James Benni/(*Religious Studies*) B.A., M.A. (Cambridge), M.A. (London), Ph.D. (California)

John D. Browning/(*Linguistics and Languages*) B.A., M.Phil. (London), Ph.D. (Essex)

Augie Fleras/B.A. (Waterloo), M.A. (McMaster), Ph.D. (Victoria)

Nivaldo H. Galleguillos/(*Political Science*) B.A. (Chile), M.A., Ph.D. (Toronto)

Kathleen Garay/(*Archivist, Mills Library; Women's Studies*) B.A. (East Anglia), M.A., (Toronto), Ph.D. (McMaster)

Louis I. Greenspan/(*Religious Studies*) M.A. (Dalhousie), Ph.D. (Brandeis)

William E. Harris/(*Physics and Astronomy*) B.Sc (Alberta), M.Sc., Ph.D. (Toronto)

Robert Henderson/(*Kinesiology*) B.P.E. (McMaster), M.A., Ph.D. (Alberta)

Robert C. Hudspith/(*Mechanical Engineering*) B.Eng., M.Eng. (McMaster), P.Eng.

Atif Kubursi/(*Economics*) B.A. (American University, Beirut), M.S., Ph.D. (Purdue)

Miroslav Lovric/(*Mathematics and Statistics*) B.S. (Zagreb), M.S., Ph.D. (Ohio State), 3M Teaching Fellow

Carmel E. Mothersill/(*Medical Physics and Applied Radiation Sciences*) B.Sc., Ph.D. (University College Dublin)

Nicole Neverson/B.A. (Carleton), M.A. (McMaster)

Ann Pearson/(*Religious Studies*) B.A. (Toronto), M.A., Ph.D. (McMaster)

Annette Reed/(*Religious Studies*) B.A. (McGill), M.T.S. (Harvard), M.A., Ph.D. (Princeton)

Colin B. Seymour/(*Medical Physics and Applied Radiation Sciences*) DCR(RT) (Guy's Hospital), B.L. (King's Inn), Ph.D. (Trinity College Dublin)

Pamela Sugiman/(*Sociology*) B.A., M.A., Ph.D. (Toronto)

Peter G. Sutherland/(*Physics and Astronomy; Arts & Science*) B.Sc. (McGill), M.S., Ph.D. (Illinois)

Roman Viveros-Aguilera/(*Mathematics and Statistics*) B.A. (Veracruzana, Mexico), M.A. (National Polytechnic Inst., Mexico), Ph.D. (Waterloo)

Mark Vorobej/(*Philosophy*) B.A. (Carleton), M.A., Ph.D. (Toronto)

Jean Wilson/(*Linguistics and Languages; Comparative Literature and Arts & Science*) B.A. (McMaster), B.Ed., M.A., Ph.D. (Toronto)

**Notes:**

- 1. Prerequisites:** The prerequisite for all Level I, II, III and IV Arts & Science courses is registration in the Arts and Science Program.
- 2. Limited Enrolment:** Enrolment in Level I of the Arts and Science Program is limited to approximately 60 students.

**Courses****ARTS&SCI 1A06 WESTERN CIVILIZATION**

An examination of significant themes in Western social and intellectual history, including theories of historical change and the influence of class, race and gender on the evolution of social systems.

**ARTS&SCI 1B06 WRITING AND INFORMAL LOGIC**

The primary aim of this course is to develop the student's critical and analytical skills in dealing with the written word. Students will examine the structure of selected texts, analyze various types of reasoning and receive individual attention in expository writing.

**ARTS&SCI 1C06 INQUIRY**

This inquiry course, designed to develop skills basic to the systematic evidence-based investigation of public issues, focuses on issues relevant to Third World Development.

**ARTS&SCI 1D06 CALCULUS**

This course aims to provide a thorough understanding of the principles and major applications of differential and integral calculus of functions of one variable, as well as an introduction to multivariate calculus and differential equations.

*ARTS&SCI 1D06 serves as a prerequisite for all upper level Mathematics, Statistics, Computer Science and Physics courses, for which MATH 1A06 or MATH 1AA3 is a prerequisite.*

Antirequisite: MATH 1A03, 1AA3, 1X03, 1XX3

**ARTS&SCI 2A06 MODERN WESTERN CIVILIZATION**

Development of political, economic, sociological and psychological thought in the writings of such major figures as Hobbes, Locke, Rousseau, Adam Smith, Burke, Tocqueville, Marx, Mill, Weber, von Hayek, Polanyi, Nietzsche, Schopenhauer, Freud and Skinner.

**ARTS&SCI 2D06 PHYSICS**

This course explores many of the great concepts of physics in a quantitative way. Beginning with Newtonian mechanics, it moves into Einstein's relativity, wave phenomena, atomic physics, quantum mechanics and cosmology. Selected laboratory projects will be carried out.

**ARTS&SCI 2R06 STATISTICS: MATHEMATICAL MODELS FOR CHANGE, CHANCE AND ERROR**

Probability, distributions, measures of association, tests of significance, mathematical models and other quantitative methods useful in the analysis of variable phenomena, are considered.

**ARTS&SCI 3A06 LITERATURE**

Literary works drawn from a variety of genres, cultures and historical periods will be examined with a focus on how great writers have treated enduring ethical concerns. It aims to show how literature is an indispensable means of thinking about human life and society.

Prerequisite: Registration in Level III or above

**ARTS&SCI 3B03 TECHNOLOGY AND SOCIETY I**

The Culture of Technology. Technological practices and approaches are studied as cultural activities in the contexts of beliefs, philosophies, values and social structures both past and present.

Antirequisite: STPP 2A06

**ARTS&SCI 3BB3 TECHNOLOGY AND SOCIETY II**

The Social Control of Technology. The dominant mechanisms of the social control of technology will be studied. Includes an examination of assessment methods and the role of ethics.

**ARTS&SCI 3CB6 INQUIRY TOPIC: ENVIRONMENTAL EDUCATION**

Environmental crisis will be explored as a crisis of western culture's inability to live in a harmonious relationship with the earth. Intentional communities will be a focus with a residential field experience.

Enrolment is limited.

**ARTS&SCI 3CE6 INQUIRY TOPIC: MEDIA**

This course consists of four sections dealing with theoretical and analytical perspectives, political economy of the media, news media and entertainment media and their cultural effects.

Enrolment is limited.

**ARTS&SCI 3CF3 INQUIRY TOPIC: DISCOVERY:  
THE CONTEXT OF SCIENTIFIC RESEARCH I**

Using an issue-based approach, the antecedents and consequences of scientific discoveries will be explored, focusing on themes such as the role of imagination in leading scientific discovery.

*Enrolment is limited.*

**ARTS&SCI 3CG3 INQUIRY TOPIC: DISCOVERY:  
THE CONTEXT OF SCIENTIFIC RESEARCH II**

Using an issue-based approach, the antecedents and consequences of scientific discoveries will be explored, focusing on themes such as the art of interpreting scientific research.

*Enrolment is limited.*

**ARTS&SCI 3CI3 INQUIRY TOPIC:  
DIVERSITY AND MULTICULTURALISM I**

The social and economic impact in Canada of factors such as race, gender and culture will be explored from an historical perspective.

*Enrolment is limited.*

**ARTS&SCI 3CJ3 INQUIRY TOPIC:  
DIVERSITY AND MULTICULTURALISM II**

This course will focus on issues of diversity in Canada with respect to the Canadian model of multiculturalism and how it relates to other models, e.g. European, Australian and American models.

*Enrolment is limited.*

**ARTS&SCI 3EE3 EXPERIENTIAL LEARNING STUDY I**

Experiential study under the supervision of a McMaster faculty member, including a presentation at a final defence.

Prerequisite: Registration in Level III or above. Permission is based on a study proposal submitted to the review committee, outlining the nature of the inquiry, the learning objectives and proposed modes of evaluation. An information package is available from the Arts & Science Office.

*Enrolment is limited.*

**ARTS&SCI 3L03 THE INDIAN RELIGIOUS TRADITION**

Readings of Indian texts in translation will centre around themes such as the nature of human nature, free will and determinism; renunciation and social action; violence and non-violence; altruism and selfishness.

Two lectures, one tutorial; one term.

Prerequisite: Registration in Level III or above

Cross-list: RELIG ST 3L03

*This course is administered by the Department of Religious Studies.*

**ARTS&SCI 3S03 THE EAST ASIAN RELIGIOUS TRADITION**

Readings of East Asian texts in translation will centre around themes such as culture vs. nature, virtue vs. power, social responsibility vs. personal cultivation, bookish learning vs. meditation.

Two lectures, one tutorial; one term

Prerequisite: Registration in Level III or above.

Cross-list: RELIG ST 3S03, JAPAN ST 3S03

*This course is administered by the Department of Religious Studies.*

**ARTS&SCI 4A06 INDIVIDUAL STUDY**

This course consists of study under the supervision of a McMaster faculty member. Proposal deadline is March 1; information package is available in the Program office.

**ARTS&SCI 4A12 INDIVIDUAL STUDY**

The same as ARTS&SCI 4A06 but based on more extensive study.

**ARTS&SCI 4C06 THESIS**

This course consists of original research under the supervision of a McMaster faculty member. Proposal deadline is March 1; information package is available in the Program office.

**ARTS&SCI 4C12 THESIS**

The same as ARTS&SCI 4C06 but based on more extensive research.

**ARTS&SCI 4EE6 EXPERIENTIAL LEARNING STUDY II**

Experiential study under the supervision of a McMaster faculty member, including a presentation at a final defence.

Prerequisite: ARTS&SCI 3EE3 and registration in Level IV or above. Permission is based on a study proposal submitted to the review committee, outlining the nature of the inquiry, the learning objectives and proposed modes of evaluation. An information package is available from the Arts & Science Office.

*Enrolment is limited.*

**ASIAN STUDIES**

(SEE INTERDISCIPLINARY MINORS AND THEMATIC AREAS)

**ASTRONOMY**

(SEE PHYSICS AND ASTRONOMY)

**BIOCHEMISTRY AND BIOMEDICAL SCIENCES**

WEB ADDRESS: <http://www.fhs.mcmaster.ca/biochem/>

Health Sciences Centre, Room 4H43

Ext. 22059

**Faculty as of January 15, 2006****Chair**

Gerard D. Wright

**Professors**

David W. Andrews/B.Sc. (Ottawa), Ph.D. (Toronto)/Senior Canada Research Chair

John P. Capone/B.Sc. (Western Ontario), Ph.D. (McMaster)

Gerhard E. Gerber/B.Sc., Ph.D. (Toronto)

Radhey S. Gupta/B.Sc. (Agra U., India), M.Sc. (New Delhi), Ph.D. (Bombay)

John A. Hassell/B.Sc. (Brooklyn College), Ph.D. (Connecticut)

Paul Higgs/Ph.D. (Cambridge)/Senior Canada Research Chair

Gerard D. Wright/B.Sc., Ph.D. (Waterloo)/Senior Canada Research Chair

Daniel S.C. Yang/B.Sc., M.Sc. (Alberta), Ph.D. (Pittsburgh)

Boris S. Zhorov/M.Sc., Ph.D., D.Sc. (St. Petersburg)

**Associate Professors**

Paul J. Berti/B.Sc. (Waterloo), M.Sc. (Ottawa), Ph.D. (McGill)

Russell E. Bishop/B.Sc., Ph.D. (Alberta)

Eric D. Brown/B.Sc., M.Sc., Ph.D. (Guelph)/Canada Research Chair

Douglas W. Bryant/B.Sc. (McGill), M.Sc., Ph.D. (York)/part-time

Lori L. Burrows/B.Sc., Ph.D. (Guelph)

Yingfu Li/B.Sc. (Anhui, China), M.Sc. (Beijing Agr.), Ph.D. (Simon Fraser)/Canada Research Chair

Justin R. Nodwell/B.Sc., Ph.D. (Toronto)

Ray Truant/B.Sc., Ph.D. (Toronto)

**Assistant Professors**

Cécile Fradin/B.Sc., M.Sc. (Ecole Normale Supérieure, Paris), Ph.D. (Université Pierre et Marie Curie, Paris)/Canada Research Chair

Alba Guarné/B.Sc., M.Sc., Ph.D. (Barcelona)

Murray S. Junop/B.Sc., Ph.D. (Western Ontario)

Michelle L. MacDonald/B.Sc., Ph.D. (McMaster)

Graham A. McGibbon/B.Sc. (Toronto), Ph.D. (McMaster)

Giuseppe Melacini/B.Sc., Ph.D. (Milan)

Joaquin Ortega/B.Sc. (Zaragoza, Spain), Ph.D. (Universidad Autónoma de Madrid, Spain)

Sujata Persad/B.Sc. (Trinidad), M.Sc., Ph.D. (Manitoba)

Bernardo L. Trigatti/B.Sc., Ph.D. (McMaster)

Geoffrey Werstuck/B.Sc., Ph.D. (McMaster)

**Associate Members**

Stephanie A. Atkinson/(Pediatrics) B.A. (Western Ontario), Ph.D. (Toronto)

Christian Baron/Dipl., Ph.D. (Munich)

Jonathan L. Bramson/B.Sc., Ph.D. (McGill)

John D. Brennan/(Chemistry) B.Sc., Ph.D. (Toronto)/Canada Research Chair

Jack Gaudiel/(Pathology) B.Sc. (McMaster), Ph.D. (University College, London)

Brian F. Leber/(Medicine) B.Sc., M.D.C.M. (McGill), F.R.C.P.C.

Karen Mossman/(Pathology) B.Sc. (Guelph), Ph.D. (Alberta)

Karmit Singh/(Pathology) B.Sc., Ph.D. (Dalhousie)

Jeffrey I. Weitz/B.Sc., M.D. (Ottawa)

Peter F.M. Whyte/(Pathology) B.Sc., M.Sc. (British Columbia), Ph.D. (New York)

**Lecturer**

Paulina Dlugosz/B.Sc., M.Sc. (McMaster)

**Courses If no prerequisite is listed, the course is open.****BIOCHEM 2B03 NUCLEIC ACID STRUCTURE AND FUNCTION**

Fundamental concepts and experimental methods in studying both DNA and RNA. Nature of genetic information and its storage. Molecular basis of replication, transcription and translation.

Three lectures; second term

Prerequisite: BIOCHEM 2BB3; and CHEM 2BA3 or 2OA3; and registration in CHEM 2BB3 or 2OB3

Antirequisite: BIOCHEM 2A06, 3B03, 3BT3, 3G03

**BIOCHEM 2BB3 PROTEIN STRUCTURE AND ENZYME FUNCTION**

Fundamental concepts and experimental methods in studying structures of proteins, including membrane proteins. Nature of enzyme catalysis. Introduction to enzyme kinetics and mechanism.

Three lectures, one tutorial; first term

Prerequisite: BIOLOGY 1A03, CHEM 1AA3

Corequisite: Either CHEM 2BA3 or 2OA3, and either CHEM 2PA3 or 2R03; or registration in Honours Molecular Biology

Antirequisite: BIOCHEM 2A06, 3BB3, 3BT3, 3G03

**BIOCHEM 2EE3 METABOLISM AND PHYSIOLOGICAL CHEMISTRY**

A brief introduction to proteins, enzymes and gene expression followed by a more detailed treatment of energy and intermediary metabolism with emphasis on physiological chemistry.

Three lectures; second term

Prerequisite: One of CHEM 2BA3, 2E03, 2OA3 or permission of the department

Antirequisite: BIOCHEM 2A06, 3D03

**BIOCHEM 2L06 INQUIRY IN BIOCHEMICAL TECHNIQUES**

An inquiry approach to learning about current techniques in biochemistry research. Students will work in small groups in labs and workshops, with a focus on how to search the primary literature, prepare and deliver written and oral presentations.

One lecture (one hour), one lab or workshop (four hours); two terms

Prerequisite: Registration in BIOCHEM 2BB3 and registration in Honours Arts & Science and Biochemistry, Honours Biochemistry, Honours Chemistry (Biological Specialization), or Honours Molecular Biology; or BIOCHEM 2EE3 and 3G03 and registration in Honours Chemistry (Biological Specialization); or registration in Honours Physics (Biophysics Specialization)

Cross-list: MOL BIOL 2L06

Antirequisite: BIOCHEM 3L03

**BIOCHEM 3A03 BIOCHEMICAL RESEARCH PRACTICE**

A twelve week research project undertaken in a biochemistry laboratory during the fall, winter or summer term which requires the submission of a formal report. Students are responsible to arrange a suitable project, location and agreement of the supervisor. For further information, please refer to [www.fhs.mcmaster.ca/biochem/Undergraduate.htm](http://www.fhs.mcmaster.ca/biochem/Undergraduate.htm).

Prerequisite: BIOCHEM 2B03 and registration in Honours Biochemistry or Honours Molecular Biology. Permission of the Department is required.

**BIOCHEM 3C03 CELLULAR BIOCHEMISTRY**

Biochemical basis of complex cellular processes such as compartmentalization, vesicular traffic, movement and programmed cell death. Emphasis is placed on the principles of evaluation of current research literature.

Three lectures; second term

Prerequisite: BIOCHEM 2A06 or 3D03; and registration in Honours Biochemistry (Molecular Biology Specialization) or Honours Physics (Biophysics Specialization)

**BIOCHEM 3D03 METABOLISM AND REGULATION**

Principles of bioenergetics. Major pathways for carbohydrates and lipids in energy production. Photosynthesis. Nitrogen metabolism. Biosynthesis of small biomolecules. Integration and regulation of metabolic activities.

Three lectures; first term

Prerequisite: BIOCHEM 2BB3

Antirequisite: BIOCHEM 2A06, 2EE3

**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 2OA3 and 2OB3; or CHEM 2BA3 and 2BB3; or a grade of at least B+ in CHEM 2E03; or CHEM 2E03 and registration in a Chemical Engineering program or Honours Physics (Biophysics Specialization)

Antirequisite: BIOCHEM 2A06, 2B03, 2BB3, 3BT3

**BIOCHEM 3H03 CLINICAL BIOCHEMISTRY**

An outline of clinical chemistry; its relation to disease and relevance to health care.

Three lectures; second term

Prerequisite: BIOCHEM 2A06 or 3D03; or BIOCHEM 2EE3 and 3G03; or a grade of at least C+ in BIOCHEM 2EE3; or HTH SCI 2E03

**BIOCHEM 3L03 BIOCHEMISTRY LABORATORY I**

Illustration of fundamental principles and techniques of experimental biochemistry and molecular biology.

One lab (four hours), one tutorial (two hours); first term

Prerequisite: BIOCHEM 2A06 or 2B03, and registration in Honours Arts & Science and Biochemistry, Honours Biochemistry, Honours Chemistry (Biological Specialization), or Honours Molecular Biology; or BIOCHEM 2EE3 and 3G03 and registration in Honours Chemistry (Biological Specialization); or registration in Honours Physics (Biophysics Specialization); or HTH SCI 2E03

Last offered in 2006-2007.

**BIOCHEM 3N03 NUTRITION AND METABOLISM**

Study of nutritional biochemistry and the regulation of metabolism; the role of specific nutrients in functional processes of the body in health and disease.

Three lectures; second term

Prerequisite: BIOCHEM 2A06 or 3D03; or BIOCHEM 2EE3 and 3G03; or a grade of at least C+ in BIOCHEM 2EE3; or HTH SCI 2E03

**BIOCHEM 3P03 BIOCHEMISTRY LABORATORY II**

A preparation for independent experimental work in molecular biology and biochemistry. Multiple techniques are used together to answer complex biochemical questions in both *E. coli* and *Saccharomyces cerevisiae*.

One lab (three hours), one tutorial (three hours); second term

Prerequisite: BIOCHEM 2L06 or 3L03; and registration in Honours Arts & Science and Biochemistry or an Honours Biochemistry Specialization

Antirequisite: BIOLOGY 3V03, MOL BIOL 3V03

Enrolment is limited. See the heading *Limited Enrolment Courses* in the Faculty of Science section of the Calendar.

**BIOCHEM 3Y03 INTRODUCTION TO COMPUTATIONAL BIOCHEMISTRY**

Introduction to biochemical databases, biological data mining and analysis tools, molecular modelling, and ligand docking. Use of internet resources of biological information, computers and software for solving structure- and information-related problems in a biomedical lab.

Three lectures/tutorials in a computer lab; second term

Prerequisite: Completion of any Biochemistry course

Enrolment is limited.

**BIOCHEM 4B06 SENIOR PROJECT IN BIOCHEMISTRY AND MOLECULAR BIOLOGY**

An extended research project supervised by a member or associate member of the Department of Biochemistry and Biomedical Sciences. It provides a suitable experience for graduate school or industry. Assessment is based on laboratory work, a poster presentation and a final report.

Two terms

Prerequisite: BIOCHEM 3P03 and registration in an Honours Biochemistry Specialization; or registration in Honours Physics (Biophysics Specialization). Permission of the Department is required. Application for permission must be received by March 1st of the academic year prior to registration. Students are expected to have a CA of at least 8.0. For further information, please refer to [www.fhs.mcmaster.ca/biochem/Undergraduate.htm](http://www.fhs.mcmaster.ca/biochem/Undergraduate.htm).

Antirequisite: BIOCHEM 4BB6, 4F09, 4L03, 4P03, CHEM ENG 4LL3

Enrolment is limited. See the heading *Limited Enrolment Courses* in the Faculty of Science section of the Calendar.

**BIOCHEM 4C03 INQUIRY IN BIOCHEMISTRY**

Broader aspects of biochemistry such as those relating to food, drugs, health and environment discussed in small groups. Group and individual projects, seminars and lectures as appropriate to the subject matter.

Three hours; second term

Prerequisite: Registration in Level IV of Honours Biochemistry (Core)

Antirequisite: HTH SCI 3H03, 4A09, 4B06

**BIOCHEM 4E03 RECOMBINANT DNA TECHNOLOGY AND GENE EXPRESSION**

Recombinant DNA techniques; theory and applications to the study of gene function and evolution and to disease diagnostics and gene therapy. Current concepts of gene regulation at different levels.

Three lectures; first term

Prerequisite: One of BIOCHEM 2B03, 3B03, 3BT3; or BIOLOGY 3H03 and BIOCHEM 3G03; or a grade of at least B+ in BIOCHEM 3G03; or HTH SCI 2E03

**BIOCHEM 4EE3 ADVANCED TOPICS IN GENE EXPRESSION**

A critical study of the literature from recent primary manuscripts on gene regulation and inter-related regulatory pathways. Emphasis is on the molecular and cellular biology of multiple pathways that interact to affect phenomena in biology and disease.

Three lectures; second term

Prerequisite: BIOCHEM 4E03



**BIOCHEM 4F09 SENIOR THESIS IN BIOCHEMISTRY AND MOLECULAR BIOLOGY**

A thesis based on a major research project supervised by a member or associate member of the Department of Biochemistry and Biomedical Sciences. The results will also be presented to the department in a seminar or as part of a poster session.

Two terms

Prerequisite: BIOCHEM 3P03 and registration in Honours Biochemistry (Molecular Biology Specialization). Permission of the department is required. Application for permission must be received by March 1st of the academic year prior to registration. Students are expected to have a C.A. of at least 9.5. For further information, please refer to [www.fhs.mcmaster.ca/biochem/Undergraduate.htm](http://www.fhs.mcmaster.ca/biochem/Undergraduate.htm).

Antirequisite: BIOCHEM 4B06, 4BB6, 4G03, 4L03, 4LL3, 4P03, CHEM ENG 4LL3

Enrolment is limited. See the heading *Limited Enrolment Courses* in the *Faculty of Science* section of the Calendar.

**BIOCHEM 4H03 BIOTECHNOLOGY AND DRUG DISCOVERY**

Selected topics on genomics, proteomics and bioinformatics illustrating the modern application of molecular biology and biochemistry to pharmaceutical and other research.

Three lectures; first term

Prerequisite: One of BIOCHEM 3BB3, 3BT3, 3D03; or BIOCHEM 3G03 and registration in a Chemical Engineering program; or HTH SCI 2E03

Antirequisite: BIOCHEM 4DD3

**BIOCHEM 4J03 BIOCHEMICAL IMMUNOLOGY**

This advanced course applies small-group-based learning to immunological problems. Topics concern development of immunoassays, resistance to infection and immunity in health and disease.

One session (two hours), one tutorial; one term

Prerequisite: BIOLOGY 3X03 or HTH SCI 3I03; and one of BIOCHEM 3B03, 3BT3, 3D03, 3G03, BIOLOGY 3H03

Cross-list: HTH SCI 4J03, MOL BIOL 4J03

This course is administered by the Bachelor of Health Sciences (Honours) Program.

**BIOCHEM 4K03 STRUCTURE AND FUNCTION OF MEMBRANES AND MACROMOLECULES**

Molecular components of biological membranes and their interactions. Transport and other membrane-mediated processes. Membrane-bound receptors and signal transduction. Advanced aspects of macromolecular structure.

Three lectures; second term

Prerequisite: One of BIOCHEM 3BB3, 3BT3, 3D03, 3G03; or BIOCHEM 2BB3 and registration in Honours Chemistry (Biological Specialization); or HTH SCI 2E03

Antirequisite: BIOCHEM 4I03, 4M03

**BIOCHEM 4L03 ADVANCED BIOCHEMISTRY LABORATORY**

Fundamental principles of experimental biochemistry with emphasis on modern methods in enzymology and molecular biology.

Two labs (four hours); first term

Prerequisite: BIOCHEM 3L03, 3BT3; or BIOCHEM 2L06 or 3L03 and one of BIOCHEM 2B03, 3B03, BIOLOGY 3H03, and one of BIOCHEM 3BB3 or 3D03

Antirequisite: BIOCHEM 4B06, 4BB6, 4F09, 4G03, 4LL3, CHEM ENG 4LL3, MOL BIOL 4R09

Not open to students registered in Honours Biochemistry (Biotechnology and Genetic Engineering Specialization).

**BIOCHEM 4LL3 BIOTECHNOLOGY AND GENETIC ENGINEERING LABORATORY**

Recombinant DNA technology including cloning, directed mutagenesis, DNA sequencing and expression of cloned genes. Reaction kinetics and reactor design for enzyme and fermentation reactions. Advanced separation methods for bioprocessing operations.

Two labs (four hours); second term

Prerequisite: BIOCHEM 4H03 and registration in Honours Biochemistry (Biotechnology and Genetic Engineering Specialization); or BIOCHEM 3G03 and registration in a Chemical Engineering program

Antirequisite: BIOCHEM 4BB6, 4F09, 4G03, 4L03

Cross-list: CHEM ENG 4LL3

**BIOCHEM 4P03 RESEARCH PROJECT IN BIOCHEMISTRY AND MOLECULAR BIOLOGY**

A project supervised by a member or associate member of the Department of Biochemistry and Biomedical Sciences. Assessment is based on laboratory work and a final report.

May be taken first or second term

Prerequisite: BIOCHEM 3P03 or BIOLOGY 3V03; and one of BIOCHEM 3B03, 3BT3, 3D03, BIOLOGY 3H03; and registration in an Honours Biochemistry Specialization, Honours Molecular Biology or Honours Physics (Biophysics Specialization). Permission of the Department is required. Application for permission must be received by March 1st of the academic year prior to registration. Students are expected to have a C.A. of

at least 7.0. For further information, please refer to [www.fhs.mcmaster.ca/biochem/Undergraduate.htm](http://www.fhs.mcmaster.ca/biochem/Undergraduate.htm).

Antirequisite: BIOCHEM 4B06, 4F09, HTH SCI 3H03, 4A09, 4B06, MOL BIOL 4R09

Enrolment is limited. See the heading *Limited Enrolment Courses* in the *Faculty of Science* section of the Calendar.

**BIOCHEM 4Q03 BIOCHEMICAL PHARMACOLOGY**

The pharmacological and biochemical basis of drug absorption, distribution, metabolism, biotransformation, toxicity and susceptibility. Chemical carcinogenesis and mechanism of action and cellular resistance to anti-bacterial and anticancer drugs.

Three lectures; first term

Prerequisite: One of BIOCHEM 3BB3, 3BT3, 3D03; or BIOCHEM 2EE3 and 3G03; or HTH SCI 2E03

**BIOCHEM 4S03 INTRODUCTION TO MOLECULAR BIOPHYSICS**

A presentation of recent contributions made to the fields of molecular and cell biology by the use of physical approaches. Topics include physical properties of biomolecules, protein folding, molecular motors, cell motion and cell adhesion. Emphasis on the critical evaluation of current research literature.

Three lectures; first term

Prerequisite: One of CHEM 2R03, MATLS 2B03 or PHYSICS 2H04. PHYSICS 3S03 is recommended.

Cross-list: PHYSICS 4S03

This course is administered by the Department of Physics and Astronomy.

**BIOCHEM 4Y03 GENOMES AND EVOLUTION**

Molecular evolution and comparative analysis of genomes. Bacterial evolution, phylogenetics, origins of eukaryotes. Organelles and their genomes. Comparison of the human genome with other species. Use of microarrays and proteomics.

Three lectures; second term

Prerequisite: BIOCHEM 2B03 or 3G03

Antirequisite: BIOLOGY 4DD3

**BIOLOGY**

WEB ADDRESS: <http://www.science.mcmaster.ca/biology/>

Life Sciences Building, Room 118

Ext. 23049

**Faculty as of January 15, 2006****Chair**

Turlough M. Finan

**Associate Chairs**

Patricia Chow-Fraser/Undergraduate Studies

Elizabeth A. Weretilnyk/Graduate Studies

**Distinguished University Professor**

Christopher M. Wood/B.Sc., M.Sc. (British Columbia), Ph.D. (East Anglia), F.R.S.C./Senior Canada Research Chair

**Professors**

Patricia Chow-Fraser/B.Sc., M.Sc. (Waterloo), Ph.D. (Toronto)/Undergraduate Advisor

Turlough M. Finan/B.Sc., M.Sc. (Galway), Ph.D. (Guelph)

G. Brian Golding/B.Sc. (Dalhousie), Ph.D. (Alberta)/Senior Canada Research Chair

Deisworth G. Harnish/(Pathology and Molecular Medicine) B.Sc., M.Sc. (Queen's), Ph.D. (McMaster)

John A. Hassell/(Biochemistry and Biomedical Sciences, Pathology and Molecular Medicine) B.Sc. (Brooklyn College), Ph.D. (Connecticut)

J. Roger Jacobs/B.Sc. (Calgary), M.Sc., Ph.D. (Toronto)

Jurek Kolasa/M.Sc., Ph.D. (Poznan)

Colin A. Nurse/B.E.Sc. (Western Ontario), Ph.D. (Harvard)

Michael J. O'Donnell/B.Sc., Ph.D. (Toronto)

Andrew J. Rainbow/B.Sc. (Manchester), M.Sc. (London), Ph.D. (McMaster)/Undergraduate Advisor

C. David Rollo/B.Sc., M.Sc. (Guelph), Ph.D. (British Columbia)

Herbert E. Schellhorn/B.Sc., M.Sc. (Guelph), Ph.D. (North Carolina)

Rama S. Singh/B.Sc. (Agra), M.Sc. (Kanpur), Ph.D. (California-Davis)

Elizabeth A. Weretilnyk/B.Sc., Ph.D. (Alberta)

**Associate Professors**

Christian Baron/Dipl. Microbiol., Ph.D. (Munich)

André Bédard/B.Sc. (Montreal), Ph.D. (McGill)

Robin K. Cameron/B.Sc. (Waterloo), Ph.D. (McGill)

Ana Campos/B.A., M.A. (Rio de Janeiro), Ph.D. (Brandeis)  
 Juliet M. Daniel/B.Sc. (Queen's), Ph.D. (British Columbia)  
 Susan A. Dudley/B.Sc., M.Sc. (McGill), Ph.D. (Chicago)/Undergraduate Advisor  
 Suleiman A. Igouda/B.Sc. (Victoria), M.Sc. (Western Ontario), Ph.D. (McGill)  
 James S. Quinn/B.Sc. (Queen's), M.Sc. (Brock), Ph.D. (Oklahoma)  
 Jianping Xu/B.Sc. (Jiangxi), M.Sc. (Nanjing and Toronto), Ph.D. (Toronto)

#### Adjunct Associate Professors

David A. Galbraith/(Royal Botanical Gardens), B.Sc., M.Sc. (Guelph), Ph.D. (Queen's)  
 James S. Pringle/(Royal Botanical Gardens), A.B. (Dartmouth), M.S. (New Hampshire), Ph.D. (Tennessee)

#### Assistant Professors

Kimberley Dej/B.Sc. (Toronto), Ph.D. (Johns Hopkins)  
 Marie Elliot/B.Sc., Ph.D. (Alberta)/Canada Research Chair  
 Ben Evans/B.S. (Tufts), M.S., M.Phil., Ph.D. (Columbia)  
 Bhagwati Gupta/B.Sc. (Banaras Hindu), M.Sc. (Jawaharlal Nehru), Ph.D. (TATA Institute)/Canada Research Chair  
 Lovaye Kajiura/B.Sc., M.Sc., Ph.D. (McMaster)  
 Grant B. McClelland/B.Sc. (Ottawa), Ph.D. (British Columbia)  
 Jonathon Stone/B.Sc., M.Sc., Ph.D. (Toronto)/SHARCNet Chair in Computational Biology  
 Peter Summers/B.Sc. (Guelph), M.Sc., Ph.D. (Alberta)  
 Xu-Dong Zhu/B.Sc. (Nanjing), M.Sc. (Regina), Ph.D. (Toronto)

#### Instructional Assistants

Lori Goff/B.Sc., M.Sc. (Guelph)  
 Marvin Gunderman/B.Sc., M.Sc. (McMaster)  
 Thelma Leech/B.Sc., M.Sc. (Guelph), M.Sc.(T.) (McMaster)  
 Beryl Piccinin/B.Sc. (Mount Allison), M.Sc. (McMaster)  
 Raymond Procwat/B.Sc. (McMaster), B.Ed. (Toronto)

#### Note:

No more than 12 units of Level II, III Biology (six units per year) may be taken in total by students enrolled in a three year Baccalaureate degree program. Detailed course descriptions are available on the program web site at [http://www.science.mcmaster.ca/biology/biology\\_undergraduate\\_CourseOfferings](http://www.science.mcmaster.ca/biology/biology_undergraduate_CourseOfferings)

#### Courses *If no prerequisite is listed, the course is open.*

##### BIOLOGY 1A03 CELLULAR AND MOLECULAR BIOLOGY

Structure, molecular composition and function in sub-cellular and cellular systems:

Three lectures, one lab (three hours); one term

Prerequisite: Grade 12 Biology U and registration in one of Science I, Arts & Science I, Kinesiology I, Mathematics and Statistics I, Medical Radiation Sciences I, Chemical Engineering and Bioengineering, Electrical and Bio-medical Engineering, any program above Level I; or a grade of at least 80% in Grade 12 Biology U. Registration in or completion of CHEM 1A03, 1AA3 is strongly recommended. CHEM 1A03, 1AA3 are prerequisites for many Biology courses in Level II, III, and IV.

Corequisite: SCIENCE 1A00. Students registering in BIOLOGY 1A03 must also register in SCIENCE 1A00 when completing their registration. *Students in non-Science programs should consider registering in BIOLOGY 1K03 and SCIENCE 2K03 which do not have laboratories.*

##### BIOLOGY 1AA3 BIODIVERSITY, EVOLUTION AND ECOLOGY

Fundamental evolutionary and ecological concepts with particular reference to the diversity of life.

Three lectures, one lab (three hours); one term

Prerequisite: Grade 12 Biology U and registration in one of Science I, Arts & Science I, Kinesiology I, Mathematics and Statistics I, Medical Radiation Sciences I, Chemical Engineering and Bioengineering; Electrical and Bio-medical Engineering, any program above Level I; or a grade of at least 80% in Grade 12 Biology U. Registration in or completion of CHEM 1A03, 1AA3 is strongly recommended. CHEM 1A03, 1AA3 are prerequisites for many Biology courses in Level II, III, and IV.

Corequisite: SCIENCE 1A00. Students registering in BIOLOGY 1AA3 must also register in SCIENCE 1A00 when completing their registration.

*Students in non-Science programs should consider registering in BIOLOGY 1K03 and SCIENCE 2K03 which do not have laboratories.*

##### BIOLOGY 1K03

##### BIOLOGY FOR THE HUMANITIES AND SOCIAL SCIENCES

Principles spanning the realms of biology with a particular emphasis towards the understanding of the human species.

Three lectures, one tutorial; one term

Antirequisite: SCIENCE 2H03

*Not open to students registered in a program in the Faculty of Science. Students who transfer to the Faculty of Science do not retain credit for this course. BIOLOGY 1K03 is not a prerequisite for further courses in Biology. Other Biology courses of interest to students in Humanities and Social Sciences include SCIENCE 2K03.*

##### BIOLOGY 2A03 INTEGRATIVE PHYSIOLOGY OF ANIMALS

Fundamental principles of animal physiology, including: cellular energetics, diffusion, osmosis, membrane transport, excitability and contractility, gas exchange, fluid dynamics, electrolyte balance.

Three lectures, one lab (three hours); one term

Prerequisite: BIOLOGY 1A03, 1AA3

Antirequisite: BIOLOGY 4D03, ENGINEER 4X03, ENG PHYS 3X03, HTH SCI 1H03, 1HH3, 2F03, 2FF3, KINESIOL 1A06, 1Y03, 1YY3

*Not open to students with credit or registration in BIOLOGY 3P03, 3U03, 3UU3.*

##### BIOLOGY 2B03 CELL BIOLOGY

Basic treatment of cell structure and function, including transport and chemical signals; adaptation of structure and function in specialized cells.

Three lectures, one lab (three hours); one term

Prerequisite: BIOLOGY 1A03, 1AA3, CHEM 1AA3

Antirequisite: MOL BIOL 2B03

*Not open to students registered in the Honours Molecular Biology program.*

##### BIOLOGY 2C03 GENETICS

Structure, function and transmission of genes; chromosomal basis of inheritance; mono- and dihybrid crosses; sequential steps in gene function; linkage maps; sex chromosome inheritance.

Three lectures and one tutorial (three hours); one term

Prerequisite: BIOLOGY 1A03, 1AA3, CHEM 1AA3; and registration in an Honours program in the Faculty of Science, or a program in Arts & Science, Health Sciences or Kinesiology. Students are required to have a C.A. of at least 6.0; students who require this course for completion of their program are guaranteed admission.

*Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.*

##### BIOLOGY 2D03 PLANT BIODIVERSITY

An introduction to plants emphasizing their diversity in structure, development, ecology, mechanisms of reproduction, adaptations for survival in different environments, and human uses.

Two lectures, one lab (three hours); one term

Prerequisite: BIOLOGY 1AA3; and BIOLOGY 1A03 or ENVIR SC 1B03

##### BIOLOGY 2EE3 INTRODUCTION TO MICROBIOLOGY AND BIOTECHNOLOGY

Introduction to microbial cell biology, ecology, pathogenicity, physiology, taxonomy, antimicrobial agent action and to the application of microorganisms in biotechnology.

Two lectures, one lab (three hours); one term

Prerequisite: BIOLOGY 1A03, 1AA3, CHEM 1AA3 and credit or registration in CHEM 2E03 or 2OA3; or registration in Level III Chemical Engineering and Bioengineering

Antirequisite: BIOLOGY 3E03

##### BIOLOGY 2F03 FUNDAMENTAL AND APPLIED ECOLOGY

An introduction to fundamental ecological principles and illustration of how these are applied to current environmental problems at the level of organisms, populations and ecosystems.

Two lectures, one optional tutorial, one mandatory lab (three hours); one term

Prerequisite: BIOLOGY 1AA3

##### BIOLOGY 2G03 INQUIRY I - CURRENT ISSUES IN BIODIVERSITY

An interactive course exposing students to current issues in the understanding, preservation and management of biodiversity and ecological integrity.

One lecture (three hours), one tutorial (two hours); one term

Prerequisite: BIOLOGY 2D03, 2F03; and registration in Level II or III of any program in the Faculty of Science, Health Sciences or the Arts & Science Program. Please note, BIOLOGY 3G03 is open only to students registered in the Biodiversity Specialization of the Honours Biology Program.

Antirequisite: BIOLOGY 2I03

**BIOLOGY 2I03 INQUIRY IN BIOLOGY I**

This course provides an active learning approach to developing skills in designing, interpreting and communicating research in Biology.

One lecture, two workshops; one term

Prerequisite: Registration in Level II of any Honours Biology program, Honours Biology and Psychology or Honours Molecular Biology

Antirequisite: BIOLOGY 2G03

*Enrolment is limited.* See the heading *Limited Enrolment Courses* in the *Faculty of Science* section of the Calendar.

*Not offered in 2006-2007.*

**BIOLOGY 3AA3 FUNDAMENTAL CONCEPTS OF PHARMACOLOGY**

Drug interactions with living organisms; absorption and elimination of drugs, variations in drug action, drug toxicity, receptor structure and function, and signal transduction pathways.

Three lectures, one tutorial (three hours); one term

Prerequisite: One of BIOLOGY 2A03, HTH SCI 2FF3, PSYCH 2F03; and one of BIOCHEM 2A06, 2BB3, 2EE3 or registration in BIOCHEM 3G03. BIOLOGY 3P03 is strongly recommended.

*Not open to students with credit in BIOCHEM 4Q03 or registration in Honours Biology and Pharmacology.*

**BIOLOGY 3B03 PLANT PHYSIOLOGY**

Principles of physiology and plant cell metabolism. Topics include: photosynthesis, photorespiration, mineral nutrition, water relations and transpiration.

Two lectures, one lab (three hours); one term

Prerequisite: BIOLOGY 2B03, 2D03

**BIOLOGY 3BB3 ULTRASTRUCTURE, DEVELOPMENT AND FUNCTION OF PLANT CELLS**

Cells and tissues will be studied. Students will take photomicrographs and electron micrographs.

Two lectures, one lab (three hours); one term

Prerequisite: BIOLOGY 2B03, 2D03

*Offered on an irregular rotation basis.*

**BIOLOGY 3CC3 MICROBIAL GENOMES AND SYSTEMS BIOLOGY**

Advanced topics of microbial physiology/biochemistry and introduction to "systems" approaches based on microbial genomics, transcriptions, proteomics and metabolomics projects.

Two lectures, one tutorial (three hours); one term

Prerequisite: BIOCHEM 2B03 or 2EE3; BIOLOGY 2B03, 2C03; and BIOLOGY 2EE3 or 3E03; and CHEM 2OA3, 2OB3

**BIOLOGY 3F03 VERTEBRATE ANATOMY**

An introduction to the development of structure and function in vertebrates.

Three lectures, one lab (three hours); one term

Prerequisite: BIOLOGY 2B03. BIOLOGY 2A03 is strongly recommended.

*Enrolment is limited.* See the heading *Limited Enrolment Courses* in the *Faculty of Science* section of the Calendar.

*Offered in alternate years.*

*Not offered in 2006-2007.*

**BIOLOGY 3FF3 EVOLUTION**

Introduction to the major theoretical concepts and empirical findings in micro- and macroevolution.

Three lectures, one tutorial; one term

Prerequisite: BIOLOGY 2C03

**BIOLOGY 3G03 INQUIRY II - CURRENT RESEARCH IN BIODIVERSITY**

An interactive course highlighting current research programs in the general area of biodiversity within the Biology Department. Preparation for BIOLOGY 4C09 and 4F06 project on a biodiversity topic. A mandatory weekend field trip will be held in September. Students enrolling in this course must pay both the nominal incidental fees as prescribed by the instructor and regular tuition fees.

One lecture (three hours), one tutorial (two hours); one term

Prerequisite: BIOLOGY 2G03. Restricted to students registered in Level III Honours Biology (Biodiversity Specialization).

**BIOLOGY 3H03 MOLECULAR BIOLOGY OF THE NUCLEUS**

Structure of the nucleus and of chromatin; organization of DNA sequences; DNA replication, transcription; gene expression; some relevant techniques.

Two lectures, one tutorial (two hours); one term

Prerequisite: BIOLOGY 2B03

Antirequisite: BIOCHEM 3B03

**BIOLOGY 3HH3 ORGANIZATION OF THE CYTOPLASM**

A detailed examination of the molecular organization and function of cytoplasmic structures in metazoans, with particular focus on the differentiation and specialization of the cell surface and the cytoskeleton.

Three lectures, one tutorial; one term

Prerequisite: BIOLOGY 2B03

**BIOLOGY 3I03 EUKARYOTIC GENETICS**

Molecular genetics of eukaryotes, with focus on molecular mechanisms of eukaryotic DNA replication, DNA repair and recombination, cell cycle and cancer, telomeres and telomerase.

Three lectures; one term

Prerequisite: BIOLOGY 2B03, 2C03

**BIOLOGY 3K03 ANIMAL HISTOLOGY**

The structure, function, and organization of cells, tissues, organs and organ systems.

Three lectures, one lab (three hours); one term

Prerequisite: BIOLOGY 2B03. BIOLOGY 2A03 is strongly recommended.

Antirequisite: HTH SCI 2F03, 2FF3

*Enrolment is limited.* See the heading *Limited Enrolment Courses* in the *Faculty of Science* section of the Calendar.

**BIOLOGY 3M03 FUNDAMENTAL CONCEPTS OF DEVELOPMENT**

Recent advances using genetic and molecular approaches will be discussed in the context of classical experiments. Various model systems (mice, fruitflies, worms) will be examined.

Two lectures, one tutorial or lab (three hours); one term

Prerequisite: BIOLOGY 2B03, 2C03

**BIOLOGY 3MM3 INVERTEBRATE FORM AND FUNCTION**

Analysis of sensory reception, nervous control systems, feeding, skeletal support, locomotion, excretion, respiration, and reproduction in selected invertebrates.

Two lectures, one lab/tutorial (three hours); one term

Prerequisite: BIOLOGY 2A03

**BIOLOGY 3O03 MICROBIAL GENETICS**

The genetics of bacteriophages, bacteria and fungi. Special emphasis will be placed on relationships between microbial genetics and general problems in genetics and gene regulation.

Three lectures, one tutorial; one term

Prerequisite: BIOLOGY 2C03. BIOLOGY 2EE3 or 3E03 is strongly recommended.

**BIOLOGY 3P03 CELL PHYSIOLOGY**

Analysis of cell function with an emphasis on electrical properties, ion transport proteins, signalling via second messengers, mechanisms of cell homeostasis, and epithelial transport.

Two lectures, one tutorial; one term

Prerequisite: BIOLOGY 2A03 or PSYCH 2F03; and credit or registration in one of BIOCHEM 2A06, 2BB3, or 3G03

**BIOLOGY 3Q03 PEER MENTORING IN BIOLOGY (CELLULAR AND MOLECULAR BIOLOGY)**

This course gives students theoretical and practical experience with teaching methods in cellular and molecular biology and focuses upon effective presentation and scientific writing skills.

One lecture (two hours), one practicum; one term

Prerequisite: BIOLOGY 1A03; and registration in Level III or above of a program in Arts & Science or the Faculty of Science; and permission of the instructor

Antirequisite: BIOLOGY 3QQ3, HTH SCI 4X03

*Enrolment is limited.* Applications must be submitted to the Undergraduate Assistant, Life Sciences Building, Room 118 prior to registration. Placements announced after completion of a successful interview. See the heading *Limited Enrolment Courses* in the *Faculty of Science* section of the Calendar.

**BIOLOGY 3QQ3 PEER MENTORING IN BIOLOGY (BIODIVERSITY, EVOLUTION AND ECOLOGY)**

This course gives students theoretical and practical experience with teaching methods in biodiversity, evolution and ecology and focuses on effective presentation and scientific writing skills.

One lecture (two hours), one practicum; one term

Prerequisite: BIOLOGY 1AA3; and registration in Level III or above of a program in Arts & Science or the Faculty of Science; and permission of the instructor.

Antirequisite: BIOLOGY 3Q03, HTH SCI 4X03

*Enrolment is limited.* Applications must be submitted to the Undergraduate Assistant, Life Sciences Building, Room 118 prior to registration. Placements announced after completion of a successful interview. See the heading *Limited Enrolment Courses* in the *Faculty of Science* section of the Calendar.

**BIOLOGY 3R03 FIELD BIOLOGY I**

Field work plus written assignments chosen from an assortment of modules offered by faculty from McMaster and other Ontario Universities' Biology Departments. This module must differ from any completed for credit in BIOLOGY 4J03, 4JJ3. Available modules are posted in December each year. Content and schedules vary annually. Students enrolling in this course must pay both the incidental fees, as prescribed by the Department, and the regular tuition fees.

Prerequisite: BIOLOGY 1A03, 1AA3 or one of ENVIR SC 1A03, 1B03 or 1G03; and permission of the Course Administrator, Life Sciences Building, Room 118. Some modules have additional prerequisites. For information on Field Biology, please refer to the Biology web site at [http://www.science.mcmaster.ca/biology/biology\\_undergraduate\\_CourseOfferings](http://www.science.mcmaster.ca/biology/biology_undergraduate_CourseOfferings) and click on BIOLOGY 3R03, or contact the Course Administrator.

*Enrolment is limited.* See the heading *Limited Enrolment Courses* in the Faculty of Science section of the Calendar.

**BIOLOGY 3S03 AN INTRODUCTION TO BIOINFORMATICS**

This course introduces the techniques and methods of basic computer analysis of sequence data, including alignment, databases, and phylogenetic reconstruction.

Three lectures, one tutorial; one term

Prerequisite: BIOLOGY 2C03

Antirequisite: BIOLOGY 4K03

**BIOLOGY 3SS3 POPULATION ECOLOGY**

Population structure and dynamics. Natural selection and regulation of organisms by environmental and biological factors. An evolutionary view of predation, competition, life history schedules.

Three lectures; one term

Prerequisite: BIOLOGY 2F03

**BIOLOGY 3TT3 COMMUNITY ECOLOGY**

Community structure; succession; patterns of diversity and their relevance to conservation; elements of biological control; energy flow; nutrient cycling and climatic influences.

Two lectures, one lab (three hours); one term

Prerequisite: BIOLOGY 2F03. BIOLOGY 2D03 and STATS 1CC3 are recommended.

**BIOLOGY 3U03 ANIMAL PHYSIOLOGY - HOMEOSTASIS**

Respiration, circulation, acid-base balance and renal function.

Two lectures, one lab/tutorial (three hours); one term

Prerequisite: BIOLOGY 2A03 and registration in Level III or above of any Honours Biology program. BIOCHEM 2EE3 and 3G03 are recommended.

Antirequisite: HTH SCI 1D06, 2F03, 2FF3, 2L03, 2LL3

*Enrolment is limited.* See the heading *Limited Enrolment Courses* in the Faculty of Science section of the Calendar.

**BIOLOGY 3UU3 ANIMAL PHYSIOLOGY - REGULATORY SYSTEMS**

Regulation associated with major features and functions of organisms (e.g. feeding, reproduction, thermoregulation, growth, stress, sleep, aging). Emphasis on endocrinology, evolution, vertebrates and ecology. Material will include selected readings.

Two lectures; one term

Prerequisite: BIOLOGY 2A03. BIOLOGY 2B03 and 2C03 are recommended.

Antirequisite: BIOLOGY 4D03, HTH SCI 1D06, 2F03, 2FF3, 2L03, 2LL3

**BIOLOGY 3V03 TECHNIQUES IN MOLECULAR GENETICS**

A laboratory course involving basic experiments in Molecular Genetics. One lecture, two labs (three hours each); one term.

Prerequisite: Credit or registration in BIOLOGY 3Q03 and registration in Level III or above of any Honours Biology program; or permission of the instructor

Antirequisite: BIOCHEM 3P03, MOL BIOL 3V03

*Enrolment is limited.* See the heading *Limited Enrolment Courses* in the Faculty of Science section of the Calendar.

**BIOLOGY 3WW3 MICROBIOLOGY INQUIRY**

An interactive course highlighting current research programs in the general field of microbiology as well as specific interests in microbiology within the Department of Biology.

One lecture (three hours), one tutorial; one term

Prerequisite: Registration in Level III Honours Biology (Microbiology and Biotechnology Specialization)

*First offered in 2007-2008.*

**BIOLOGY 3Y03 PLANT RESPONSES TO THE ENVIRONMENT**

How plants respond at the genetic, molecular, biochemical and phenotypic levels to environmental stress. Manipulation of these responses to improve crops will be explored.

Three lectures; one term

Prerequisite: BIOLOGY 2B03, 2C03, 2D03

**BIOLOGY 4A03 ADVANCED TOPICS IN ECOLOGY**

Examination of current topics in ecology including ecosystem and landscape ecology, evolutionary ecology and behavioural ecology.

Two lectures, one tutorial (three hours); one term

Prerequisite: One of BIOLOGY 3FF3, 3J03, 3SS3 or 3TT3; and registration in Level III or above of any Honours program

**BIOLOGY 4AA3 CONSERVATION BIOLOGY**

Examination of how biological principles, mainly from population biology and genetics can be applied to conserving diversity in the natural world.

Three lectures, one lab (three hours); one term

Prerequisite: BIOLOGY 2C03; and one of BIOLOGY 3FF3, 3J03, 3SS3 or 3TT3; and registration in Level III or above of any Honours program

**BIOLOGY 4B03 PLANT METABOLISM AND MOLECULAR BIOLOGY**

Analysis of plant cell metabolism and the regulation of metabolism at the biochemical and molecular genetic level.

Three lectures; one term

Prerequisite: One of BIOCHEM 2A06, 2BB3 or 3G03; and registration in Level III or above of any Honours program. BIOLOGY 3B03 and 3H03 are recommended.

*Offered in alternate years.*

*Not offered in 2006-2007.*

**BIOLOGY 4C09 SENIOR THESIS**

A thesis based upon a research project in an area of biology carried out under the direction of a member of the Biology department.

Prerequisite: Registration in Level IV of any Honours Biology program and permission of the Course Administrator, Life Science Building, Room 118. Students are expected to have a C.A. of at least 8.5. Arrangements to take BIOLOGY 4C09, including agreement of the supervisory committee, should be made according to Departmental Guidelines before the end of March in Level III. For information on Departmental Guidelines, please refer to the Biology web site at [http://www.science.mcmaster.ca/biology/biology\\_undergraduate\\_CourseOfferings](http://www.science.mcmaster.ca/biology/biology_undergraduate_CourseOfferings) and click on BIOLOGY 4C09, or contact the Course Administrator.

Antirequisite: HTH SCI 3H03, 4A09, 4B06

*Not open to students with credit or registration in courses in the Science Capstone Course List in the Faculty of Science section of the Calendar.*

*Enrolment is limited.* See the heading *Limited Enrolment Courses* in the Faculty of Science section of the Calendar.

**BIOLOGY 4DD3 MOLECULAR EVOLUTION**

The study of how molecules change over time within and between species. The experimental data, techniques and theories will be examined.

Two lectures, one tutorial; one term

Prerequisite: ANTHROP 2D03 or BIOLOGY 3FF3; and registration in Level III or above of any Honours program

Antirequisite: BIOCHEM 4Y03

*Offered in alternate years.*

*Offered in 2006-2007.*

**BIOLOGY 4E03 POPULATION GENETICS**

Conceptual foundations of evolutionary theory and principles of population genetics.

Three lectures; or two lectures, one tutorial; one term

Prerequisite: BIOLOGY 2C03, 3FF3; and registration in Level III or above of any Honours program

Antirequisite: BIOLOGY 3J03

**BIOLOGY 4EE3 HUMAN DIVERSITY AND HUMAN NATURE**

The nature of genetic diversity in humans; the nature versus nurture debate in relation to genetic determinism and biological basis of behaviour.

Three lectures and one tutorial; one term

Prerequisite: BIOLOGY 2C03; and one of ANTHROP 2E03, BIOLOGY 3FF3, 3J03; and registration in Level III or above of any Honours program

**BIOLOGY 4F06 SENIOR PROJECT**

Students undertake an experimental or library project in a specialized area of biology under the direction of a member of the Biology department.

Prerequisite: Registration in Level IV of any Honours Biology program and permission of the Course Administrator, Life Sciences Building, Room 118. Students are expected to have a C.A. of at least 8.5. Arrangements to take BIOLOGY 4F06, including the agreement of the supervisory committee, should be made according to Departmental Guidelines before the end of March in Level III. For information on Departmental Guidelines, please refer to the Biology web site at [http://www.science.mcmaster.ca/biology/biology\\_undergraduate\\_CourseOfferings](http://www.science.mcmaster.ca/biology/biology_undergraduate_CourseOfferings) and click on BIOLOGY 4F06, or contact the Course Administrator.

Antirequisite: HTH SCI 3H03, 4A09, 4B06

*Not open to students with credit or registration in courses in the Science Capstone Course List in the Faculty of Science section of the Calendar.*

*Enrolment is limited.* See the heading *Limited Enrolment Courses* in the Faculty of Science section of the Calendar.

**BIOLOGY 4G06 HUMAN ANATOMY**

A study of the human body by dissection, self-teaching modules and videotapes. Two labs (two and one half hours); two terms  
 Prerequisite: A grade of at least B+ in BIOLOGY 3F03 or 3K03 (or co-registration in BIOLOGY 3K03); and registration in Level III or above of any Honours program; and permission of the instructor. Application for permission must be received by the Course Administrator, Life Sciences Building, Room 118, by March 31st of the academic year prior to registration. These are minimum requirements, and final selection will be based on academic merit.  
*Enrolment is limited.* See the heading *Limited Enrolment Courses* in the *Faculty of Science* section of the Calendar.  
*Offered in alternate years.*  
*Offered in 2006-2007.*

**BIOLOGY 4GG9 SENIOR GENETICS CO-OP THESIS**

A thesis based upon a research project in an area of genetics carried out under the direction of a member of the Biology department.  
 Prerequisite: Registration in Level IV of the Honours Biology Genetics Specialization Co-Op program and permission of the Course Administrator, Life Sciences Building, Room 118. Arrangements to take BIOLOGY 4GG9, including the agreement of the supervisory committee, should be made according to Departmental Guidelines before the end of March in Level III. For information on Departmental Guidelines, please refer to the Biology web site at [http://www.science.mcmaster.ca/biology/biology\\_undergraduate\\_CourseOfferings](http://www.science.mcmaster.ca/biology/biology_undergraduate_CourseOfferings) and click on BIOLOGY 4GG9.  
 Antirequisite: HTH SCI 3H03, 4A09, 4B06  
*Not open to students with credit or registration in courses in the Science Capstone course List in the Faculty of Science section of the Calendar.*  
*Enrolment is limited.* See the heading *Limited Enrolment Courses* in the *Faculty of Science* section of the Calendar.

**BIOLOGY 4I03 INQUIRY IN BIOLOGY II**

This course provides an opportunity to explore a specialized area of Biology in a small group setting.  
 Lectures, seminars and discussions (three hours); one term  
 Prerequisite: Registration in Level IV Honours Biology. BIOLOGY 4I03 may not be repeated. For information regarding module offerings, please refer to the Biology web site at [http://www.science.mcmaster.ca/biology/biology\\_undergraduate\\_CourseOfferings](http://www.science.mcmaster.ca/biology/biology_undergraduate_CourseOfferings) and click on BIOLOGY 4I03, or contact the Course Administrator, Life Sciences Building, Room 118.  
 Antirequisite: BIOLOGY 4C09, 4F06, 4FF3, 4GG9, HTH SCI 3H03, 4A09, 4B06, MOL BIOL 4R09, PHARMAC 4F09  
*Enrolment is limited.*  
 See the heading *Limited Enrolment Courses* in the *Faculty of Science* section of the Calendar.

**BIOLOGY 4J03 FIELD BIOLOGY II**

A second field module chosen from those offered by faculty from McMaster and other Ontario Universities' Biology Departments. This module must differ from any completed for credit in BIOLOGY 3R03, 4JJ3. Available modules are posted in December of each year. Content and schedules vary annually. Students enrolling in this course must pay both the incidental fees, as prescribed by the Department, and the regular tuition fees.  
 Prerequisite: BIOLOGY 1A03, 1AA3 or one of ENVIR SC 1A03, 1B03 or 1G03; and permission of the Course Administrator, Life Sciences Building, Room 118. Some modules have additional prerequisites. For information on Field Biology, please refer to the Biology web site at [http://www.science.mcmaster.ca/biology/biology\\_undergraduate\\_CourseOfferings](http://www.science.mcmaster.ca/biology/biology_undergraduate_CourseOfferings) and click on BIOLOGY 4J03, or contact the Course Administrator.  
*Enrolment is limited.* See the heading *Limited Enrolment Courses* in the *Faculty of Science* section of the Calendar.

**BIOLOGY 4JJ3 FIELD BIOLOGY III**

A third 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, 4J03. Available modules are posted in December of each year. Content and schedules vary annually. Students enrolling in this course must pay both the incidental fees, as prescribed by the Department, and the regular tuition fees.  
 Prerequisite: BIOLOGY 1A03, 1AA3 or one of ENVIR SC 1A03, 1B03 or 1G03; and permission of the Course Administrator, Life Sciences Building, Room 118. Restricted to students who have completed Level III Honours Biology (Biodiversity Specialization). Some modules have additional prerequisites. For information on Field Biology, please refer to the

Biology web site at [http://www.science.mcmaster.ca/biology/biology\\_undergraduate\\_CourseOfferings](http://www.science.mcmaster.ca/biology/biology_undergraduate_CourseOfferings) and click on BIOLOGY 4JJ3, or contact the Course Administrator.

*Enrolment is limited.* See the heading *Limited Enrolment Courses* in the *Faculty of Science* section of the Calendar.

**BIOLOGY 4P03 MEDICAL MICROBIOLOGY**

Infectious diseases: identification, epidemiology and treatment.  
 Two lectures, one tutorial (three hours); one term  
 Prerequisite: BIOLOGY 2EE3 or 3E03; and registration in Level III or above of any Honours program. Credit or registration in BIOLOGY 3O03 is strongly recommended.

**BIOLOGY 4PP3 MICROBIAL DIVERSITY AND ENVIRONMENTAL BIOTECHNOLOGY**

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 tutorial (three hours); one term  
 Prerequisite: BIOLOGY 2EE3 or 3E03; and registration in Level III or above of any Honours program. Credit or registration in BIOLOGY 3O03 is strongly recommended.  
*Offered in alternate years.*  
*Offered in 2006-2007.*

**BIOLOGY 4R03 HUMAN GENETICS**

The human genome and genetic medicine. Topics include normal and pathological cytology; the human genome project; gene mapping, linkage and therapy.  
 Two lectures, one tutorial (two hours); one term  
 Prerequisite: BIOLOGY 2B03, 2C03, 3I03; and registration in Level III or above of any Honours program.

**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 lectures, one tutorial (three hours); one term  
 Prerequisite: BIOLOGY 3P03 and registration in Level III or above of any Honours program. One or more of BIOLOGY 3H03, 3HH3, 3UU3, PSYCH 2F03, 3FA3 is also recommended.  
*Offered in alternate years.*  
*Offered in 2006-2007.*

**BIOLOGY 4U03 RADIATION BIOLOGY**

The effects of radiation on biological material at the molecular, cellular, tissue and whole organism level.  
 Three lectures; or two lectures and one tutorial; one term  
 Prerequisite: BIOLOGY 2B03 or 2C03, and credit or registration in one of MED PHYS 3T03, 4B03, PHYSICS 3T03; or registration in Year 4 of Medical and Health Physics Co-op; or permission of the instructor

**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.  
 Three lectures, one tutorial (two hours); one term  
 Prerequisite: One of BIOCHEM 3C03, BIOLOGY 3H03, 3HH3 and registration in Level III or above of any Honours program; or permission of the instructor  
*Not offered 2006-2007.*

**BIOLOGY 4X03 ENVIRONMENTAL PHYSIOLOGY**

The influence of environmental factors on the physiology of animals and the adaptation of animals to diverse environments in the context of biodiversity.  
 Three lectures; or two lectures, one tutorial; one term  
 Prerequisite: One of BIOLOGY 3MM3, 3P03, 3U03, 3UU3; and registration in Level III or above of any Honours program.  
*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 2006-2007.*

**BIOLOGY 4XX3 WORKSHOP IN MOLECULAR GENETICS**

An intensive two week laboratory/lecture course. Topics covered will include scientific reasoning, ethics, technology transfer, molecular genetics techniques, techniques used in cell culture and gene expression studies.  
 NOTE: Course will consist of two weeks of laboratory instruction, seminars and workshops. To be held the first two weeks of May.  
 Prerequisite: BIOLOGY 2EE3 or 3E03; and registration in Honours Biology (Genetics Specialization or Microbiology and Biotechnology Specialization) or Honours Biology Genetics Specialization Co-op; and permission of the instructor. Application for permission must be received by March 31st of the academic year prior to registration.  
*Enrolment is limited.* See the heading *Limited Enrolment Courses* in the *Faculty of Science* section of the Calendar.

**BIOLOGY 4Y03 ECOLOGY OF INLAND WATERS**

Physical, chemical and biological interrelationships of inland waters, including aspects of pollution.

Two lectures, one lab (three hours); one term

Prerequisite: BIOLOGY 2F03 and credit or registration in one of BIOLOGY 3G03, 3SS3, 3TT3 and registration in Level III or above of any Honours program; or permission of the instructor

Offered in alternate years.

Offered in 2006-2007.

**HTH SCI 3I03 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; one term

Prerequisite: BIOLOGY 2B03 or HTH SCI 2K03

Antirequisite: BIOLOGY 3X03

**HTH SCI 4I13 ADVANCED TOPICS IN IMMUNOLOGY**

This course will build on knowledge of the immune system and focus on the immune system in disease: allergy, inflammation, autoimmunity, immune deficiency, malignancy and cancer immunotherapy.

Two lectures, one tutorial; one term

Prerequisite: BIOLOGY 3X03 or HTH SCI 3I03

Antirequisite: BIOLOGY 4I13

**MED PHYS 4B03 RADIOACTIVITY AND RADIATION INTERACTIONS**

Radioactivity and radiation phenomenology: interaction of radiations with matter, dosimetry, radiation in medicine, biological effects, radiation levels and regulations, radiation protection.

Three lectures; one term

Prerequisite: One of PHYSICS 1BA3, 1BB3 or permission of the instructor

Antirequisite: BIOL 3L03, MED PHYS 3T03, PHYSICS 3T03

**MOL BIOL 4H03 MOLECULAR BIOLOGY OF CANCER**

Cancer at the cellular and molecular level. Topics include: properties of cancer cells, activation of proto-oncogenes, function of oncoproteins, transgenic mouse models, and tumour viruses, tumour suppressor genes.

Two lectures; one tutorial; one term

Prerequisite: One of BIOCHEM 3B03, 3BT3, 3D03, 3G03, BIOLOGY 3H03, 3HH3 and registration in Level III or above of any Honours program; or permission of the instructor

**MOL BIOL 4J03 MOLECULAR IMMUNOLOGY**

This advanced course applies small group based learning to immunological problems. Topics concern development of immunoassays, resistance to infection and immunity in health and disease.

One session (two hours), one tutorial; one term

Prerequisite: One of BIOLOGY 3X03 or HTH SCI 3I03, and one of BIOCHEM 3B03, 3BT3, 3D03, 3G03, BIOLOGY 3H03; or permission of the instructor

Cross-list: BIOCHEM 4J03, HTH SCI 4J03

This course is administered by the Bachelor of Health Sciences (Honours) Program.

**BUSINESS**

(SEE COMMERCE)

**CANADIAN STUDIES**

(SEE INTERDISCIPLINARY MINORS AND THEMATIC AREAS)

**CAYUGA**

(SEE INDIGENOUS STUDIES, CAYUGA)

**CHEMICAL ENGINEERING**

WEB ADDRESS: <http://www.chemeng.mcmaster.ca>

John Hodgins Engineering Building, Room 374

Ext. 24957

**Faculty as of January 15, 2006****Chair**

A. N. Hrymak

**Distinguished University Professors**

John L. Brash/B.Sc., Ph.D. (Glasgow), D.Hon.C. (Paris Nord), F.B.S.E., F.R.S.C., P.Eng

John F. MacGregor/B.Eng. (McMaster), M.Sc., Ph.D. (Wisconsin), F.A.S.A., F.C.A.E., P.Eng./Dofasco Chair in Process Automation and Information Technology

**Professors**

James M. Dickson/B.A.Sc., M.A.Sc. (Waterloo), Ph.D. (Virginia Tech.)  
Andrew N. Hrymak/B.Eng. (McMaster), Ph.D. (Carnegie Mellon), P.Eng., F.C.I.C.

Rafik O. Loutfy/B.Sc., M.Sc. (Ain Shams), Ph.D. (Western Ontario), M.B.A. (Toronto), F.C.I.C.

Thomas E. Marlin/B.S. (SUNY), M.S. (Dayton), Ph.D. (Massachusetts)

Robert H. Peiton/B.Sc., M.Sc. (Guelph), Ph.D. (Bristol)/Senior Canada Research Chair

Paul A. Taylor/B.Sc., Ph.D. (Wales), P.Eng.

John Vlachopoulos/Dipl. Ch. Eng. (National Technical University of Athens), M.S., D.Sc. (Washington, St. Louis), F.C.I.C., P.Eng.

Philip E. Wood/B.A.Sc. (Waterloo), Ph.D. (California Inst. Tech.), F.C.I.C., P.Eng.

Shiping Zhu/B.Eng. (Zhejiang), Ph.D. (McMaster), P.Eng./Canada Research Chair

**Adjunct Professor**

Joseph D. Wright/B.Sc. (Alberta), Ph.D. (Cambridge), P.Eng.

**Associate Professors**

Christopher L. E. Swartz/B.Sc.Eng. (Cape Town), Ph.D. (Wisconsin)

Heather Sheardown/B.Eng. (McMaster), Ph.D. (Toronto), P.Eng.

**Adjunct Associate Professors**

Lyndon W.J. Jones/B.Sc. (Wales), Ph.D. (Aston)

Theodora Kourti/Dipl. Eng. (Chemical) (Aristotle), Ph.D. (McMaster)

**Assistant Professors**

Carlos Filipe/B.S. (Universidade Catolica Portuguesa), Ph.D. (Clemson)

Raja Ghosh/B.S., M.S. (Jadavpur), D.Phil. (Oxford)/Canada Research Chair

Kim Jones/B.A.Sc. (Waterloo), M.Sc. (Guelph), Ph.D. (Toronto)

Prashant Mhaskar/B.Tech (IIT), M.S. (Louisiana State), Ph.D. (UCLA)

Michael Thompson/B.Sc., B.Eng., M.Eng. (McMaster), Ph.D. (Waterloo)

**Adjunct Assistant Professors**

Leopold K. (Kris) Kostanski/M.Eng., Ph.D. (Technical University of Szczecin)

Shannon L. Quinn/B.Sc., B.A.Sc. (Ottawa), Ph.D. (Queen's)

**Associate Members**

Michael Brook/(Chemistry) B.Sc. (Toronto), Ph.D. (McGill)

Kari Dainoki-Veress/(Physics and Astronomy) B.Sc., M.Sc., Ph.D. (Guelph)

Nicholas Kevlahan/(Mathematics and Statistics) B.Sc. (British Columbia), Ph.D. (Cambridge)

Joseph McDermid/(Mechanical Engineering) B.A.Sc. (Queens) M.Eng., Ph.D. (McGill)

Judith West-Mays/(Pathology and Molecular Medicine) B.Sc. (Wilfrid Laurier), M.Sc., Ph.D. (Waterloo)

**Department Note:**

All Chemical Engineering courses are open to students registered in a Chemical Engineering program, subject to prerequisite requirements. Prior permission of the Department is necessary for students from other Engineering departments and other faculties.

**Courses****CHEM ENG 2A04 HEAT TRANSFER**

Steady and unsteady conduction and convection, condensation and boiling. Understanding fundamentals behind heat exchangers, and finned arrangements. Numerical simulations of complex heat transfer systems. Three lectures, one tutorial (two hours); second term

Prerequisite: Registration in a Chemical Engineering or Materials Engineering program

Corequisite: One of CHEM ENG 2B03, 2F04, MATLS 2B03, 2D03

**CHEM ENG 2B03 INTRODUCTION TO BIOPROCESS ENGINEERING**

Unit operations approach; material and energy balances; survey of momentum, heat and mass transfer; basics of chemical process design.

Two lectures (one hour each), one tutorial (two hours); first term

Prerequisite: Registration in Level II Honours Biochemistry (Biotechnology and Genetic Engineering Specialization); or Level II Civil Engineering (Water/Environmental Engineering Stream)

Not open to students registered in a Chemical Engineering program.

**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 of any Chemical Engineering program

**CHEM ENG 2F04 CHEMICAL ENGINEERING PRINCIPLES II**  
 Combined mass and energy balances in the steady and unsteady state. The second law of thermodynamics and physical chemical equilibria. Introduction of process simulation packages. Three lectures, one tutorial (three hours); second term  
 Prerequisite: Registration or credit in CHEM ENG 2D04

**CHEM ENG 2G03 PROBLEM SOLVING AND TECHNICAL COMMUNICATION**  
 Developing awareness, strategies, creativity, analysis and interpersonal skills in the context of solving homework problems and preparing technical communications. Interpretation, retrieval manipulation and communication of information. Three lectures; first term  
 Antirequisite: CHEM ENG 2C02, 2G02

**CHEM ENG 3BC4 CELL BIOLOGY AND MICROBIOLOGY**  
 Introduction to cell structure and function, including transport and chemical signals, adaptation of structure and function. Use of micro organisms in biotechnology. Biology of the prokaryotic cell. Three lectures, one lab (three hours); second term  
 Prerequisite: Registration in Chemical Engineering and Bioengineering  
*Not offered in 2006-2007.*

**CHEM ENG 3BK3 BIO-REACTION ENGINEERING**  
 Kinetics of cellular processes, microbial processes and enzyme reactions including those of immobilized cells and enzymes. Cell culturing. Bioreactor design. Bioprocess development including downstream processing. Three lectures; first term  
 Prerequisite: Registration in Level IV of any Chemical Engineering program; or CHEM ENG 2B03; or permission of the Department

**CHEM ENG 3BM3 BIOSEPARATIONS ENGINEERING**  
 Introduction to bioseparations engineering, cell disintegration, precipitation based separation processes, extraction, adsorption, chromatography, centrifugal separations, filtration, membrane based separation processes, electrophoresis. Three lectures; second term  
 Prerequisite: Registration in Level IV of a Chemical Engineering Program; or CHEM ENG 2B03; or permission of the Department

**CHEM ENG 3D03 CHEMICAL ENGINEERING THERMODYNAMICS**  
 Review of the total energy balance, mechanical energy balance and thermodynamics of one component system. Chemical reaction and phase equilibria of multicomponent systems, with emphasis on non-ideality. Two lectures, one tutorial (two hours); first term  
 Prerequisite: CHEM ENG 2F04

**CHEM ENG 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; and MATH 2M06 or both MATH 2A03 and 2C03, or both MATH 2P04 and 2Q04

**CHEM ENG 3G04 SIMULATION, MODELLING AND PROBLEM SOLVING**  
 Chemical process simulation including models for heat exchangers, separators and reactors. Group skills, decision-making and self-directed, problem-based learning. Three lectures, one tutorial (two hours); second term  
 Prerequisite: CHEM ENG 2G02, or both CHEM ENG 2F04 and 2G03; and credit or registration in CHEM ENG 3D03  
 Antirequisite: CHEM ENG 3G03

**CHEM ENG 3K04 INTRODUCTION TO REACTOR DESIGN**  
 Stoichiometry of multiple reactions, kinetics of homogeneous reactions, interpretation of batch data, design of ideal and non-ideal CSTR and plug flow reactors. Three lectures; one tutorial (two hours); second term  
 Prerequisite: MATH 2M06, or both MATH 2A03 and 2C03, or both MATH 2P04 and 2Q04 and registration or credit in CHEM ENG 2F04 and 3D03; or a grade of at least B+ in CHEM ENG 2B03 and permission of the Department

**CHEM ENG 3L02 INTERMEDIATE LABORATORY SKILLS**  
 Experiments and projects in heat transfer, thermodynamics, mass transfer and fluid mechanics with appropriate data analysis and report writing. One lecture, one lab (three hours); second term  
 Prerequisite: CHEM ENG 3D03 and credit or registration in CHEM ENG 2A04 and 3O04

**CHEM ENG 3M04 MASS TRANSFER AND STAGewise OPERATIONS**  
 Stagewise operations, diffusion, mass transfer coefficients, distillation, differential contacting and absorption. Three lectures, one tutorial (two hours); first term  
 Prerequisite: CHEM ENG 2F04

**CHEM ENG 3O04 FLUID MECHANICS**  
 The laws of statics and dynamics in both compressible and incompressible fluids. Equations of conservation and modern turbulence and boundary layer theory applied to submerged and conduit flow. Similitude, unsteady flow, measuring devices and fluid machinery. Three lectures, one tutorial (three hours); first term  
 Prerequisite: MATH 2M06, or both MATH 2P04 and 2Q04, or both MATH 2A03 and 2C03 (any of which may be taken concurrently); and registration in a Chemical Engineering, Materials Science, Materials Engineering or Engineering Physics (Nuclear Engineering and Energy Systems Stream) program.

**CHEM ENG 3P04 PROCESS CONTROL**  
 Transient behaviour of chemical processes. Theory and practice of automatic control. Introduction to computer process control. Three lectures, one tutorial (two hours); second term  
 Prerequisite: MATH 2M06, or both MATH 2A03 and 2C03, or both MATH 2P04 and 2Q04; and credit or registration in CHEM ENG 2A04, 3E04, 3K04, 3O04  
 Antirequisite: CHEM ENG 3P03

**CHEM ENG 3Q03 INTRODUCTION TO POLYMER SCIENCE**  
 An overview of important synthetic and natural polymers with emphasis on polymer structure, the chemistry of polymer formation. An introduction to polymer characterization. Three lectures; second term  
 Prerequisite: One of CHEM 2A03, 2E03, 2OA3, 2OB3, 2WW2

**CHEM ENG 4B03 POLYMER REACTION ENGINEERING**  
 Kinetics of polymerization: step-growth and chain-growth (free radical, anionic, anionic coordination and cationic). Polymerization processes: solution/bulk; suspension, emulsion, gas-phase, slurry and reactive processing. Principles of polymer process and reactor design, optimization and control. Three lectures; first term  
 Prerequisite: CHEM ENG 3K04

**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; one term  
 Prerequisite: One of COMMERCE 2QA3, STATS 3N03 or 3Y03

**CHEM ENG 4E03 DIGITAL COMPUTER PROCESS CONTROL**  
 This course addresses key aspects of implementing control via discrete calculations using digital computers. Topics include discrete-time dynamic models, system identification, analysis of discrete-time systems, design of digital control systems and model predictive control. Three lectures; first term  
 Prerequisite: CHEM ENG 3P03 or 3P04

**CHEM ENG 4G03 OPTIMIZATION IN CHEMICAL ENGINEERING**  
 The application of optimization methods to important engineering problems in equipment design and operation, statistics, control, engineering economics and scheduling. The course will emphasize problem definition, model formulation and solution analysis, with sufficient details on existing algorithms and software to solve problems. Two lectures, one tutorial (two hours); second term  
 Prerequisite: CHEM ENG 3E04, 3M04, 3O04, 3P03 (or 3P04); and CHEM ENG 3G03 or 3G04

**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 of any Chemical Engineering program

**CHEM ENG 4LL3 BIO LABORATORIES**

Recombinant DNA technology including cloning, directed mutagenesis, DNA sequencing and expression of cloned genes. Reaction kinetics and reactor design for enzyme and fermentation reactions. Advanced separation methods for bioprocessing operations.

Two labs (four hours); second term

Prerequisite: BIOCHEM 4H03 and registration in Honours Biochemistry (Biotechnology and Genetic Engineering Specialization); or BIOCHEM 3G03 and registration in Chemical Engineering and Bioengineering

Antirequisite: BIOCHEM 4B06, 4BB6, 4F09, 4G03, 4L03

Cross-list: BIOCHEM 4LL3

*This course is administered by the Department of Biochemistry and Biomedical Sciences.*

**CHEM ENG 4M03 SEPARATIONS**

Overview of separation processes, liquid-liquid extraction, supercritical fluid extraction, adsorption, filtration, membrane separation processes. Three lectures; first term

Prerequisite: CHEM ENG 2A04, 3Q04, 3M04

**CHEM ENG 4N04 ENGINEERING ECONOMICS AND PROBLEM SOLVING**

Making decisions about the design and operation of engineering systems, with the analysis emphasizing safety, economics, equipment performance, uncertainty, flexibility and monitoring, including trouble shooting. Students will work individually and in groups on problem-based projects.

Three lectures, one tutorial (two hours); first term

Prerequisite: CHEM ENG 3K04, 3M04, 3O04, 3P03 (or 3P04); and registration in CHEM ENG 3G03 or 3G04

Antirequisite: ENGINEER 2B03 or 4B03

**CHEM ENG 4T03 APPLICATIONS OF CHEMICAL ENGINEERING IN MEDICINE**

Applications of chemical engineering principles to biological systems and medical problems including examples from hemodynamics, blood oxygenation, artificial kidney systems, controlled drug release, biosensors and biomaterials.

Three lectures; second term

Prerequisite: One of CHEM ENG 3O04, ENG PHYS 3O03 or MECH ENG 3O04

**CHEM ENG 4W04 CHEMICAL PLANT DESIGN AND SIMULATION**

Projects, often in cooperation with industry, usually involve steady-state computer simulation of an existing process or design of a new process. Plant equipment may be tested to develop simulation models.

Two lectures and two tutorials (two hours); second term

Prerequisite: Registration in CHEM ENG 4N04; and registration in Level IV Chemical Engineering or Level V Chemical Engineering and Management or Level V Chemical Engineering and Society or Level V Chemical Engineering and Bioengineering

**CHEM ENG 4X03 POLYMER PROCESSING**

An introduction to the basic principles of polymer processing, stressing the development of models. Rheology of polymers, extrusion, molding, films, fibers, and mixing. Reactive processing.

Three lectures; one term

Prerequisite: One of CHEM ENG 2A04, MATLS 3E04 or MECH ENG 3R03; and CHEM ENG 3O04 or MECH ENG 3O04

**CHEM ENG 4Y04 SENIOR INDEPENDENT PROJECT**

A research and design project with students working independently under the direction of a Faculty member.

Two labs (three hours); both terms. The hours assigned can be freely scheduled to suit those involved in a particular project and may include computation classes, laboratory work, discussions, or individual study. Prerequisite: Registration in Level IV Chemical Engineering or Level V Chemical Engineering and Management or Level V Chemical Engineering and Society or Level V Chemical Engineering and Bioengineering; and a CA of at least 9.5

**CHEM ENG 4Z03 INTERFACIAL ENGINEERING**

The physics and chemistry at the "nano" scale including interactions forces, colloids, surface active systems, wetting, adhesion, and flocculation.

Three lectures; second term

Prerequisite: Registration in final level of any Engineering program

**CHEMISTRY**

WEB ADDRESS: <http://www.chemistry.mcmaster.ca>

A.N. Bourns Science Building, Room 156

Ext. 23490

**Faculty as of January 15, 2006****Chair**

Brian E. McCarry

**Associate Chair**

Jacques Barbier

**Professors**

Alexander D. Bain/B.Sc. (Toronto), M.Sc. (British Columbia), Ph.D. (Cambridge)

Jacques Barbier/M.Sc. (Toronto), Ph.D. (ANU)

Michael A. Brook/B.Sc. (Toronto), Ph.D. (McGill)

John E. Greedan/B.A. (Bucknell), Ph.D. (Tufts), F.C.I.C.

Adam P. Hitchcock/B.Sc. (McMaster), Ph.D. (British Columbia), F.C.I.C./

Senior Canada Research Chair

William J. Leigh/B.Sc., M.Sc., Ph.D. (Western Ontario), F.C.I.C.

Brian E. McCarry/B.Sc. (British Columbia), Ph.D. (Stanford), F.C.I.C./

Stephen A. Jarislowsky Chair in Environment and Health

Gary J. Schrobilgen/B.Sc. (Loras College, Iowa), M.Sc. (Bröck), Ph.D. (McMaster), F.R.S.C

Harald D.H. Stöver/B.Sc. (Darmstadt), Ph.D. (Ottawa)

Johan K. Terlouw/B.Sc., M.Sc., Ph.D. (Utrecht)

**Adjunct Professor**

Timothy P. Bender/B.Sc., Ph.D. (Carleton)

**Associate Professors**

Paul J. Berti/B.Sc. (Waterloo), M.Sc. (Ottawa), Ph.D. (McGill)

John D. Brennan/B.Sc., M.Sc., Ph.D. (Toronto)/Canada Research Chair

Alfredo Capretta/B.Sc., Ph.D. (McMaster)

Randall S. Dumont/B.Sc. (Western Ontario), Ph.D. (Toronto)

Paul H.M. Harrison/B.A. (Oxford), Ph.D. (Alberta)

Yingfu Li/B.Sc. (Anhui, China), M.Sc. (Beijing Agr.), Ph.D. (Simon Fraser)/Canada Research Chair

Jim McNulty/B.Sc., M.Sc., Ph.D. (Toronto)

John F. Valliant/B.Sc., Ph.D. (McMaster)

**Assistant Professors**

Alex Adronov/B.Sc. (McMaster), Ph.D. (California-Berkeley)

Paul W. Ayers/B.S. (David Lipscomb), Ph.D. (North Carolina-Chapel Hill)/Canada Research Chair

James F. Britten/B.Sc. (St. Francis Xavier), Ph.D. (McMaster)

Philip Britz-McKibbin/B.Sc. (Toronto), Ph.D. (British Columbia)

David J.H. Emslie/B.Sc., Ph.D. (Bristol)

Gillian R. Goward/B.Sc. (McMaster), Ph.D. (Waterloo)

Donald W. Hughes/B.Sc., Ph.D. (McMaster)

Peter Kruse/Dipl. Chem. (FSU-Jena), Ph.D. (California-San Diego)

Philippa Lock/B.Sc., Ph.D. (McMaster)

Graham A. McGibbon/B.Sc. (Toronto), Ph.D. (McMaster)

Giuseppe Melacini/B.Sc., Ph.D. (Milan)

Yurij Mozharivskyi/B.Sc., M.Sc. (Lviv State), Ph.D. (Iowa State)

Barbara Russer/M.Sc. (Jagiellonian, Cracow), Ph.D. (Cracow)

Kalaichelvi Saravanamuttu/B.Sc., Ph.D. (McGill)

Ignacio Vargas-Baca/B.Sc., M.Sc. (UNAM), Ph.D. (Calgary)/Undergraduate Advisor

**Associate Members**

Raman Chirakal/(Radiology) B.Sc. (Kerala, India), M.Sc. (Brock), Ph.D. (McMaster)

Richard M. Epani/(Biochemistry and Biomedical Sciences) AB (Johns Hopkins), Ph.D. (Columbia)

Robert H. Pelton/(Chemical Engineering) M.Sc. (Guelph), Ph.D. (Bristol)

Gerald D. Wright/(Biochemistry and Biomedical Sciences) B.Sc., Ph.D. (Waterloo)

Daniel S.C. Yang/(Biochemistry and Biomedical Sciences) B.Sc., M.Sc. (Alberta), Ph.D. (Pittsburgh)

Shiping (Stephen) Zhu/(Chemical Engineering and Materials Science and Engineering) B.Eng. (Zhejiang), Ph.D. (McMaster), P.Eng.



**Department Notes:**

1. Course codes ending with \* indicate that the course is not necessarily offered every session.
2. Students not in a Science program should note that CHEM 1AA3 is a prerequisite for CHEM 2E03 and that CHEM 2E03 is a prerequisite for BIOCHEM 2EE3.

**Courses** *If no prerequisite is listed, the course is open.***CHEM 1A03 INTRODUCTORY CHEMISTRY I**

An introduction to chemical principles, including bonding, structure, energetics and electrochemistry. A laboratory provides experience in experimental techniques and accurate measurement.

Three lectures, one tutorial, one lab (three hours) every other week; first term  
Prerequisite: Grade 12 Chemistry U and either registration in one of Science I, Engineering I, Arts & Science I, Health Science I, Kinesiology I, Mathematics and Statistics I, Medical Radiation Sciences I, any program above Level I; or a grade of at least 80% in Grade 12 Chemistry U; or CHEM 1R03

Corequisite: SCIENCE 1A00. Students registering in CHEM 1A03 must also register in SCIENCE 1A00 when completing their registration.

Antirequisite: CHEM 1E03

**CHEM 1AA3 INTRODUCTORY CHEMISTRY II**

An introduction to equilibrium, chemical kinetics and organic chemistry. Three lectures, one tutorial, one lab (three hours) every other week; second term

Prerequisite: CHEM 1A03 or 1E03

**CHEM 1E03 GENERAL CHEMISTRY FOR ENGINEERING I**

An introduction to chemical principles for Engineering students, including reactivity, bonding, structure, energetics and electrochemistry.

Three lectures, one tutorial (one hour), one lab (three hours) every other week; first term

Prerequisite: Registration in a program in Engineering

Antirequisite: CHEM 1A03

**CHEM 1R03 GENERAL CHEMISTRY**

A general introduction to chemistry, suitable for students without Grade 12 Chemistry U.

Three lectures; second term

Prerequisite: Grade 11 Chemistry SCH 3U

*Not open to students with 80% or higher in Grade 12 Chemistry U.*

*Not open to students with credit or registration in CHEM 1A03.*

*Students in the Faculty of Science do not receive credit for this course.*

**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, one lab (three hours); first term

Prerequisite: Registration in a Chemical Engineering program; or credit or registration in CHEM 2PB3 or 2R03

Antirequisite: CHEM 2N03

**CHEM 2BA3 ORGANIC CHEMISTRY A**

Bonding. Alkanes, alkyl halides, alkynes, alkenes, and alcohols. Stereochemistry. Reaction intermediates and reaction mechanisms.

Three lectures, one lab (three hours) every week; first term  
Prerequisite: CHEM 1AA3; and registration in an Honours Biochemistry program (with a grade of at least B+ in CHEM 1AA3); an Honours Chemistry program, B.Sc. Physical Science or the Honours Science (Stream D) program

Antirequisite: CHEM 2E03, 2OA3, 2WW2

**CHEM 2BB3 ORGANIC CHEMISTRY B**

Infra-red,  $^1\text{H}$  and  $^{13}\text{C}$  nuclear magnetic resonance, ultraviolet and mass-spectrometric methods. Aldehydes and ketones including enolates. Electrophilic aromatic substitution. Carboxylic acids and functional derivatives. Reaction intermediates and reaction mechanisms.

Three lectures, one lab (three hours) every week; second term

Prerequisite: CHEM 2BA3

Antirequisite: CHEM 2OB3

**CHEM 2E03 INTRODUCTORY ORGANIC CHEMISTRY**

An introduction to the chemistry of monofunctional aliphatic and aromatic compounds.

Three lectures, one tutorial; first term

Prerequisite: CHEM 1AA3

Antirequisite: CHEM 2BA3, 2OA3

**CHEM 2E03 is not a prerequisite for further courses in Organic Chemistry.**

**CHEM 2I03 STRUCTURE AND REACTIONS OF THE MAIN GROUP ELEMENTS**

Comparative chemistry of the non-transition elements; introduction to symmetry.

Three lectures, one lab (three hours) every week; second term

Prerequisite: Registration in a Biochemistry, Chemistry, Honours Materials Science, Honours Science (Stream D) or B.Sc. Physical Science program; or permission of the instructor

Antirequisite: CHEM 2WW2

**CHEM 2N03 BIO-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); second term

Prerequisite: Registration in an Honours Biochemistry program; or credit or registration in either CHEM 2R03 or both CHEM 2PA3 and 2PB3; or permission of the instructor

Antirequisite: CHEM 2A03

**CHEM 2OA3 ORGANIC CHEMISTRY I**

An introduction to organic chemistry with emphasis on the reactions of functional groups and an introduction to spectroscopic techniques for structure determination.

Three lectures, one lab (three hours) every other week; one tutorial (two hours) every other week; first term

Prerequisite: CHEM 1AA3 with a grade of at least C-; or registration in a Chemical Engineering program, Honours Biochemistry, Honours Biology and Psychology or Honours Molecular Biology. Students with a grade of less than C- in CHEM 1AA3 are encouraged to seek counselling before attempting this course. Students who receive special permission to register in this course after completing CHEM 2E03 will not retain credit for CHEM 2E03 on completion of this course.

Antirequisite: CHEM 2BA3, 2E03

**CHEM 2OB3 ORGANIC CHEMISTRY II**

Nucleophilic substitutions at carbonyl centres, aromatic chemistry, carbohydrates, applications of spectroscopic techniques in organic chemistry.

Three lectures, one lab (three hours) every other week; one tutorial (two hours) every other week; second term

Prerequisite: CHEM 2OA3

Antirequisite: CHEM 2BB3

**CHEM 2PA3 THERMODYNAMICS AND PHASE EQUILIBRIA**

An introduction to macroscopic and microscopic aspects of thermodynamics and their application to physical transformations.

Three lectures, one lab (three hours), one tutorial; first term

Prerequisite: CHEM 1AA3, MATH 1AA3

Antirequisite: CHEM 2R03, PHYSICS 2H04

**CHEM 2PB3 CHEMICAL THERMODYNAMICS AND KINETICS**

Thermodynamics of equilibrium chemical and electrochemical systems, and macroscopic and microscopic aspects of kinetics.

Three lectures, one lab (three hours), one tutorial; second term

Prerequisite: CHEM 2PA3

Antirequisite: CHEM 2R03

**CHEM 2R03 GENERAL PHYSICAL CHEMISTRY**

Physical chemistry as applied to life and environmental sciences. Topics include thermodynamics, chemical equilibria, physical equilibria, transport phenomena, kinetics and enzyme kinetics.

Three lectures; first term

Prerequisite: CHEM 1AA3; and ARTS&SCI 1D06 or MATH 1A03

Antirequisite: CHEM 2PA3, 2PB3, PHYSICS 2H04

**CHEM 2WW2 INTRODUCTORY INORGANIC CHEMISTRY**

An introduction to inorganic chemistry. Emphasis on bonding and structure in inorganic compounds of representative main group and transition elements.

Two lectures; first term

Prerequisite: CHEM 1A03 or 1E03; and registration in a program administered by the Department of Materials Science and Engineering.

Antirequisite: CHEM 2I03, 3Q03

**CHEM 3A03 ANALYTICAL CHEMISTRY II**

An introduction to modern instrumental methods of analysis.

Two lectures, one lab (three hours); first term

Prerequisite: CHEM 2A03 or 2N03; and CHEM 2PA3 or 2R03

Antirequisite: ENVIR SC 3A03

**CHEM 3BA3 QUANTUM MECHANICS AND SPECTROSCOPY I**

An introduction to quantum chemistry, quantum structures, group theory and symmetry, and vibrational and rotational spectroscopy, and molecular orbital theory.

Three lectures, one lab (three hours), one tutorial; first term

Prerequisite: CHEM 2PB3; and PHYSICS 1BA3 or 1BB3

Antirequisite: CHEM 3B03

**CHEM 3BB3****QUANTUM MECHANICS AND SPECTROSCOPY II**

An introduction to the electronic structure and spectroscopy of atoms and molecules.

Three lectures; second term

Prerequisite: CHEM 3BA3; and MATH 2A03 or 2P04

Antirequisite: CHEM 3B03

**CHEM 3D03****ORGANIC CHEMISTRY**

A mechanistically oriented discussion of mono- and polyfunctional organic compounds with emphasis on applications to synthesis.

Three lectures, one lab (three hours); first term

Prerequisite: CHEM 2BB3 or 2OB3

Antirequisite: CHEM 3F03

**CHEM 3FF3****BIO-ORGANIC CHEMISTRY**

Topics in bio-organic chemistry focusing on catalysis in chemistry and nature.

Three lectures, one lab (three hours); second term

Prerequisite: CHEM 2BB3 or 2OB3

Antirequisite: CHEM 3F03

**CHEM 3I03****INDUSTRIAL CHEMISTRY**

A survey of processes in the chemical industry, with examples drawn from inorganic, organic and polymer chemistry.

Three lectures; first term

Prerequisite: CHEM 2I03 and one of CHEM 2BB3, 2E03, 2OB3; or registration in Level III or IV of a Chemical Engineering program

**CHEM 3LI3****CHEMISTRY LABORATORY INQUIRY**

An experimental chemistry laboratory. Experiments will be selected based on the student's Chemistry Specialization.

Two labs (three hours each); second term

Prerequisite: CHEM 2A03, 2BB3, 2I03, 2PB3 and registration in a Level III Honours Chemistry program

Antirequisite: CHEM 4TA3

**CHEM 3P03****TRANSITION METAL CHEMISTRY**

The chemistry of the heavier transition elements; an introduction to organometallic chemistry and bio-inorganic chemistry.

Three lectures, one lab (three hours); second term

Prerequisite: CHEM 3O03

**CHEM 3Q03****INORGANIC CHEMISTRY**

The properties, structures and reactions of inorganic compounds with emphasis on transition metal chemistry.

Three lectures, one lab (three hours); first term

Prerequisite: CHEM 2I03

Antirequisite: CHEM 2WW2

**CHEM 3ZZ3\*****PROPERTIES OF MATERIALS**

Familiar material properties—optical, thermal, electromagnetic and mechanical—and their exploitation in commercial applications, are investigated in terms of the physical chemistry toolkit of quantum mechanics, spectroscopy and introductory statistical mechanics.

Three lectures; second term

Prerequisite: CHEM 2PB3 and credit or registration in CHEM 3BA3; or permission of the instructor

Antirequisite: CHEM 3Z03

**CHEM 4A03\*****ADVANCED ORGANIC CHEMISTRY**

An introduction to the principles of physical organic chemistry and the elucidation of organic reaction mechanisms, and either pericyclic organic reactions or organic photochemistry.

Three lectures; one term

Prerequisite: CHEM 3D03 or 3F03

**CHEM 4B03****CHEMICAL APPLICATIONS OF SPECTROSCOPY**

Aspects of molecular spectroscopies and their application to the solution of chemical problems.

Three lectures; one term

Prerequisite: CHEM 3BA3

**CHEM 4C03\*****SOLID STATE CHEMISTRY**

Structure and properties of crystalline solids. Topics include crystal chemistry and crystal symmetry, introduction to space groups, defects in ionic crystals, non-stoichiometry, electronic structure and properties of semiconductors and metals.

Three lectures; one term

Prerequisite: CHEM 3Q03

**CHEM 4D03****ORGANIC STRUCTURE AND SYNTHESIS**

Application of spectroscopic methods to structure determination. Synthetic methodology in organic chemistry.

Three lectures; one term

Prerequisite: CHEM 3D03 or 3F03

**CHEM 4DD3****MECHANISTIC BIOLOGICAL CHEMISTRY**

Amino acid, nucleic acid, enzyme and coenzyme chemistry with emphasis on molecular reaction mechanisms.

Three lectures; one term

Prerequisite: One of CHEM 3D03, 3F03 or 3FF3

**CHEM 4F03\*****SURFACE CHEMISTRY**

Current topics in surface science; surface characterization and microscopy; adsorption and heterogeneous catalysis; applications in electronic materials and nanotechnology.

Three lectures; one term

Prerequisite: CHEM 3BA3 or permission of the instructor

**CHEM 4G06****SENIOR THESIS**

A thesis based on a project under the direction of a Chemistry Department faculty member.

Prerequisite: Registration in Level IV of any Honours Chemistry program and a C.A. of 6.0 or permission of the Department

*Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.*

**CHEM 4P03\*****ADVANCED ANALYTICAL CHEMISTRY**

A course dealing with modern topics in analytical chemistry.

Three lectures; one term

Prerequisite: CHEM 3A03; and CHEM 2PB3 or 2R03

**CHEM 4PP3\*****POLYMER CHEMISTRY**

Chemistry of monomers, polymers, polymerization mechanisms and processes, with emphasis on organic polymer chemistry.

Three lectures, one term

Corequisite: CHEM 3D03 or 3F03

**CHEM 4Q03\*****ADVANCED QUANTUM MECHANICS**

Applications of quantum mechanics to problems of chemical interest.

Three lectures; one term

Prerequisite: CHEM 3BB3 or PHYSICS 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.

Three lectures; one term

Prerequisite: CHEM 3P03 or permission of the instructor

**CHEM 4S03\*****ADVANCED MAIN GROUP CHEMISTRY**

A selection from the following topics: chemistry of selected main group elements, electron deficient compounds, and applications of physical methods to inorganic structure determination.

Three lectures; one term

Prerequisite: CHEM 3Q03

## CIVIL ENGINEERING

WEB ADDRESS: <http://www.eng.mcmaster.ca/civil/>

John Hodgins Engineering Building, Room 301

Ext. 24287 or 24315

### Faculty as of January 15, 2006

#### Chair

Dieter F.E. Stolle

#### Professors

Brian Baetz/B.A.Sc., M.A.Sc. (Toronto), Ph.D. (Duke), P.Eng.

Ahmed Ghobarah/B.Sc. (Cairo), M.Eng., Ph.D. (McMaster), P.Eng., Joe Ng/JNE Consulting Chair in Design, Construction and Management in Infrastructure Renewal

Frederick L. Hall/B.A. (Amherst), M.Sc. (M.I.T.), Ph.D. (Chicago)

Gail Krantzberg/B.Sc., (McGill), M.Sc., Ph.D. (Toronto)

Susan Masten/B.S. (Fairleigh Dickinson), M.S.E. (West Virginia), Ph.D. (Harvard), P.E.

Stan Pietruszczak/B.Sc., M.Sc. (Warsaw), Ph.D. (Polish Acad. Sci.)

A. Ghani Razaqpur/B.Sc. (American University of Beirut), M.Sc. (Hawaii), Ph.D. (Calgary), P.Eng.

K.S. Sivakumaran/B.Sc. (Sri Lanka), M.Eng. (Asian Inst. Tech.), Ph.D. (Calgary), P.Eng.

Dieter Stolle/B.Eng., M.Eng., Ph.D. (McMaster), P.Eng.

Ioannis K. Tsanis/Dip.Civ.Eng. (Aristoteles Univ., Thessaloniki), M.A.Sc., Ph.D. (Toronto), P.Eng.

**Associate Professors**

Samir E. Chidiac/B.Eng., M.Eng., Ph.D. (*McMaster*), P.Eng.  
John C. Wilson/B.Eng., M.Eng. (*McMaster*), Ph.D. (*Caltech.*), P.Eng.

**Assistant Professors**

Cameron Churchill/B.Eng., M.Eng. (*McMaster*)  
Paulin Coulibaly/B.A.Sc., M.A.Sc. (*Nice*), Ph.D. (*Laval*)  
Sarah Dickson/B.A.Sc., Ph.D. (*Waterloo*), P.Eng.  
Wael El-Dakhakhni/B.Sc. (*Ain Shams*), M.Sc., Ph.D. (*Drexel*), P.Eng.  
Peijun Guo/B.Sc., M.Sc., Ph.D. (*SWJTU*), Ph.D. (*Calgary*)  
Yiping Guo/B.Sc. (*Zhejiang*), M.A. Sc., Ph.D. (*Toronto*), P.Eng.  
Michael J. Tait/B.E.Sc., Ph.D. (*Western Ontario*)

**Adjunct Professors**

Dean Inglis/B.Eng., Ph.D. (*McMaster*)  
Syed Moin/B.S. (*Osmania*), M.S. (*Nevada*), Ph.D. (*McMaster*), P.Eng.

**Department Notes:**

- All civil engineering courses are open to students registered in a civil engineering program, subject to prerequisite requirements. Prior permission of the Department is necessary for students from other engineering departments and other faculties.
- Unless otherwise stated, the duration and the frequency of activities are as follows:
  - one lecture consists of one hour each week
  - one tutorial consists of two hours each week
  - one lab consists of three hours each week

**Courses****CIV ENG 2A02 SURVEYING AND MEASUREMENT**

Introduction to measurement and computational techniques of surveying, the theory of measurement and errors, adjustment of observations. One lecture, one tutorial or one lab; first term

**CIV ENG 2C04 STRUCTURAL MECHANICS**

Review of stress/strain state and strain-displacement relations; 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; stress/strain invariants; yield and fracture criteria energy methods; stability of columns.

Three lectures, one tutorial or one lab; second term  
Prerequisite: Credit or registration in ENGINEER 2P04

**CIV ENG 2E03 COMPUTER APPLICATIONS IN CIVIL ENGINEERING**

Numerical techniques including error analysis, root finding, linear algebraic equations, curve fitting, integration and differentiation, ordinary differential equations; sensitivity analysis; use of several software packages for numerical analysis; civil engineering applications.

Two lectures, one tutorial; second term  
Prerequisite: Credit or registration in ENGINEER 2P04

**CIV ENG 2I03 COMMUNICATIONS IN CIVIL ENGINEERING**

Oral and written communication in context of civil engineering activity. A professional liaison program involving site visits.

**CIV ENG 2J04 ECOLOGICAL AND GEOLOGICAL ASPECTS OF CIVIL ENGINEERING**

The relationship between humans and their earth environment. Composition of "earth"; processes that operate on or beneath the surface. Global interactions of the atmosphere, hydrosphere, lithosphere and the biosphere. Principles of ecological systems. Man's perturbations on the biosphere.

Three lectures, one tutorial or one lab; second term  
Prerequisite: Credit or registration in CIV ENG 2I03  
Antirequisite: GEO 3U03

**CIV ENG 2004 FLUID MECHANICS**

Fluid properties; hydrostatics; continuity, momentum and energy equations; potential flow; laminar and turbulent flow; flow in closed conduits, transients, open channel flow; hydraulic cross-sections.

Three lectures, one tutorial or one lab; second term  
Prerequisite: Credit or registration in ENGINEER 2P04 and MATH 2M06

**CIV ENG 2Q04 ENGINEERING MECHANICS: DYNAMICS**

Kinematics and dynamics of particles and rigid bodies. Motion with respect to a rotating frame of reference. Work, energy and momentum principles. 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 term

Prerequisite: Credit or registration in ENGINEER 2P04

Antirequisite: ENGINEER 2Q04, MECH ENG 2Q04

**CIV ENG 3A03 GEOTECHNICAL ENGINEERING I**

Composition of soils, soil identification and classification; compaction; seepage theory; effective stress concept; stresses and displacements using elastic solutions; consolidation theory; numerical solutions.

Two lectures, one tutorial or one lab; first term

Prerequisite: CIV ENG 2J04, 2O04

**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 tutorial or one lab; second term

Prerequisite: Credit or registration in CIV ENG 3A03

**CIV ENG 3C03 ENGINEERING SYSTEMS**

Mathematical models and systems; economic comparison of projects; optimization; linear, nonlinear and dynamic programming; simulation modelling.

Two lectures, one tutorial; second term

Prerequisite: CIV ENG 2E03; and credit or registration in MATH 3J04 or STATS 3J04

**CIV ENG 3G03 STRUCTURAL ANALYSIS**

Structural analysis and modelling of linear elastic truss, beam and frame structures; stress resultants and deformations of statically determinate structures; methods for analysis of indeterminate structures; stiffness matrix method; plane frame computer analysis.

Two lectures, one tutorial; first term

Prerequisite: CIV ENG 2C04

**CIV ENG 3J04 REINFORCED CONCRETE DESIGN**

Design by limit states methods to ensure adequate capacities for bending moment, shear and diagonal tension, axial force, bond and anchorage; and design to satisfy serviceability requirements for deflection and cracking; practical design requirements; interpretation of building code for behaviour of structures.

Three lectures, one lab; second term

Prerequisite: Credit or registration in CIV ENG 3G03, 3P03

**CIV ENG 3K03 INTRODUCTION TO TRANSPORTATION ENGINEERING**

A transportation impact study serves as the focus for group projects, and provides the context for application of material on traffic flow characteristics, capacity and control for signalized and unsignalized intersections, and travel demand forecasting. Safety; social impacts.

Two lectures, one tutorial; first term

**CIV ENG 3L03 WATER QUALITY**

Physical, chemical and biological characteristics of water; Stoichiometry, reaction kinetics and material balances; mathematical modelling of physical systems; water quality in rivers, and lakes; water quality standards.

Two lectures, one tutorial; first term

Prerequisite: Credit or registration in CHEM ENG 2B03

Antirequisite: CIV ENG 3M04

**CIV ENG 3M03 MUNICIPAL HYDRAULICS**

Analysis/design of water distribution networks; analysis and design of wastewater collection systems; pumps.

Two lectures, one tutorial or one lab; second term

Prerequisite: CIV ENG 2O04; and credit or registration in MATH 3J04 or STATS 3J04

Antirequisite: CIV ENG 3M04

**CIV ENG 3P03 CIVIL ENGINEERING MATERIALS AND DESIGN**

Characteristics, behaviour and use of Civil Engineering materials: concrete, metals, wood, and composites; Physical, chemical and mechanical properties; Quality control and material tests; Concepts of Structural design, limit states design, estimation of structural loads.

Three lectures, two labs (three hours each); first term

Prerequisite: CIV ENG 2C04, MATLS 1M03

Antirequisite: ENGINEER 3P03

**CIV ENG 3R03 PROJECT MANAGEMENT WITH CONSTRUCTION APPLICATIONS**

An introduction to construction project management; tender documents, estimating, bidding, proposals, and construction contracts; project planning, scheduling, controlling of time, cost and quality, dispute resolution; Safety Act and construction regulations, liability, legal and ethical considerations; case histories.

Two lectures, one tutorial; first term

Prerequisite: Registration in Level III or above of a Civil Engineering program

**CIV ENG 3S03 STEEL STRUCTURES**

Introduction to design in steel, tension and compression members, plate buckling aspects, beam instability, beam design, beam-columns, bolted and welded connections. Applications employing steel structures building code. Two lectures, one tutorial; second term  
Prerequisite: Credit or registration in CIV ENG 3G03, 3P03

**CIV ENG 3U03 PHYSICO-CHEMICAL PROCESSES IN WATER AND WASTEWATER TREATMENT**

Water/waste water quality/characteristics; primary and secondary treatment; emphasis is placed on physical and chemical unit processes including coagulation, flocculation; sedimentation, filtration, precipitation; advanced treatment processes, including ion exchange, chemical oxidation, and membranes are also addressed.

Two lectures, one tutorial; second term  
Prerequisite: One of CHEM ENG 2B03, 2D04, 2F04

**CIV ENG 4A04 ENGINEERING HYDROLOGY**

Hydrologic cycle; climate; hydrologic processes, precipitation; unit hydrograph; hydrologic statistic, hydrologic routing; groundwater flow. Design units = 1.0

Three lectures, one tutorial (three hours); first term  
Prerequisite: CIV ENG 3M04

**CIV ENG 4C04 ENVIRONMENTAL IMPACT AND SUSTAINABILITY**

Natural and urban ecosystems; environmental impact/assessment/legislation; energy and environmental audits; life cycle analysis; solid and hazardous wastes; air quality and control; sustainable infrastructure design. Design units = 3.0

Three lectures, one tutorial, capstone project; first term  
Prerequisite: Registration in the final level of a Civil Engineering program  
Antirequisite: CIV ENG 4C03

**CIV ENG 4D04 GEOMETRIC HIGHWAY DESIGN**

Design of various types and classes of streets and highways. Theory and practice in design of intersections, interchanges, arterial highways, and freeways. Design and traffic safety concepts. Design units = 3.0

Three lectures, one tutorial; first term  
Prerequisite: CIV ENG 3K03

**CIV ENG 4G03 PAVEMENT MATERIALS AND 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. Design units = 2.0

Two lectures, one lab; second term  
Prerequisite: CIV ENG 3B03

**CIV ENG 4H03 ANALYSIS OF TRANSPORTATION SYSTEMS**

An introduction to the use of models in transportation planning. Topics include data issues, the four-stage approach to modelling transportation systems, discrete choice models and contextual factors such as land use. Design units = 0.0

Three lectures; one term  
Prerequisite: MATH 3J04 or STATS 3J04  
Cross-list: GEO 4D03

*This course is administered by the School of Geography and Earth Sciences.*

**CIV ENG 4K04 MODERN METHODS OF STRUCTURAL ANALYSIS**

Stiffness method; development and applications in structural analysis. Introduction to finite element method. Influence lines, elastic stability analysis of frames with and without sway effects. Application of computer programs. Design units = 0.0

Three lectures, one tutorial; first term  
Prerequisite: CIV ENG 3G03; MATH 3J04 or STATS 3J04

**CIV ENG 4L04 DESIGN OF WATER RESOURCES SYSTEMS**

Investigation, planning, analysis and design of water resources systems. Introduction to GIS tools. Frequency analysis, design storms, urban drainage and analysis, floodplain analysis and flood control. Design units = 4.0

Two lectures, one tutorial (one hour), one lab; second term  
Prerequisite: CIV ENG 3M04

**CIV ENG 4R04 DESIGN AND SYNTHESIS OF STRUCTURES**

Structural design process, gravity and lateral loading requirements, structural performance criteria, choice of structural systems. Analysis and design of different structural systems, such as frames, structural walls and slabs. Analysis and design of actual buildings. Design units = 4.0

Three lectures, one lab; capstone project; second term  
Prerequisite: CIV ENG 3G03, 3J04, 3S03

**CIV ENG 4S04 FOUNDATION ENGINEERING**

Principles of foundation design; bearing capacity, settlement and location, footings, deep foundations, piles, pile groups and drilled piers; retaining walls. Design units = 3.0

Three lectures, one tutorial; first term  
Prerequisite: CIV ENG 3B03

**CIV ENG 4W04 DESIGN OF LOW RISE BUILDINGS**

Structural systems and load distribution, design of masonry, wood, and cold-formed steel. Introduction to building envelope design. Design units = 4.0

Three lectures, one tutorial; second term  
Prerequisite: CIV ENG 3G03, 3J04, 3S03

**CIV ENG 4Y04 BRIDGES AND OTHER STRUCTURAL SYSTEMS**

Bridge loads and analysis for load effects. Design of reinforced concrete solid-slab, T-beam type bridges, composite floor system and plate girders. Stresses, ultimate strength, and design of pre-stressed concrete structures. Fatigue Design. Design units = 4.0

Three lectures, one tutorial; first term  
Prerequisite: CIV ENG 3G03, 3J04, 3S03

**CIV ENG 4Z04 INDEPENDENT STUDY**

An experimental and/or analytical investigation related to any branch of civil engineering, under the direction of a faculty member. Students choose a project from a list of department approved projects. The student may be required to present a seminar, and will submit a final written report before April 1. Design units = variable according to project

Two labs (three hours); both terms. The hours assigned can be freely scheduled to suit those involved in a particular project and may include computation classes, laboratory work, discussion or individual study.  
Prerequisite: Registration in a final level of a Civil Engineering program, and a SA of at least 9.5.

*Enrolment is limited.*

**CLASSICS**

**WEB ADDRESS:** <http://www.humanities.mcmaster.ca/~classics/>

**Togo Salmon Hall, Room 706**

**Ext. 24311**

**Faculty as of January 15, 2006****Chair**

Michele G. George

**Professors**

Katherine M. D. Dunbabin/M.A., D. Phil. (Oxford)  
Howard Jones/B.A. (London), M.A., Ph.D. (Indiana)  
Paul Murgatroyd/B.A., M.A. (Cambridge), Ph.D. (London)

**Associate Professors**

Claude Eilers/B.A. (Saskatchewan), M.A. (McMaster), D.Phil. (Oxford)  
Michele G. George/B.A. (Toronto), M.A., Ph.D. (McMaster)  
Evan Haley/A.B. (Dartmouth), Ph.D. (Columbia)

**Assistant Professors**

Sean Corner/B.A., M.A. (Oxford), Ph.D. (Princeton)  
Celina Gray/B.A. (Vassar), M.A., Ph.D. (California-Berkeley)  
Cashman Kerr Prince/B.A. (Wesleyan), D.E.A. (Paris-VIII), Ph.D. (Stanford)  
Alexandra Retzleff/B.A. (McGill), M.A. (British Columbia), Ph.D. (North Carolina-Chapel Hill)

**Department Note:**

The following courses are available as electives to qualified students in any program:

- a) **Classical Archaeology and Art History**  
CLASSICS 1A03, 2B03, 2C03, 3G03, 3H03, 3Q03, 3S03
- b) **Ancient History and Society**  
CLASSICS 2K03, 2L03, 2LL3, 3C03, 3CC3, 3E03, 3EE3, 3LL3, 3T03
- c) **Ancient Philosophy**  
CLASSICS 2P06, 4K03
- d) **Classical Literature in Translation**  
CLASSICS 2D03, 2E03, 2H03, 3EE3, 3I03, CLASSICS 3II3, 3T03
- e) **Greek Language and Literature**  
GREEK 1Z03, 1ZZ3, 2A03, 2AA3, 3A03, 3B03, 4AA3, 4B03, 4BB3
- f) **Latin Language and Literature**  
LATIN 1Z03, 1ZZ3, 2A03, 2AA3, 3A03, 3B03, 4AA3, 4B03, 4BB3

**CLASSICS ...**

No language other than English is required for courses listed under Classics.

**Courses** *If no prerequisite is listed, the course is open.***CLASSICS 1A03 INTRODUCTION TO CLASSICAL ARCHAEOLOGY**

A study of the history and methodology of Greek and Roman archaeology illustrated with materials from excavated sites.

Three lectures; one term

**CLASSICS 1B03 MYTH AND LITERATURE: THE TROJAN WAR AND BEYOND**

A study of Greek and Roman mythology and literature with emphasis on the heroines and heroes of the Trojan War. Homer's *Odyssey* and Vergil's *Aeneid* will be read in translation.

Two lectures, one tutorial; one term

**CLASSICS 1BB3 MYTH AND LITERATURE: JUSTICE, POWER AND DESTINY**

A study of the main themes of Classical mythology through the reading of Greek and Roman authors. Attention will also be given to mythological themes in post-classical writers and artists.

Two lectures, one tutorial; one term

**CLASSICS 1L03 HISTORY AND ARCHAEOLOGY OF THE ANCIENT WORLD I**

The history of the Ancient Near East and Greece down to the end of the 5th century B.C. based on documentary sources and archaeological evidence.

Two lectures, one tutorial; one term

Cross-list: HISTORY 1L03

**CLASSICS 1LL3 HISTORY AND ARCHAEOLOGY OF THE ANCIENT WORLD II**

The history of Greece and Rome from the 4th century B.C. to the fall of Rome based on documentary sources and archaeological evidence.

Two lectures, one tutorial; one term

Cross-list: HISTORY 1LL3

**CLASSICS 2B03 GREEK ART**

The architecture, sculpture and painting of the Greek and Hellenistic world.

Three lectures; one term

Prerequisite: Registration in Level II or above

Cross-list: ART HIST 2B03

**CLASSICS 2C03 ROMAN ART**

The architecture, sculpture, and painting of the Roman world.

Three lectures; one term

Prerequisite: CLASSICS 2B03

Cross-list: ART HIST 2C03

**CLASSICS 2D03 GREEK AND ROMAN MYTHOLOGY**

A study of the myths of Greek and Roman gods and heroes, their explanation according to theories on the nature of myths, and their use by Greek and Roman authors, particularly Homer and Vergil.

Three lectures; one term

Prerequisite: Registration in Level II or above

Cross-list: COMP LIT 2M03

**CLASSICS 2E03 THE ANCIENT WORLD IN FILM**

The emphasis is on myth (Amazons, Hercules) and history (slave revolts, banquets, decadent emperors), studied via Greek and Latin accounts (in translation) and cinematic versions (e.g. *Electra*, *Medea*, *Mighty Aphrodite*, *Apocalypse Now*, *Spartacus*, *I Claudius*).

Three lectures; one term

Prerequisite: Registration in Level II or above

Cross-list: CMST 2Y03, THTR&FLM 2G03

**CLASSICS 2H03 GREEK AND ROMAN DRAMA**

Selected Greek and Roman Tragedies and Comedies will be read in translation. The course will concentrate on characterization and the philosophical and religious aspects of ancient drama.

Three lectures; one term

Prerequisite: Registration in Level II or above

Cross-list: COMP LIT 2H03

**CLASSICS 2K03 THE SOCIETY OF GREECE AND ROME**

An examination of selected aspects of the social life of Greece and Rome. Attention will be given to subjects such as work and leisure, war and the warrior, slavery, marriage and family, and the role of women.

Three lectures; one term

Prerequisite: Registration in Level II or above

Cross-list: HISTORY 2K03

**CLASSICS 2L03 HISTORY OF CLASSICAL GREECE**

Greece from the rise of the city-states to Alexander, with particular attention to political, social and cultural development in the light of literary and archaeological evidence (No Greek or Latin required).

Three lectures; one term

Prerequisite: Registration in Level II or above

Cross-list: HISTORY 2L03

**CLASSICS 2LL3 HISTORY OF CLASSICAL ROME**

Rome from the middle Republic through the Empire, with particular attention to the political, military and social developments in the light of literary and archaeological evidence. (No Greek or Latin required.)

Three lectures; one term

Prerequisite: Registration in Level II or above

Cross-list: HISTORY 2LL3

**CLASSICS 2P06 ANCIENT GREEK PHILOSOPHY**

A study of Western philosophical thought from its earliest beginnings to late Roman times, with emphasis on Plato and Aristotle.

Three lectures; two terms

Prerequisite: One of three units of Philosophy, ARTS&SCI 1A06, registration in a program in Classics or Philosophy or permission of the Department

Cross-list: PHILOS 2A06

*This course is administered by the Department of Philosophy.*

**CLASSICS 3C03 THE LATE ROMAN REPUBLIC**

An examination of major themes in the political, social, and economic history of Rome from the mid-second century B.C. to the assassination of Caesar.

Three lectures; one term

Prerequisite: One of CLASSICS 1LL3, 2K03, 2LL3, 3CC3, 3E03; and registration in Level III or above

Cross-list: HISTORY 3C03

*Not open to students with credit in CLASSICS 3MM3 or HISTORY 3MM3 if the topic was The Late Republic.*

*Alternates with CLASSICS 3CC3.*

**CLASSICS 3CC3 THE EARLY ROMAN EMPIRE**

An examination of major themes in the political, social, and administrative history of Rome under the early emperors.

Three lectures; one term

Prerequisite: One of CLASSICS 1LL3, 2K03, 2LL3, 3C03, 3E03; and registration in Level III or above

Cross-list: HISTORY 3CC3

*Not open to students with credit in CLASSICS 3MM3 or HISTORY 3MM3 if the topic was The Early Empire.*

*Alternates with CLASSICS 3C03.*

**CLASSICS 3E03 THE ROMAN FAMILY**

The ancient Roman family, including social, economic and legal aspects.

Three lectures; one term

Prerequisite: One of CLASSICS 1LL3, 2K03, 2LL3, 3C03, 3CC3; and registration in Level III or above

Cross-list: HISTORY 3E03

*Alternates with CLASSICS 3EE3.*

**CLASSICS 3EE3 THE GREEK HISTORIANS**

The study in translation of Herodotus, Thucydides, and other Greek historical writers, with consideration of the evolution of their genre and their contributions to the development of historiography.

Three lectures; one term

Prerequisite: Registration in Level III or above

Cross-list: HISTORY 3EE3

*Alternates with CLASSICS 3E03.*

**CLASSICS 3G03 LATE ANTIQUE AND EARLY CHRISTIAN ART**

The art and architecture of the later Roman Empire, and the birth of Christian art (A.D. 200-600).

Three lectures; one term

Prerequisite: ART HIST 2C03 or CLASSICS 2C03

Cross-list: ART HIST 3G03

*Alternates with CLASSICS 3H03.*

**CLASSICS 3H03 ARCHAIC GREEK ART**

The formative period of Greek Art, from its rebirth after the Dark Ages to the Persian Wars (c. 1000-480 B.C.), and its relationship to the art of the Near East.

Three lectures; one term

Prerequisite: CLASSICS 2B03

Cross-list: ART HIST 3H03

*Alternates with CLASSICS 3G03.*

**CLASSICS 3103 TOPICS IN GREEK AND ROMAN LITERATURE**  
Previous topics include: Greek and Roman Epic, Greek and Roman Elegiac and Lyric Poetry, The Legend of the Trojan War, Crime and Punishment, Satire, The Poet and Society. Consult the Department concerning the topic to be offered.  
Three lectures; one term  
Prerequisite: Six units of Classics  
Cross-list: COMP LIT 3103  
*CLASSICS 3103 may be repeated, if on a different topic, to a total of six units.*

**CLASSICS 3LL3 THE HELLENISTIC AGE**  
The successors of Alexander, the world of the monarchies and their absorption into the Roman Empire. Political, cultural and social achievements in the light of modern historical research will be emphasized.  
Three hours (lectures and discussion groups); one term  
Prerequisite: One of CLASSICS 1L03, 1LL3, 2L03  
Cross-list: HISTORY 3LL3

**CLASSICS 3MM3 TOPICS IN ANCIENT HISTORY**  
Studies of Roman history and institutions during the Republic of the Empire. Consult the Department for the topic to be offered.  
Three lectures; one term  
Prerequisite: One of CLASSICS 1LL3, 2K03, 2L03, 2LL3, 3VV3  
Cross-list: HISTORY 3MM3  
*CLASSICS 3MM3 may be repeated, if on a different topic, to a total of six units.*

**CLASSICS 3Q03 GREEK SANCTUARIES**  
Ancient Greek sanctuaries and their social and political context. Topics will include architecture and art, as well as activities such as sacrifice, athletic games, healing, and oracular consultation.  
Three lectures; one term  
Prerequisite: CLASSICS 1A03 or 2B03  
*Alternates with CLASSICS 3S03.*

**CLASSICS 3S03 THE ARCHAEOLOGY OF THE ROMAN CITY**  
Urbanism in Roman Italy through an examination of the archaeological remains of Pompeii, Herculaneum, Ostia and other cities of Roman Italy.  
Three lectures; one term  
Prerequisite: CLASSICS 1A03 or 2C03  
*Alternates with CLASSICS 3Q03.*

**CLASSICS 3T03 ANCIENT THEATRE IN CONTEXT**  
The history of theatres and theatrical production in Greece and Rome with consideration of the social significance of drama in antiquity. The course will also include archaeological material.  
Three lectures; one term  
Prerequisite: CLASSICS 2H03 or six units of Classics  
Cross-list: COMP LIT 3T03

**CLASSICS 3Y03 CLASSICAL LITERATURES AND BEYOND**  
A study of representative texts from the Greek and Roman literary traditions as well as their influence and afterlife in one or more later literary traditions.  
Two hours; one term  
Prerequisite: Registration in Level II or above of a Classics or Comparative Literature program or permission of the Department.  
Cross-list: COMP LIT 3Y03

**CLASSICS 4B03 SEMINAR IN CLASSICAL ARCHAEOLOGY**  
Consult the Department concerning the topic to be offered.  
Seminar (two hours); one term  
Prerequisite: Six units from CLASSICS 1A03, 3Q03, 3S03 and registration in Level III or IV of an Honours program in Classics (A); or permission of the Department  
*CLASSICS 4B03 may be repeated, if on a different topic, to a total of six units. Enrolment is limited.*

**CLASSICS 4BB3 SEMINAR IN ANCIENT ART**  
Consult the Department concerning the topic to be offered.  
Seminar (two hours); one term  
Prerequisite: CLASSICS 2B03, 2C03 and registration in Level III or IV of an Honours program in Classics (A)  
Cross-list: ART HIST 4BB3  
*CLASSICS 4BB3 may be repeated, if on a different topic, to a total of six units. Enrolment is limited.*

**CLASSICS 4E03 SEMINAR IN ANCIENT SOCIETY**  
Consult the Department for the topic to be offered.  
Prerequisite: Six units from CLASSICS 2K03, 2L03, 2LL3, 3C03, 3CC3, 3E03, 3LL3 and registration in Level III or IV of an Honours program in Classics (A); or permission of the department  
*CLASSICS 4E03 may be repeated, if on a different topic, to a total of six units. Enrolment is limited.*

**CLASSICS 4K03 ANCIENT PHILOSOPHY**  
A critical study of one or more ancient Greek philosophers such as Parmenides, Plato, Aristotle.  
Seminar (two hours); one term  
Prerequisite: CLASSICS 2P06 and registration in Level III or above  
Cross-list: PHILOS 4K03  
*Offered in alternate years.*  
*This course is administered by the Department of Philosophy.*

**CLASSICS 4T03 INDEPENDENT STUDY**  
Reading and research in Classics, supervised by a department member and culminating in a major paper to be evaluated by the supervisor, with confirmation by a second reader. See Department for more detailed guidelines.  
Tutorials; two terms  
Prerequisite: Registration in Level IV of any Honours program in Classics with a Cumulative Average of at least 9.5, and permission of the Department

## GREEK ...

### Notes:

- Students should note that the Department has classified its Greek language courses under the following categories:  
**Introductory Level Language Course**  
GREEK 1Z03, 1ZZ3  
**Intermediate Level Language Coursés**  
GREEK 2A03, 2AA3
- Students with Grade 12 Greek U should normally register in GREEK 2A03, but with special permission, may register in either GREEK 1Z03 or 1ZZ3.

### COURSES *If no prerequisite is listed, the course is open.*

**GREEK 1Z03 BEGINNER'S INTENSIVE ANCIENT GREEK I**  
A rapid introduction to the basic grammar of Ancient Greek.  
Three lectures; one term  
*Not open to graduates of Grade 12 Greek U, who must have special permission to register in the course.*

**GREEK 1ZZ3 BEGINNER'S INTENSIVE ANCIENT GREEK II**  
This course continues the study of the grammar of Ancient Greek begun in Greek 1Z03.  
Three lectures; one term  
Prerequisite: GREEK 1Z03. Students with Grade 12 Greek U must obtain special permission to register in the course.  
*This course, with a grade of at least B- is accepted as a prerequisite for admission to any Honours program in Classics, or, with a grade of at least C-, for admission to the B.A. program in Classics.*

**GREEK 2A03 INTERMEDIATE GREEK I**  
This course continues the study of Greek grammar begun in Greek 1Z03 and 1ZZ3 and introduces students to the reading of simple passages from Greek authors.  
Three lectures; one term  
Prerequisite: One of Grade 12 Greek U, GREEK 1ZZ3. Students using this course as a Humanities I requirement will register for GREEK 2A03 and 2AA3

**GREEK 2AA3 INTERMEDIATE GREEK II**  
A study of selected passages from Greek authors designed to develop further the student's proficiency in reading Greek. The course may also include grammatical exercises.  
Three lectures; one term  
Prerequisite: GREEK 2A03

**GREEK 3A03 GREEK HISTORIANS**  
Selected readings from Greek historical authors, such as Herodotus and Thucydides.  
Three lectures; one term  
Prerequisite: Six units of Level II Greek

**GREEK 3B03 GREEK EPIC**  
Selected readings from Homer, Hesiod, and/or other Greek epic authors.  
Three lectures; one term  
Prerequisite: Six units of Level II Greek  
*Alternates with GREEK 4B03.*

**GREEK 4AA3 GREEK PROSE**  
Selected readings in one or more Greek prose authors.  
Three lectures; one term  
Prerequisite: Six units of Level II Greek

- GREEK 4B03 GREEK DRAMA**  
Selected readings from Greek tragedy and/or comedy.  
Three lectures; one term  
Prerequisite: Six units of Level II Greek.  
*Alternates with GREEK 3B03.*
- GREEK 4BB3 TOPICS IN GREEK LITERATURE**  
Consult the Department for the topic to be offered.  
Three lectures; one term  
Prerequisite: Six units of Level II Greek  
*GREEK 4BB3 may be repeated, if on a different topic, to a total of six units.*
- GREEK 4K03 INDEPENDENT STUDY IN GREEK**  
Selected readings from Greek authors supervised by a member of the Department.  
Tutorials; one term  
Prerequisite: Six units of Level II Greek and registration in Level III or IV of any Honours program in Classics, and permission of the Department  
*GREEK 4K03 may be repeated, if on a different topic, to a total of six units.*

- LATIN 4B03 LATIN LOVE POETRY**  
Readings in Latin Love Poetry.  
Three lectures; one term  
Prerequisite: LATIN 2A03, 2AA3  
*Alternates with LATIN 3B03.*
- LATIN 4BB3 TOPICS IN LATIN LITERATURE**  
Consult the Department for the topic to be offered.  
Three lectures; one term  
Prerequisite: Six units of Level II Latin  
*LATIN 4BB3 may be repeated, if on a different topic, to a total of six units.*
- LATIN 4K03 INDEPENDENT STUDY IN LATIN**  
Selected readings from Latin authors supervised by a member of the Department.  
Tutorials; one term  
Prerequisite: Six units of Level II Latin; and registration in Level III or IV of any Honours program in Classics; and permission of the Department.  
*LATIN 4K03 may be repeated, if on a different topic, to a total of six units.*

**LATIN ...**

**Notes:**

- Students should note that the Department has classified its Latin language courses under the following categories:  
**Introductory Level Language Course**  
 LATIN 1Z03, 1ZZ3  
**Intermediate Level Language Courses**  
 LATIN 2A03, 2AA3
- Students with Grade 12 Latin U should normally register in LATIN 2A03, but with special permission, may register in either LATIN 1Z03, 1ZZ3.

**COURSES** *If no prerequisite is listed, the course is open.*

- LATIN 1Z03 BEGINNER'S INTENSIVE LATIN I**  
A rapid introduction to the basic grammar of Classical Latin.  
Five hours (lectures and tutorials); one term  
*Not open to graduates of Grade 12 Latin U, who must obtain special permission to register in the course.*
- LATIN 1ZZ3 BEGINNER'S INTENSIVE LATIN II**  
This course continues the study of Latin grammar begun in LATIN 1Z03.  
Five hours (lectures and tutorials); one term  
Prerequisite: LATIN 1Z03. Students with Grade 12 Latin U must obtain special permission to register in the course.  
*This course, with a grade of at least B-, is accepted as a prerequisite for admission to any Honours program in Classics, or, with a grade of at least C-, for admission to the B.A. program in Classics.*
- LATIN 2A03 INTERMEDIATE LATIN I**  
This course continues the study of Latin grammar begun in LATIN 1Z03 and 1ZZ3 and introduces students to the reading of simple passages from Latin authors.  
Three lectures; one term  
Prerequisite: One of Grade 12 Latin U, LATIN 1ZZ3. Students using this course as a Humanities I requirement will register for LATIN 2A03 and 2AA3.
- LATIN 2AA3 INTERMEDIATE LATIN II**  
A study of selected passages from Latin authors designed to further the student's proficiency in reading Latin. Attention will be given to grammar and techniques of literary criticism.  
Three lectures; one term  
Prerequisite: LATIN 2A03
- LATIN 3A03 LATIN HISTORIANS**  
Readings in selected Latin historians such as Sallust, Livy, and Tacitus.  
Three lectures; one term  
Prerequisite: LATIN 2A03, 2AA3
- LATIN 3B03 LATIN EPIC**  
Readings from Vergil, and/or other epic authors.  
Three lectures; one term  
Prerequisite: LATIN 2A03, 2AA3  
*Alternates with LATIN 4B03.*
- LATIN 4AA3 LATIN PROSE**  
Selected readings in one or more Latin prose authors.  
Three lectures; one term  
Prerequisite: Six units of Level II Latin

**COLLAB**

(SEE NURSING, NURSING CONSORTIUM (D) STREAM)

**COMMERCE**

WEB ADDRESS: <http://www.degroote.mcmaster.ca>

DeGroote School of Business, Room 104

Ext. 24433

**Faculty as of January 15, 2006**

**Chair, Marketing, Strategic Market Leadership and Health Services Management**

Kenneth R. Deal

**Chair, Finance and Business Economics Area**

Trevor Chamberlain

**Chair, Accounting and Financial Management Services Area**

Khalid Nainar

**Chair, Human Resources and Management Area**

Willi Wiesner

**Chair, Management Science and Information Systems Area**

Mahmut Parlar

**Professors**

- Prakash L. Abad/B.Tech. (*Indian Institute of Technology*), M.S., M.B.A., Ph.D. (*Cincinnati*)/(Management Science)
- Naresh C. Agarwal/B.A., M.A. (*Delhi*), Ph.D. (*Minnesota*)/(Human Resources)/Coordinator, Ph.D. Program (Human Resources)
- Amin Amershi/B.Sc. (*University of East Africa*), Ph.D. (*British Columbia*)/(Accounting and Financial Management Services Area)/AIC Chair in Investment and Portfolio Management; Director, AIC Institute for Strategic Business Studies
- Vishwanath Baba/B. Eng. (*Madras*), M.B.A. (*Western Illinois*), Ph.D. (*British Columbia*)/(Organizational Behaviour)
- Christopher K. Bart/B.A., M.B.A. (*York*), Ph.D. (*Western Ontario*), C.A./(Business Policy)/Director of the Management of Innovation and Technology Program
- Trevor W. Chamberlain/B.Sc. (*California-Berkeley*), M.B.A. (*McGill*), Ph.D. (*Toronto*), C.A./(Finance)/Chair, Finance and Business Economics Area
- M.W. Luke Chan/B.Sc. (*Prince Edward Island*), M.A., Ph.D. (*McMaster*) (Finance and Business Economics)/Associate Vice-President (International Affairs)
- C. Sherman Cheung/B.S. (*Louisiana State*), M.S., Ph.D. (*Illinois*)/(Finance and Business Economics)
- Robert G. Cooper/B.Eng., M.Eng. (*McGill*), M.B.A., Ph.D. (*Western Ontario*)/(Marketing)
- Richard W. Deaves/B.A., M.A., Ph.D. (*Toronto*)/(Finance and Business Economics)
- Rick D. Hackett/B.Sc. (*Toronto*), M.A. (*Windsor*), Ph.D. (*Bowling Green State*)/(Human Resources)/Canada Research Chair, Management of Organizational Behaviour and Human Performance

- Elko J. Kleinschmidt/Dip. Ing. (*Staatliche Ingenieurschule, Hannover*), M.B.A., Ph.D. (*McGill*)/(Marketing and International Business)
- Clarence C.Y. Kwan/Ph.D. (*Ottawa*), M.B.A. (*McMaster*), Ph.D. (*Toronto*), P.Eng./Finance/CIBC Chair in Financial Markets
- John W. Medcof/B.A. (*New Brunswick*), M.A., Ph.D. (*Toronto*)/(Organizational Behaviour)/Director, Engineering and Management Programs
- G. John Miltenburg/B.Eng.Mgt., M.B.A. (*McMaster*), M.Eng. (*Toronto*), Ph.D. (*Waterloo*), P.Eng./Production and Management Science
- Dean C. Mountain/B.A. (*McMaster*), M.A., Ph.D. (*Western Ontario*)/(Finance and Business Economics)
- Mahmut Parlar/B.Sc., M.Sc. (*Middle East Technical University*), Ph.D. (*Waterloo*)/(Management Science)/Chair, Management Science and Information Systems Area
- William Richardson/B. Sc., Ph.D., M.B.A. (*McMaster*)/(Accounting and Financial Management Services Area)
- Joseph B. Rose/B.B.A. (*Adelphi*), M.B.A. (*California*), Ph.D. (*SUNY-Buffalo*)/(Industrial Relations)
- Mohamed M. Shehata/B.Com. (*Tanta*), M.S. (*Ain-Shams*), M.B.A. (*North Texas State*), Ph.D. (*Florida*)/(Accounting)
- George Steiner/M.Sc. (*Budapest*), Ph.D. (*Waterloo*)/(Production and Management Science)/Coordinator, Ph.D. Program (Management Science/Systems)
- George O. Wesolowsky/B.A.Sc. (*Toronto*), M.B.A. (*Western Ontario*), Ph.D. (*Wisconsin*)/(Management Science)
- Yufei Yuan/B.S. (*Fudan*), Ph.D. (*Michigan*)/(Information Systems)/Wayne C. Fox Chair
- F. Isik Zeytinoglu/B.A., M.A. (*Bogazici*), M.S., Ph.D. (*Pennsylvania*)/(Management and Industrial Relations)

#### Associate Professors

- Nick Bontis/B.A., Ph.D. (*Western Ontario*)/(Strategic Market Leadership and Health Services Management)/Director, Undergraduate Programs
- Y.C. Lilian Chan/B.B.A. (*Chinese Univ. of Hong Kong*), Ph.D. (*Virginia Polytechnic Institute and State University*)/(Accounting)
- Narat Charupat/B.A. (*Thammasat*), M.B.A. (*Drexel*), Ph.D. (*York*)/(Finance)
- Kenneth R. Deal/B.S., M.B.A., Ph.D. (*SUNY-Buffalo*)/(Marketing and Management Science)/Chair, Strategic Market Leadership and Health Services Management
- Brian Detlor/B.Sc. (*Western Ontario*), M.I.S., Ph.D. (*Toronto*)/(Information Systems)
- Khaled Hassanein/B.Sc. (*Kuwait*), M.A.Sc. (*Toronto*), Ph.D. (*Waterloo*), M.B.A. (*Wilfrid Laurier*)/(Information Systems)/Director, MeRC
- Milena Head/B.Math. (*Waterloo*), M.B.A., Ph.D. (*McMaster*)/(Management Science/Information Systems)/Associate Dean Academic
- Rosemary Luo/B.Eng. (Business) (*Beijing*), M.A. (*McMaster*), Ph.D. (*Western Ontario*)/(Finance)
- Ali R. Montazemi/H.N.D. (*Teesside Polytechnic*), M.Sc. (*Southampton*), Ph.D. (*Waterloo*)/(Information Systems)
- S.M. Khalid Nainar, B.A., M.A. (*Delhi*), Ph.D. (*Florida*)/(Accounting)/Chair, Accounting and Financial Management Services Area
- Sudipto Sarkar/B.Tech. (*Indian Institute of Technology*), Ph.D. (*Columbia*)/(Finance)
- D. Wayne Taylor/B.A. (*Toronto*), M.P.A., Ph.D. (*York*)/(Business and Public Policy)/Director, Health Services Management Program
- James H. Tiessen/B.Sc. (*Alberta*), M.Sc. (*Guelph*), Ph.D. (*York*)/(International Business)/Director, M.B.A. Programs
- Willi Wiesner/B.A. (*Wilfrid Laurier*), M.A.Sc., Ph.D. (*Waterloo*)/(Human Resources)/Chair, Human Resources and Management Area

#### Assistant Professors

- Catherine Connelly/B.Com. (*McMaster*), M.Sc., Ph.D. (*Queen's*)/(Organization Behaviour)
- Anna Daniellova/B.Sc. (*Yerevan Polytechnic Institute*), M.S. (*American University of Armenia*), M.A., Ph.D. (*Indiana*)/(Finance)
- Terry Flynn/B.A. (*Carleton*), M.S., Ph.D. (*Syracuse*)/(Marketing)
- Maureen Hupfer/B.Com., M.A., Ph.D. (*Alberta*)/(Marketing)
- Kiridaran Kanagarethnam/B.Sc. (*Sri Lanka*), M.S.E.E. (*Purdue*), Ph.D. (*Syracuse*), C.M.A. (Accounting and Financial Management Services Area)
- Peter Miu/B.Sc. (*Hong Kong*), M.B.A., Ph.D. (*Toronto*)/Finance
- Emad Mohd/ B.A. (*Kuwait*), M.B.A., Ph.D. (*Georgia State*)/(Accounting)

- Devashish Pujari/B. Com, M.Com. (*Kurukshetra*), M.Phil, Ph.D. (*Bradford*)/(Strategic Market Leadership and Health Services Management)
- Glen Randall/B.A., M.B.A. (*McMaster*), Ph.D. (*Toronto*)/(Marketing)
- Sourav Ray/B.Tech. (*India*), M.S. (*Texas*), Ph.D. (*Minnesota*)/(Marketing)
- Aaron Schat/B.A. (*Redeemer*), M.A., Ph.D. (*Guelph*)/(Organizational Behaviour)
- Alfred Seaman/B.B.A Admin. (*New Brunswick*), Ph.D. (*Queen's*) C.M.A./ (Accounting)
- John Siam/B.A., M.A., Ph.D. (*Concordia*)/(Accounting)
- Kevin Tasa/B.Com. (*Saskatchewan*), M.Sc., Ph.D. (*Toronto*)/(Human Resource Management)
- Patricia Wakefield/B.S. (*Alberta*), M.S. (*Cornell*), M.P.A. (*New York*), Ph.D. (*Boston*)/(Marketing)

#### Industry Professors

- Paul K. Bates/(Financial Management Services)/Dean

#### Lecturers

- Rita Cossa/H.B.B.A. (*Wilfrid Laurier*), M.B.A. (*McMaster*)/(Marketing)
- Hong-Tzu Hao/B.B.A. Finance (*Tamkang*)/(Accounting)
- Teal McAteer-Early/B.Comm. (*Queen's*), M.I.R., Ph.D. (*Toronto*)/(Marketing and Business Policy)
- Mandeep Malik/B.A. (*Chandigarh*), M.A. (*Canberra*)/(Marketing)
- Marvin G. Ryder/B.A., B.Sc. (*Carleton*), M.B.A. (*McMaster*)/(Marketing and Business Policy)
- Tiina Salisbury/B.Com., M.B.A. (*McMaster*)/(Management Science and Information Systems)
- Linda Stockton/M.B.A. (*McMaster*)/(Marketing)
- Peter Vilks/B.Sc.E.E., (*Suny-Buffalo*), M.B.A. (*McMaster*), P.Eng./Marketing

#### Faculty Notes:

- Upper Level Commerce courses are not open to Business I students.
- The Commerce courses for the Business Minor are open to students registered in any four- or five-level McMaster degree program. For these students, enrolment will be limited to 40 spaces per course on a first-come, first-served basis in the following courses: COMMERCE 2AA3, 2AB3, 2BA3, 2FA3, 2MA3, 2OA3, 2QB3, 3BC3, 3FA3, 3MC3. Please note that all prerequisites for these courses must also be satisfied. Students registered in a McMaster Commerce, Engineering Management or Labour Studies program (where applicable) will be guaranteed enrolment in these courses. See *Minor in Business* in the *Faculty of Business* section of this Calendar. Students taking COMMERCE 2AA3, 2FA3, 2MA3 as **Business Minor courses** will also be required to have obtained a **minimum grade of B-** in ECON 1A06 or 1B03 as a prerequisite.
- The Commerce courses for the Minor in Finance and the Minor in Accounting and Financial Management Services are open to students admitted to the Minor. Please take note that all prerequisites for these courses must also be satisfied. Students taking COMMERCE 2AA3 and 2FA3 as Minor in Accounting or Minor in Accounting and Financial Management Services courses will also be required to have obtained a minimum grade of B- in ECONOMICS 1A06 or an average of at least 7.0 in ECON 1B03 and 1BB3 as a prerequisite.
- Graduates of McMaster's Commerce programs or one of the Engineering and Management programs may take, as part-time students, Level III and IV Commerce courses (not previously taken, to a maximum of 18 units), excluding COMMERCE 4AG3\*, 4AH3\*, 4AI3\*, with the permission of the Academic Programs Office. (See the *Admission Requirements* section of this Calendar under the heading *Continuing Students*.)  
\*These courses are available as ACC 500, ACC 501, ACC 502, through the School of Business, subject to sufficient enrolments and availability of qualified instructors.  
**Other than those graduates specified above, Commerce courses are not open to Continuing Students.**
- Level II and Level III Commerce courses are generally scheduled for three one-hour lectures per week; one term. Level IV Commerce courses are generally scheduled for two lectures per week (a two-hour lecture and a one-hour lecture); one term.
- Level IV Commerce requirements: the six units of Level III or IV Commerce courses noted in the *School of Business* section of this Calendar can only be taken by Level IV Commerce students in their final year.**



**Courses**

**COMMERCE 1E03 BUSINESS ENVIRONMENT AND ORGANIZATION**

This course will examine the relationship between business organizations, their functional areas, and the environments - social, political, legal and regulatory and technological - that affect them.

Prerequisite: Registration in Business I

**COMMERCE 2AA3 FINANCIAL ACCOUNTING I**

This is an introduction to the basic principles and practices of financial accounting, which includes an examination of income measurement and asset and liability valuation, to provide an understanding of financial accounting information and the ethics of financial reporting.

Prerequisite: ECON 1A06 or 1B03 and registration in any Commerce or Engineering and Management program; or a grade of at least B- in ECON 1A06 or 1B03 and registration in any four or five-level non-Commerce program

Enrolment is limited. (See Note 2 above.)

**COMMERCE 2AB3 MANAGERIAL ACCOUNTING I**

An introduction to concepts underlying the use of cost accounting information for managerial planning and control, and for inventory valuation. The nature and analysis of costs, and the usefulness and limitations of accounting data for decision-making, including ethical considerations, will be discussed.

Prerequisite: COMMERCE 2AA3 and registration in any Commerce, Engineering and Management or four or five-level non-Commerce program

Enrolment is limited. (See Note 2 above.)

**COMMERCE 2BA3 ORGANIZATIONAL BEHAVIOUR**

The central objective of this course is to develop an understanding of human behaviour in organizations with a view toward effective management of such behaviour.

Prerequisite: Registration in any Commerce, Engineering and Management, Labour Studies or four or five-level non-Commerce program

Antirequisite: KINESIOL 3L03

Enrolment is limited. (See Note 2 above.)

**COMMERCE 2FA3 INTRODUCTION TO FINANCE**

This course introduces the main instruments and institutions in the Canadian financial system. The basic concepts and models of modern financial theory are introduced through lectures and "hands-on" problem solving. Topics include: the time value of money, capital budgeting, the trade-off between risk and return and security valuation.

Prerequisite: ECON 1A06 or 1B03; and one of MATH 1A03, 1M03, or 1N03; and COMMERCE 2AA3; and registration in any Commerce, Engineering and Management or four or five-level non-Commerce program.

Students in a four- or five-level non-Commerce program must have at least B- in ECON 1A06 or 1B03.

Not open to students with credit or registration in ECON 2I03.

Enrolment is limited. (See Note 2 above.)

**COMMERCE 2MA3 INTRODUCTION TO MARKETING**

This course introduces the conceptual underpinnings and operational facets of marketing with a primarily consumer (as opposed to industrial) focus.

Prerequisite: ECON 1A06 or 1B03 and registration in any Commerce or Engineering and Management program; or a grade of at least B- in ECON 1A06 or 1B03 and registration in any four or five-level non-Commerce program

Enrolment is limited. (See Note 2 above.)

**COMMERCE 2QA3 COMPUTER-AUGMENTED STATISTICAL ANALYSIS**

An introduction to the application of statistical analysis in managerial decision-making. The concepts of statistical analysis are applied to a variety of topics, including decision-making, estimation by sampling, hypothesis testing, analysis of variance, simple linear and multiple regression and forecasting.

Prerequisite: Finite Math (or Mathematics of Data Management U or equivalent) or STATS 1L03; and registration in any Commerce, Engineering and Management or four or five-level non-Commerce program

Antirequisite: ECON 2B03, STATS 1CC3, 2MB3, 3J04, 3N03, 3Y03

Enrolment is limited. (See Note 2 above.)

**COMMERCE 2QB3 INFORMATION SYSTEMS IN MANAGEMENT**

This course emphasizes the strategic role of information systems in modern business. Topics include: the technical foundations of information systems, the impact of information systems on business operations and decision-making, and the processes that are required for successful implementation of business information systems.

Prerequisite: One of COMP SCI 1BA3, 1MC3, 1SA3, 1TA3, 1ZA3, ENGINEER 1D04, MMEDIA 1A03; and registration in any Commerce or four or five-level non-Commerce program or non-Engineering and Management program

Antirequisite: COMMERCE 3QB3

Enrolment is limited. (See Note 2 above.)

**COMMERCE 2S03 COMMUNICATION, THINKING AND GROUP SKILLS**

Students will be introduced to the effective use of written and oral communication skills; thinking skills including convergent, divergent and creative thinking as well as logic and rhetoric; and group and interpersonal skills including leadership. Students practice these skills in exercises concerned with current business issues.

Prerequisite: Registration in a Commerce program

**COMMERCE 2SB3 BUSINESS ETHICS**

An analysis of ethical issues arising in contemporary business life. Sample topics include: fair and unfair competition; responsibilities towards employees, society and the environment; honesty and integrity in business; the moral status of corporations.

Prerequisite: Registration in Level II or above of any Commerce or Engineering and Management program

Cross-list: PHILOS 2N03

This course is administered by the Department of Philosophy.

**COMMERCE 3AB3 FINANCIAL ACCOUNTING II**

A first course in intermediate financial accounting dealing with the theory and practice of financial statement preparation and reporting. The emphasis will be on asset valuation and the related impact on income measurement.

Prerequisite: COMMERCE 2AA3 and registration in any Commerce or Engineering and Management program. (B.Com. students - see Note 6 above.)

**COMMERCE 3AC3 FINANCIAL ACCOUNTING III**

A second course in intermediate financial accounting dealing with reporting issues that relate to liabilities and owners' equity. In particular, the concepts of recognition, measurement and disclosure of such items as bonds, taxes, leases and pensions as well as the phenomenon of off-balance sheet financing are examined.

Prerequisite: COMMERCE 3AB3 and registration in any Commerce or Engineering and Management program. (B.Com. students - see Note 6 above.)

Antirequisite: COMMERCE 4AB3

**COMMERCE 3BC3 HUMAN RESOURCE MANAGEMENT AND LABOUR RELATIONS**

This course builds on COMMERCE 2BA3, focusing on human resource management and labour relations issues and practices from a general management education perspective.

Prerequisite: COMMERCE 2BA3 or KINESIOL 3L03; and registration in any Commerce, Labour Studies, Engineering and Management or four or five-level non-Commerce program

Antirequisite: COMMERCE 3BA3, 3BB3

Enrolment is limited. (See Note 2 above.)

**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 or ECON 2I03; and registration in any Commerce, Engineering and Management or four or five-level non-Commerce program

Enrolment is limited. (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 2FA3 or ECON 2I03; and registration in any Commerce or Engineering and Management program. (B.Com. students - see Note 6 above.)

**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 and registration in any Commerce or Engineering and Management program. (B.Com. students - see Note 6 above.)

**COMMERCE 3IN0 COMMERCE INTERNSHIP PROGRAM**

Career development; job strategies; skills assessment; resume/application form preparation; interview/presentation skills; orientation to the workplace. Successful completion of an eight, twelve or sixteen month Internship, employer evaluation and work term report.

Lecture/workshop (six sessions); first term or second term

Prerequisite: Successful completion of Level II Commerce. Transcript notation granted upon successful completion of an 8, 12 or 16 month approved internship.

**COMMERCE 3MA3 MARKETING RESEARCH**

This course covers the effective obtaining, communicating and using of competitive and market intelligence. Students work in groups with a company or public organization and receive training and experience in making business presentations.

Prerequisite: COMMERCE 2MA3, 2QA3 and registration in any Commerce or Engineering and Management program; or COMMERCE 2MA3 and one of STATS 2MB3, 3J04, 3N03 or 3Y03 and registration in any Engineering and Management program. (B.Com. students - see *Note 6* above.)

**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 and registration in any Commerce or Engineering and Management program. (B.Com. students - see *Note 6* above.)

**COMMERCE 3MC3 APPLIED MARKETING MANAGEMENT**

This course builds upon material in COMMERCE 2MA3 but is more applied in nature and covers the 4 P's in greater depth. It also has a heavier industrial and service sector component, and relies more on practical, real world cases. A major field project (student teams working with companies) is a critical part of the course.

Prerequisite: COMMERCE 2MA3 and registration in any Commerce, Engineering and Management or four or five-level non-Commerce program. *Enrolment is limited. (See Note 2 above.)*

**COMMERCE 3QA3 MANAGEMENT SCIENCE FOR BUSINESS**

This course is a study of analytical approaches that assist managerial decision-making; it provides coverage of decision theory and an introduction to optimization methods, computer simulation and the general approach of management science.

Prerequisite: COMMERCE 2QA3 and registration in any Commerce or Engineering and Management program; or one of STATS 2MB3, 3J04, 3N03 or 3Y03 and registration in any Engineering and Management program.

**COMMERCE 3QC3 PRODUCTION/OPERATIONS MANAGEMENT**

An introduction to the production/operations function with emphasis on the use of quantitative analysis to assist decision-making. Topics include: layout of facilities, aggregate planning, scheduling, inventory control and quality control.

Prerequisite: COMMERCE 3QA3 and registration in any Commerce program. Antirequisite: COMMERCE 4QA3, MECH ENG 4003

**COMMERCE 4AA3 MANAGERIAL ACCOUNTING II**

A consideration of advanced topics in management planning and control including cost behaviour determination, production planning, innovation in costing, cost allocations, variance analysis and performance evaluation for responsibility centres.

Prerequisite: COMMERCE 2AB3 or 3AA3; and registration in any Commerce or Engineering and Management program. (B.Com. students - see *Note 6* above.)

**COMMERCE 4AC3 FINANCIAL ACCOUNTING IV**

An advanced accounting course considering specific problems of accounting for the corporate entity, such as, business combinations, intercorporate investments, consolidated financial statements, accounting for foreign operations and foreign currency transactions, segment reporting.

Prerequisite: Credit or registration in COMMERCE 3AC3 or 4AB3; and registration in any Commerce or Engineering and Management program. (B.Com. students - see *Note 6* above.)

**COMMERCE 4AD3 INTRODUCTION TO AUDITING**

An examination of the attest function in accounting including ethical, legal, and statutory influences in the development of auditing standards. Control structure and audit evidence will be examined.

Prerequisite: COMMERCE 3AB3 and registration in any Commerce or Engineering and Management program. (B.Com. students - see *Note 6* above.)

**COMMERCE 4AE3 ACCOUNTING INFORMATION SYSTEMS**

This course emphasizes the understanding of the roles of accounting information and information technology in managerial decision-making, operational support, stewardship, and organizational competitiveness. Applications of concepts will be emphasized.

Prerequisite: COMMERCE 3AB3 and registration in any Commerce or Engineering and Management program. (B.Com. students - see *Note 6* above.)

**COMMERCE 4AF3 ACCOUNTING THEORY**

A review of accounting theory as a background for applying underlying concepts to current accounting problems. The course emphasizes current literature.

Prerequisite: Credit or registration in COMMERCE 3AC3 or 4AB3; and registration in any Commerce or Engineering and Management program. (B.Com. students - see *Note 6* above.)

**COMMERCE 4AX3 SPECIAL TOPICS IN ACCOUNTING**

Various topics in Accounting are considered. They will vary depending upon recent developments in the field and upon the research interests of the instructor. The topics to be included are announced at the time of the course offering.

Prerequisite: Announced at the time of offering

For information on course offerings, please refer to the School of Business web site at <http://www.degroote.mcmaster.ca/programs/commerce/courses.html> or contact the Academic Programs Office, MGD 104.

*COMMERCE 4AX3 may be repeated, if on a different topic, to a total of six units.*

**COMMERCE 4BA3 BEHAVIOURAL ISSUES IN MANAGEMENT**

Detailed analysis of employee motivation and reward systems; organizational structure; leadership and decision-making; group processes; and management of conflict and change.

Prerequisite: Registration in any Commerce or Engineering and Management program. (B.Com. students - see *Note 6* above.)

**COMMERCE 4BB3 PERSONNEL SELECTION**

This course exposes students to staffing issues in the Canadian context. Topics include job analysis, methods of recruitment and selection, human rights legislation and decision-making strategies.

Prerequisite: COMMERCE 3BB3 or 3BC3; and registration in any Commerce or Engineering and Management program. (B.Com. students - see *Note 6* above.)

**COMMERCE 4BC3 COLLECTIVE BARGAINING**

A survey of the nature, determinants, and impact of collective bargaining in Canada. Both the procedural and substantive aspects of collective bargaining will be studied.

Prerequisite: One of COMMERCE 3BC3, LABR ST 2A03 or 2A06; and registration in any Commerce, Engineering and Management or Labour Studies program. (B.Com. students - see *Note 6* above.)

**COMMERCE 4BD3 SETTLEMENT OF INDUSTRIAL DISPUTES**

The nature and the role of industrial conflict as well as the techniques which have been developed to control the incidence of conflict in union-management situations.

Prerequisite: One of COMMERCE 3BC3, LABR ST 2A03 or 2A06; and registration in any Commerce, Engineering and Management or Labour Studies program. COMMERCE 4BC3 is recommended. (B.Com. students - see *Note 6* above.)

**COMMERCE 4BE3 COMPENSATION/REWARD SYSTEMS**

Key issues in designing effective pay systems are discussed. Topics include: job evaluation, market pay surveys, pay structures, performance incentives, knowledge pay and employee benefits.

Prerequisite: COMMERCE 3BB3 or 3BC3; and registration in any Commerce or Engineering and Management program. (B.Com. students - see *Note 6* above.)

**COMMERCE 4BF3 LABOUR LAW AND POLICY**

An analysis of the concepts and fundamentals of Canadian labour law and analysis of Canadian labour policy.

Prerequisite: COMMERCE 3BC3; and registration in any Commerce or Engineering and Management program. Subject to space availability. (B.Com. students - see *Note 6* above.)

Cross-list: LABR ST 3C03

*This course is administered by Labour Studies.*

**COMMERCE 4BG3 PUBLIC SECTOR COLLECTIVE BARGAINING**

This course examines unionization and collective bargaining for employees in the public sector. Topics include: bargaining issues, bargaining outcomes and impasse resolution.

Prerequisite: COMMERCE 3BC3; and registration in any Commerce or Engineering and Management program. Subject to space availability. (B.Com. students - see *Note 6* above.)

Cross-list: LABR ST 4C03

**COMMERCE 4BI3 TRAINING AND DEVELOPMENT**

This course provides a framework for establishing, revising and examining training programs in organizations. Topics include: needs assessment; development of training objectives, planning and delivery of instruction, learning principles and evaluation of training.

Prerequisite: COMMERCE 3BB3 or 3BC3; and registration in any Commerce or Engineering and Management program. (B.Com. students - see *Note 6* above.)

**COMMERCE 4BJ3 GENDER ISSUES IN BUSINESS**

This course discusses the successes and challenges of women in business in an international context, across various professions and as entrepreneurs and business owners.

Prerequisite: Registration in any Commerce or Engineering and Management program. (B.Com. students - see Note 6 above.)

*Not open to students with credit in COMMERCE 4SX3, SPECIAL TOPICS IN BUSINESS, if taken in January 1998.*

**COMMERCE 4BK3 THE MANAGEMENT OF TECHNOLOGY**

An introduction to the innovative management of technology including the integration of the firm and technology strategy, external sourcing of technology and the internationalization of technology management.

Prerequisite: COMMERCE 2BA3 registration in any Commerce or Engineering and Management program. (B.Com. students - see Note 6 above.)

*Not open to students with credit in COMMERCE 4BX3, if taken in January 1998 or 1999.*

**COMMERCE 4BL3 OCCUPATIONAL HEALTH AND SAFETY MANAGEMENT**

This course enhances students' knowledge on managing occupational health and safety, teaches research skills, and assists students in developing strategies for creating healthy workplaces.

Prerequisite: COMMERCE 3BC3 and registration in any Commerce or Engineering and Management program. (B.Com. students - see Note 6 above.)

*Not open to students with credit in COMMERCE 4BX3, if the topic was Occupational Health and Safety (2004-2005).*

**COMMERCE 4BM3 STRATEGIC HUMAN RESOURCE PLANNING**

This course provides an understanding of the essential elements of Human Resource Planning (HRP) processes in organizations. Students will acquire knowledge in analyzing, assessing and programming for human resource requirements of the organizational business plans and strategies.

Prerequisite: COMMERCE 3BC3 and registration in any Commerce or Engineering and Management program.

*Not open to students with credit in COMMERCE 4BX3, if the topic was Strategic Human Resource Planning (2004-2005 and 2005-2006).*

**COMMERCE 4BX3 SPECIAL TOPICS IN HUMAN RESOURCES/LABOUR RELATIONS**

Various topics in Human Resources/Labour Relations are considered. They will vary depending upon recent developments in the field and upon the research interests of the instructor. The topics to be included are announced at the time of the course offering.

Prerequisite: Announced at time of offering

For information on course offerings, please refer to the School of Business web site at <http://www.degroote.mcmaster.ca/programs/commerce/courses.html> or contact the Academic Programs Office, MGD 104. *COMMERCE 4BX3 may be repeated, if on a different topic, to a total of six units.*

**COMMERCE 4FA3 APPLIED CORPORATE FINANCE**

This course examines the application of financial theory to a variety of problems in corporate finance. The appropriate use of valuation principles and techniques, and the design of corporate strategies intended to create shareholder wealth, are considered.

Prerequisite: COMMERCE 3FA3 and registration in any Commerce or Engineering and Management program. (B.Com. students - see Note 6 above.)

**COMMERCE 4FD3 FINANCIAL INSTITUTIONS**

This course examines, from a managerial perspective, the major types of financial institutions in Canada: chartered banks, trust companies, insurance companies, investment banks and other institutional investors.

Prerequisite: COMMERCE 3FA3 and registration in any Commerce or Engineering and Management program. (B.Com. students - see Note 6 above.)

**COMMERCE 4FE3 OPTIONS AND FUTURES**

This course provides an integrated approach to understanding the relations between options, futures, and their underlying assets. The theory of pricing of options and futures and the application of the theory to instruments currently traded in financial markets are considered.

Prerequisite: COMMERCE 3FA3 and registration in any Commerce or Engineering and Management program. (B.Com. students - see Note 6 above.)

**COMMERCE 4FF3 PORTFOLIO THEORY AND MANAGEMENT**

This course offers an advanced treatment of investment decision-making and the role of financial markets in pricing securities. Topics include: portfolio selection models, the institutional environment of investment decisions, and investment and asset pricing theory.

Prerequisite: COMMERCE 3FA3 and registration in any Commerce or Engineering and Management program. (B.Com. students - see Note 6 above.)

Antirequisite: COMMERCE 4FC3

**COMMERCE 4FG3 FINANCIAL THEORY**

This course explores the theoretical foundations of finance and their applications to corporate finance policy. Topics covered include rational investment decisions, asset pricing, efficient markets, financial decisions and the role of information in financial decision-making.

Prerequisite: COMMERCE 3FA3 and registration in any Commerce or Engineering and Management program. (B.Com. students - see Note 6 above.)

Antirequisite: COMMERCE 4FB3

**COMMERCE 4FH3 MERGERS, ACQUISITIONS AND CORPORATE CONTROL**

This course examines the process by which mergers and other types of corporate control transactions take place, and the role of restructuring shifts in resource allocation by corporations.

Prerequisite: COMMERCE 3FA3 and registration in any Commerce or Engineering and Management program. (B.Com. students - see Note 6 above.)

**COMMERCE 4FI3 TRADING IN FINANCIAL MARKETS**

This course attempts to develop practical skills in trading financial securities -fixed income, equities, futures and options- focusing on trading strategies based on market analysis and risk measurement.

Prerequisite: COMMERCE 3FA3 with a grade of at least B+; and registration in Honours Commerce or any Engineering and Management program

*Enrolment is limited.*

**COMMERCE 4FJ3 FIXED INCOME ANALYSIS**

This course provides an advanced treatment of investments in the field of fixed income analysis and focuses on fixed income securities, fixed income portfolio management and fixed income derivatives.

Prerequisite: COMMERCE 3FA3 and registration in any Commerce or Engineering and Management program. (B.Com. students - see Note 6 above.)

**COMMERCE 4FK3 FINANCIAL STATEMENT ANALYSIS**

This course provides a comprehensive and up-to-date treatment of the analysis of financial statements as an aid to decision making. The relationship between financial markets and financial statements is studied using computerized data sets on personal computers.

Prerequisite: COMMERCE 3FA3 and registration in any Commerce or Engineering and Management program. (B.Com. students - see Note 6 above.)

**COMMERCE 4FL3 PERSONAL FINANCIAL MANAGEMENT**

The course covers various topics that are relevant to the financial decision making of individuals. These decisions include investment, retirement planning, debt and credit management, renting vs. buying a home, insurance and risk management and personal income tax planning and strategies.

Prerequisite: COMMERCE 3FA3 and registration in any Commerce or Engineering and Management program. (B.Com. students - see Note 6 above.)

*Not open to students with credit in COMMERCE 4FX3, if the topic was Personal Financial Management (2004-2005 and 2005-2006).*

**COMMERCE 4FX3 SPECIAL TOPICS IN FINANCE**

Various topics in Finance are considered. They will vary depending upon recent developments in the field and upon the research interests of the instructor. The topics to be included are announced at the time of the course offering.

Prerequisite: Announced at time of offering

For information on course offerings, please refer to the School of Business web site at <http://www.degroote.mcmaster.ca/programs/commerce/courses.html> or contact the Academic Programs Office, MGD 104. *COMMERCE 4FX3 may be repeated, if on a different topic, to a total of six units.*

**COMMERCE 4MC3 NEW PRODUCT MARKETING**

This course covers the management of new products from the idea stage through to product launch with a strong practical orientation. A field project is a major component of the course.

Prerequisite: COMMERCE 3MC3 and registration in any Commerce or Engineering and Management program. (B.Com. students - see Note 6 above.)

**COMMERCE 4MD3 BUSINESS MARKETING**

An overview of business marketing including: derived demand, vendor analysis, the multiple buying unit, value analysis, competitive bidding, industrial design, key accounts, and trade shows.

Prerequisite: COMMERCE 3MC3 and registration in any Commerce or Engineering and Management program. (B.Com. students - see Note 6 above.)

**COMMERCE 4ME3 SALES MANAGEMENT**

Cases, presentations, field work, library research, role playing and group exercises help to understand customers, the selling process, sales presentations, negotiation, legal and ethical responsibilities, self and team management.

Prerequisite: COMMERCE 3MC3 and registration in any Commerce or Engineering and Management program. (B.Com. students - see Note 6 above.)

*Not open to students with credit or registration in COMMERCE 4MX3, if the topic was Sales Management.*

**COMMERCE 4MF3 RETAILING MANAGEMENT**

This course will familiarize students with key managerial and policy issues involved in the design, implementation and assessment of the retail mix. It will cover several areas relating to the institution of retailing, elements of the retail environment; and retail strategies.

Prerequisite: COMMERCE 3MC3 and registration in any Commerce or Engineering and Management program. (B.Com. students - see *Note 6* above.)

**COMMERCE 4PA3 BUSINESS POLICY: STRATEGIC MANAGEMENT**

As the capstone to the program, this case course is designed to unify the student's learning experience by exploring the formulation and implementation of corporate strategy.

Prerequisite: COMMERCE 3MC3; and registration in Level IV of a Commerce program or Level V of an Engineering and Management program

**COMMERCE 4QA3 OPERATIONS MODELLING AND ANALYSIS**

A course that looks at productions and operations management as practiced in engineering and manufacturing industries and the services sector.

Prerequisite: One of STATS 2MA3, 3J04, 3N03, 3Y03 or equivalent; and registration in any Engineering and Management or Mechanical Engineering program

Antirequisite: COMMERCE 3QC3

**COMMERCE 4QB3 ANALYSIS OF PRODUCTION/ OPERATIONS PROBLEMS**

An examination of analytical approaches to problems in the field of production/operations. The course will provide in-depth coverage of a limited number of topics. Enterprise resource planning system SAP may be used to highlight some of the concepts covered in the course.

Prerequisite: One of COMMERCE 3QC3, 4QA3 or MECH ENG 4C03; and registration in any Commerce or Engineering and Management program. (B.Com. students - see *Note 6* above.)

**COMMERCE 4QC3 MANAGERIAL DECISION MODELLING WITH SPREADSHEETS**

This application-oriented course will cover several optimization modeling techniques that can be used to support managers and engineers in a wide variety of decision making situations in finance, marketing and production.

Prerequisite: COMMERCE 3QA3 and registration in any Commerce or Engineering and Management program. (B.Com. students - see *Note 6* above.)

**COMMERCE 4QD3 DATABASE DESIGN AND IMPLEMENTATION**

This course is designed to introduce the basic concepts of database design, implementation, and management. Students will gain hands on experience through assignments and team project.

Prerequisite: COMMERCE 2QB3 and registration in any Commerce or Engineering and Management program. (B.Com. students - see *Note 6* above.)

**COMMERCE 4QE3 TELECOMMUNICATION AND ELECTRONIC BUSINESS**

The new trends and issues on telecommunication networks and their business applications including: wireless telecommunication, Web technology, Electronic business, Network security, Smart cards, Intelligent agents and the use of Intranet and Extranet.

Prerequisite: COMMERCE 2QB3 and registration in any Commerce or Engineering and Management program. (B.Com. students - see *Note 6* above.)

*Not open to students with credit in COMMERCE 4QX3, if the topic was Specific Topics in Business Data Communication (if taken in September 1997).*

**COMMERCE 4QF3 PROJECT MANAGEMENT**

Topics include: project selection, project organization structures, life cycles, planning, estimation, budgeting, resource allocation, contracting, project management software, reporting and controlling issues and conflict management.

Prerequisite: COMMERCE 2BA3, 3QA3 and registration in a Commerce program; or registration in an Engineering and Management program. (B.Com. students - see *Note 6* above.)

**COMMERCE 4QH3 MANAGEMENT ISSUES IN ELECTRONIC BUSINESS**

This course will cover the issues that the modern business manager must deal with in making strategic decisions concerning the choice, implementation, and execution of electronic business solutions.

Prerequisite: COMMERCE 2QB3 and registration in any Commerce program; or registration in any Engineering and Management program. (B.Com. students - see *Note 6* above.)

**COMMERCE 4QX3 SPECIAL TOPICS IN MANAGEMENT SCIENCE AND INFORMATION SYSTEMS**

Various topics in Management Science and Information Systems are considered. They will vary depending upon recent developments in the field and upon the research interests of the instructor. The topics to be included are announced at the time of the course offering.

Prerequisite: Announced at time of offering

For information on course offerings, please refer to the School of Business web site at <http://www.degroote.mcmaster.ca/programs/commerce/courses.html> or contact the Academic Programs Office, MGD 104. *COMMERCE 4QX3 may be repeated, if on a different topic, to a total of six units.*

**COMMERCE 4SA3 INTERNATIONAL BUSINESS**

The key features of, and trends in, the global business environment. The implications of cultural and political differences. Comparative operational practices and multinational management.

Prerequisite: COMMERCE 3MC3; and registration in Level IV of a Commerce program or Level V of any Engineering and Management program  
Antirequisite: COMMERCE 4PE3

**COMMERCE 4SB3 INTRODUCTION TO CANADIAN TAXATION**

The principles of Canadian federal income taxation are examined in detail, emphasizing the application of both statute and common law to individuals' and businesses' situations.

Prerequisite: Credit or registration in COMMERCE 3AB3 and registration in any Commerce or Engineering and Management program. (B.Com. students - see *Note 6* above.)  
Antirequisite: COMMERCE 4PB3

**COMMERCE 4SC3 ADVANCED CANADIAN TAXATION**

This course continues the study of Canadian federal income taxation with an in-depth coverage of selected provisions of the Income Tax Act pertaining to business activities, particularly the activities of corporations.

Prerequisite: COMMERCE 4SB3 or 4PB3; and registration in any Commerce or Engineering and Management program. (B.Com. students - see *Note 6* above.)  
Antirequisite: COMMERCE 4PC3

**COMMERCE 4SD3 COMMERCIAL LAW**

This course emphasizes those areas of law which are most relevant to business activity. Particular attention is given to the law relating to contracts and business organizations. Other areas of study include: sources of law, the judicial process, real and personal property, torts, agency, credit and negotiable instruments.

Prerequisite: Registration in any Commerce or Engineering and Management program. (B.Com. students - see *Note 6* above.)  
Antirequisite: COMMERCE 4PD3

**COMMERCE 4SE3 ENTREPRENEURSHIP**

The problems and experiences encountered in starting and developing new enterprises will be studied. A cornerstone of the course is the development of a detailed business plan for a local entrepreneur.

Prerequisite: COMMERCE 3FA3; and COMMERCE 3MA3 or 3MC3; and registration in any Commerce or Engineering and Management program. (B.Com. students - see *Note 6* above.)

**COMMERCE 4SF3 JAPANESE BUSINESS**

An introduction to Japan's business system. The approach is integrative, as the course examines Japan's economic history, culture, politics, industrial policy, management practices, advertising and doing business with Japan.

Prerequisite: Registration in any Commerce, Japanese Studies or Engineering and Management program. (B.Com. students - see *Note 6* above.)

Cross-list: JAPAN ST 4S03

**COMMERCE 4SY3 INDEPENDENT STUDY IN BUSINESS**

Faculty supervised project. A supervising faculty member must be arranged, and authorization of the Associate Dean secured, in the term preceding the term of study.

Prerequisite: To be determined by the supervising faculty member and registration in any Commerce or Engineering and Management program. Project forms are available from MGD-104. (B.Com. students - see Note 6 above.)

**COURSES FOR PROFESSIONAL DESIGNATION ...****COMMERCE 4AG3 ADVANCED ACCOUNTING TOPICS**

This course extends the knowledge base of earlier accounting courses and deals with specific advanced accounting topics, such as the conceptual framework, standard setting, not-for-profit accounting and fiduciary accounting.

Prerequisite: COMMERCE 4AC3, 4AF3; and registration in any Commerce or Engineering and Management program or graduation from a Commerce program.

Available Summers subject to sufficient enrolments and availability of qualified instructors.

**COMMERCE 4AH3 ADVANCED AUDITING**

This course considers a number of advanced topics concerning both the auditor and the audit profession. It builds on the knowledge of the audit task derived in earlier courses as well as on the technical skills and breadth of knowledge obtained in earlier accounting courses.

Prerequisite: COMMERCE 4AC3, 4AD3; and registration in any Commerce or Engineering and Management program or graduation from a Commerce program.

Available Summers subject to sufficient enrolments and availability of qualified instructors.

**COMMERCE 4A13 COMPUTER CONTROL AND AUDITING**

This course introduces the student to the field of EDP auditing through lectures, readings and hands-on experience with EDP audit software.

Prerequisite: COMMERCE 4AC3, 4AD3; and registration in any Commerce or an Engineering and Management program or graduation from a Commerce program.

Available Summers subject to sufficient enrolments and availability of qualified instructors.

**COMMUNICATION STUDIES AND MULTIMEDIA**

WEB ADDRESS: <http://www.humanities.mcmaster.ca/~cmst>

Togo Salmon Hall, Room 512

Ext. 23488

**Faculty as of January 15, 2006****Acting Director**

Geoffrey Rockwell

**Professor**

Henry Giroux/B.S. (Maine), M.A. (Appalachian State), D. Arts (Carnegie Mellon)/Global Television Network Chair in Communications

**Associate Professors**

Robert S. Hamilton/ M.F.A. (S.A.I.C.), M.F.A. (Jan van Eyck Academie)

Liss Platt/B.F.A. (Connecticut), M.F.A. (California-San Diego)

Geoffrey Rockwell/ B.A. (Haverford College), M.A. Ph.D. (Toronto)

**Assistant Professors**

Christina Baade/(Communication Studies and Multimedia; School of the Arts) B.Mus. (Northwestern), M.Mus., Ph.D. (Wisconsin-Madison)

Catherine Frost/(Communication Studies and Multimedia; Political Science) B.A. (Lakehead), M.A., Ph.D. (Toronto)

Violetta Ignieski/(Communication Studies and Multimedia; Philosophy) B.A., M.A. (Western Ontario), Ph.D. (Toronto)

Andrew Mactavish/B.A. (Mount Saint Vincent), M.A. (Dalhousie), Ph.D. (Alberta)

Alexandre Sévigny/(Communication Studies and Multimedia; French) B.A. (York), M.A., Ph.D. (Toronto)

Stéfan Sinclair/ B.A. (British Columbia), M.A. (Victoria), Ph.D. (Queen's)

Jeremy Stolow/(Communication Studies and Multimedia; Sociology) B.A. (Toronto), M.A., Ph.D. (York)

**Adjunct Lecturer**

Rocco Piro

**COMMUNICATION STUDIES ...**

**Courses** If no prerequisite is listed, the course is open.

**CMST 1A03 INTRODUCTION TO COMMUNICATION**

Students will examine both practical and fundamental concepts in communication studies and the effects of language, mass communications, performative acts and the Internet on social, cultural and cognitive processes in the context of the four streams of the Communication Studies program. Three hours (lectures and tutorials); one term

**CMST 1B03 DEVELOPMENTS IN HUMAN COMMUNICATION: PAST AND PRESENT**

A survey of human communication throughout history and across cultures. This course will include discussion of orality and literacy; manuscript, print and electronic media; and human communication through visual and pictorial arts.

Three hours (lectures and tutorials); one term

**CMST 2A03 QUANTITATIVE METHODS IN COMMUNICATION RESEARCH**

An introduction to the basic approaches and principles for gathering and analyzing quantitative data in communication studies. Topics include sampling techniques, interviewing, questionnaire construction, focus groups, content analysis, and the fundamentals of statistical analysis and inference.

Three hours (lectures and tutorials); one term

Prerequisite: Registration in a program in Communication Studies

Antirequisite: ANTHROP 2Z03, GEO 2HR3, GERONTOL 2C03, HEALTHST 2B03, SOCIOL 2Z03

**CMST 2AA3 JAPANESE COMMUNICATION**

The Japanese language is examined from sociolinguistic and pragmatic viewpoints identifying the unique characteristics of the target culture that lie behind its use. Such knowledge is invaluable in solving problems of intercultural communication.

Three lectures; one term

Prerequisite: Registration in Level II or above

Cross-list: JAPAN ST 2A03

Offered in alternate years.

This course is administered by the Department of Linguistics and Languages.

**CMST 2B03 QUALITATIVE METHODS IN COMMUNICATIONS RESEARCH**

An introduction to the qualitative research in communication studies. Topics may include research ethics, discourse analysis, textual analysis, ethnography, structuralist and poststructuralist approaches to the study of communication.

Three hours (lectures and tutorials); one term

Prerequisite: Registration in a program in Communication Studies

**CMST 2BB3 INTRODUCTION TO CULTURE AND COMMUNICATION**

An introduction to theoretical and methodological approaches to cultural studies focusing on communicative practice. Students will analyse relationships between cultural identity, producers, consumers, institutions, technologies and practices of mediated communication.

Three hours; one term

Prerequisite: Registration in a program in Communication Studies

**CMST 2C03 COMMUNICATION THEORY I: FUNDAMENTAL PERSPECTIVES**

An introduction to various theories on the organization, use and manipulation of language, such as semiotics, sociolinguistics, interpersonal communication, group communication and performance.

Three hours (lectures and tutorials); one term

Prerequisite: Registration in Level II or above of a program in Communication Studies

**CMST 2D03 COMMUNICATION THEORY II: THE INFORMATION SOCIETY AND ITS IMPLICATIONS**

An introduction to various theories on the organization, use and manipulation of information in a global context, and its impact on the corporate economy and the development of the individual and society.

Three hours (lectures and tutorials); one term

Prerequisite: CMST 1B03, 2C03

**CMST 2E03 THE NATURE OF TEXTS: FROM SLANG TO FORMAL DISCOURSE**

The course will investigate a variety of styles and registers from the conversational to the literary and academic.

Three hours; one term

Prerequisite: Registration in Level II or above

Cross-list: LINGUIST 2E03

This course is administered by the Department of Linguistics and Languages.

**CMST 2F03 PROFESSIONAL WRITING**

This course offers instruction on a variety of professional communication forms such as resumes, letters of inquiry, proposals, press releases, and the evaluation of web page design. Students will also read and evaluate arguments covering timely media topics such as television violence and internet spam.

Three hours (lectures, discussion and workshops); one term

Prerequisite: Registration in Level II or above of a program in Communication Studies

*Enrolment is limited.*

**CMST 2G03 PERFORMANCE AND PERFORMATIVITY**

An introduction to the study of performative modes of communication such as storytelling, gesture, movement, dress. Students will learn to analyze the relationship between cultural performances, such as games, garage bands, group facilitation, or live theatre and social structures.

Three hours (lectures and discussion); one term

Prerequisite: Three units of Communication Studies and registration in Level II or above

Cross-list: SOTA 2G03

*This course is administered by the School of the Arts.*

**CMST 2H03 GENDER AND PERFORMANCE**

An examination of gender as identities performed or constructed in complex social, historical and cultural processes and conditions, including how gender gives meaning to different performance texts, as well as to a range of performance practices in daily life.

Three hours (lectures and discussion); one term

Prerequisite: Registration in Level II or above of a program in Communication Studies or Women's Studies

Cross-list: WOMEN ST 2J03

**CMST 2I03 VISUAL LITERACY**

A course of lectures and discussions that explores the concept of visual literacy and examines the ways in which fine and popular arts structure our understanding through images.

One lecture (two hours), one tutorial/discussion; one term

Prerequisite: Registration in Level II or above of a program in Communication Studies

Cross-list: ART HIST 2A03

*This course is administered by the School of the Arts.*

**CMST 2K03 POLITICAL ECONOMY OF THE MEDIA**

A comparative examination of changing patterns of ownership and control of the mass media in light of globalization, technological change, government policy, market re-structuring, and corporate consolidation.

Three lectures; one term

Prerequisite: Registration in Level II or above of a program in Communication Studies

**CMST 2L03 MEDIA INSTITUTIONS**

An examination of the institutional structure and production processes of the press, television, and radio. Topics include news gathering, television and radio program production and the relationship between media production and management.

Three hours (lectures and tutorials); one term

Prerequisite: Registration in a program in Communication Studies or Sociology

Cross-list: SOCIOL 2L03

*This course is administered by the Department of Sociology.*

*Enrolment is limited.*

**CMST 2M03 CONCEPTS OF CULTURE**

An analysis of the development of the concept of culture from the Enlightenment to the present. Theoretical readings combined with the analysis of specific cultural texts, objects, forms, and practices will allow students to trace historical and contemporary debates concerning culture.

Three hours; one term

Prerequisite: Registration in a program in Communication Studies, Comparative Literature, Cultural Studies and Critical Theory or English

Cross-list: COMP LIT 2E03, CSCT 2M03, ENGLISH 2M03

*This course is administered by the Department of English and Cultural Studies.*

**CMST 2MM3 MODERN COUNTERCULTURES**

An exploration of a variety of cultural forms (e.g., literature, art, photography, film, music) produced by avant-gardes counter-cultural groups from the mid-19th century to the present. Areas of investigation may include surrealism, futurism, the beats, the sixties, situationism, and punk.

Three hours; one term

Prerequisite: Registration in a program in Communication Studies, Comparative Literature, Cultural Studies and Critical Theory or English

Cross-list: COMP LIT 2EE3, CSCT 2MM3, ENGLISH 2MM3

*This course is administered by the Department of English and Cultural Studies.*

**CMST 2N03 THE HISTORY OF GRAPHIC DESIGN**

An introduction to the history of graphic, two-dimensional design. The course demonstrates the admixture of high and popular culture that informs advertising, posters, book design and illustration, etc.

Three lectures; one term

Prerequisite: Registration in Level II or above. Prior completion of ART HIST 1A03 and 1AA3 is recommended.

Cross-list: ART HIST 2F03, MMEDIA 2F03

**CMST 2O03 AESTHETICS**

An introduction to some main theories of the nature of art, criticism, and the place of art in life and society.

Three lectures; one term

Prerequisite: Registration in Level II or above

Cross-list: ART HIST 2H03, PHILOS 2H03

*This course is administered by the Department of Philosophy.*

*Offered in alternate years.*

**CMST 2P03 DRAMATIC FORMS**

Different performance techniques and conventions demand particular forms of dramatic narrative. By comparing the way similar stories are told in different media and genres, students identify the structuring elements of dramatic texts written for live performance, film television and music theatre.

Three hours (lectures and group presentations); one term

Prerequisite: DRAMA 1A03, 1AA3 (or 1A06); or THTR&FLM 1A03, 1B03

Cross-list: COMP LIT 2D03, THTR&FLM 2C03

Antirequisite: DRAMA 2D03

*This course is administered by the School of the Arts.*

**CMST 2Q03 MUSIC OF THE WORLD'S CULTURES**

A survey of music traditions of non-European cultures, e.g., far Eastern, Indian, African.

Three lectures; one term

Prerequisite: Registration in Level II or above

Cross-list: MUSIC 2A03

*Offered in alternate years.*

*This course is administered by the School of the Arts.*

**CMST 2R03 POPULAR MUSIC IN NORTH AMERICA AND THE UNITED KINGDOM: POST-WORLD WAR II**

Popular music, its social meanings, and media and technology interactions, from rock-and-roll to now. Topics include rhythm and blues (Chuck Berry), pop (Madonna), metal (Led Zeppelin).

Three lectures; one term

Prerequisite: Registration in Level II or above

Cross-list: MUSIC 2I13

Antirequisite: MUSIC 2AA3

*This course is administered by the School of the Arts.*

**CMST 2RR3 POPULAR MUSIC IN NORTH AMERICA AND THE UNITED KINGDOM: PRE-WORLD WAR II**

Two centuries of popular music, its social meanings, and media and technology interactions, emphasizing the early twentieth century. Topics include minstrelsy, early blues and musical theatre.

Three lectures; one term

Prerequisite: Registration in Level II or above

Cross-list: MUSIC 2I03

*This course is administered by the School of the Arts.*

**CMST 2S03 NEW MEDIA AND PERFORMANCE**

This course will explore critical issues in new media and examine the ways in which new media shape the creation, reception and interpretation of forms of performance.

Three hours (lectures and discussion); one term

Prerequisite: Registration in Level II or above of a program in Theatre and Film Studies or Communication Studies (Cultural Studies or Performance Studies Streams)

Cross-list: THTR&FLM 2E03

Antirequisite: DRAMA 2B03

*This course is administered by the School of the Arts.*

*Enrolment is limited to 50 students.*

**CMST 2T03 MUSIC FOR FILM AND TELEVISION**

An examination of how music functions to help create meanings in film and television programs. Examples will be drawn from throughout the history of film and television.

Three lectures; one term

Prerequisite: Registration in Level II or above

Cross-list: MUSIC 2F03, THTR&FLM 2T03

*This course is administered by the School of the Arts.*

**CMST 2U03 THE MAKING OF THE EUROPEAN LINGUISTIC LANDSCAPE**

The history of language use in Europe from antiquity to the present day. The course will illustrate the different functions of language in social life and the growth of national, standardized idioms. It will also serve as an introduction to the history of linguistics as a discipline.

Three lectures; one term  
Prerequisite: Registration in Level II or above  
Cross-list: LINGUIST 2A03  
Antirequisite: ANTHROP 2AL3  
*This course is administered by the Department of Linguistics and Languages.*

**CMST 2V03 CONFLICT TRANSFORMATION: THEORY AND PRACTICE**

An examination of ways of preventing, resolving and transforming conflicts in everyday life, in our own culture and others, and in the arenas of family, business, the law, schools and large-scale political conflicts.

Three hours (lectures and discussion); one term  
Prerequisite: Registration in Level II or above or permission of the Director of Peace Studies  
Cross-list: PEACE ST 2A03  
*This course is administered by Peace Studies.*

**CMST 2W03 CRITICAL THINKING**

This course aims to improve skills in analyzing and evaluating arguments and presentations found in everyday life and academic contexts, and to improve critical judgement.

Two lectures, one tutorial; one term  
Prerequisite: Registration in Level II or above  
Cross-list: HUMAN 2C03  
Antirequisite: ARTS&SCI 1B06  
*This course is administered by the Department of Philosophy.*

**CMST 2X03 FILM HISTORY TO THE SECOND WORLD WAR**

An introduction to the history of narrative film from its beginnings to the Second World War. It focuses on narrative cinema's development from aesthetic, social, technological and economic perspectives while also touching on a selected number of issues in film theory.

Two lectures, plus one weekly film screening; one term  
Prerequisite: Registration in Level II or above of a program in Theatre and Film Studies or Communication Studies (Cultural Studies Stream)  
Cross-list: ART HIST 2G03, THTR&FLM 2F03  
Antirequisite: CMST 2X06  
*This course is administered by the Theatre & Film program.  
Enrolment is limited to 150 students.*

**CMST 2Y03 THE ANCIENT WORLD IN FILM**

The emphasis is on myth (Amazons, Hercules) and history (slave revolts, banquets, decadent emperors) studied via Greek and Latin accounts (in translation) and cinematic versions (e.g. Electra, Medea, Mighty Aphrodite, Apocalypse Now, Spartacus, I Claudius).

Three lectures; one term  
Prerequisite: Registration in Level II or above  
Cross-list: CLASSICS 2E03, THTR&FLM 2G03  
*This course is administered by the Department of Classics.*

**CMST 2Z03 POLITICS AND THE MEDIA**

Theories and practices of the reciprocal relationship between the communications media and the political system.

Three hours (lectures and tutorials); one term  
Prerequisite: CMST 1A03 and 1B03; or POL SCI 1G06  
Cross-list: POL SCI 2Z03  
*This course is administered by the Department of Political Science.*

**CMST 3B03 PRACTICAL ASPECTS OF MEDIA PRODUCTION**

In consultation with a faculty member, students will complete an independent project or an applied placement on an approved topic involving the application of communication skills, theories and methodologies. It is the student's responsibility to obtain the agreement of the instructor and to complete a proposal form (available in the Communication Studies Office). Independent Study proposals must be approved by the Committee of Instruction during the term before the project is to be done.

Prerequisite: Registration in Level III or IV of a program in Communication Studies with a Cumulative Average of at least 8.5 and permission of the Committee of Instruction.

**CMST 3BB3 WOMEN AND VISUAL CULTURE**

Students will explore ideas about representation, spectatorship and production in relation to issues of social difference, such as gender, race and class. Emphasis is on visual modalities such as film, video, television, advertising, et cetera.

Two hour lecture and discussion, plus one weekly film screening; one term  
Prerequisite: Registration in Level III or above and one of ART HIST 2A03, CMST 2F03, 2I03, THTR&FLM 1B03 or WOMEN ST 1A06 (or 1A03 and 1AA3)  
Cross-list: THTR&FLM 3P03, WOMEN ST 3BB3  
*Not open to students with credit or registration in WOMEN ST 3B03 if taken in 2001-2002.  
This course is administered by Women's Studies.*

**CMST 3C03 MEDIA AND SOCIAL ISSUES**

An analysis of relationships between mass media and modern society. Topics may include ideology and agenda-setting in the media, representations of social problems (e.g., homelessness, violence), moral panics, media scandals, or public ceremonies.

Three lectures; one term  
Prerequisite: Registration in Level III or above of a Communication Studies program; or SOCIOL 2L03 and registration in a Sociology program  
Cross-list: SOCIOL 3C03  
*Enrolment is limited.  
This course is administered by the Department of Sociology.*

**CMST 3CC3 READING FILM**

A critical examination of selected films and film genres as cultural texts, using methods drawn from film theory and cultural studies.

Three hours, plus one weekly film screening; one term  
Prerequisite: Registration in Level II or above of a program in Art History, Communication Studies, Comparative Literature, Cultural Studies and Critical Theory, or Theatre and Film Studies. It is recommended that students should already have taken CMST 2X03 or 2X06.  
Cross-list: COMP LIT 3L03, CSCT 3CC3, ENGLISH 3CC3, THTR&FLM 3R03  
*This course is administered by the Department of English and Cultural Studies.*

**CMST 3D03 POLITICAL COMMUNICATION**

The relationship between politics and the media is analyzed in terms of issues such as political news coverage, electioneering, political marketing, policy formation and publicity, and agenda-setting and public opinion.

Three lectures; one term  
Prerequisite: Registration in a Communication Studies or Political Science program  
Cross-list: POL SCI 3BB3  
*This course is administered by the Department of Political Science.*

**CMST 3E03 ARGUMENTATION THEORY**

A study of some theoretical issues concerning the identification, analysis and evaluation of arguments.

Three hours (lectures and discussion); one term  
Prerequisite: One of ARTS&SCI 1B06, CMST 2W03, HUMAN 2C03 or PHILOS 2B03; and registration in Level II or above  
Cross-list: PHILOS 3M03  
*This course is administered by the Department of Philosophy.*

**CMST 3F03 TOPICS IN VISUAL CULTURE**

This course will examine a variety of topics in the critical study of visual culture, including gender and spectatorship, consumerism and the arts, and visual literacy in the 21st century.

Three hours (lectures and discussion); one term  
Prerequisite: Registration in Level II or above  
Cross-list: SOTA 3C03  
*This course is administered by the School of the Arts.*

**CMST 3G03 INTRODUCTION TO SOCIOLINGUISTICS**

An introduction to sociolinguistics with particular emphasis on the social situation of the major European languages. Topics covered include linguistic variation (regional, social, situational), language and gender, language and disadvantage/power, language choice, language change, pidgin and creole languages.

Three lectures; one term  
Prerequisite: Registration in Level III or IV of a program in Communication Studies (Language and Social Life Stream) or Linguistics; or permission of the Department of Linguistics and Languages  
Cross-list: LINGUIST 3X03  
Antirequisite: ANTHROP 3X03  
*This course is administered by the Department of Linguistics and Languages.*

**CMST 3H03 CREATING CEREMONIES**

An examination of the performative aspects of ceremonies and rituals such as weddings, funerals, political inaugurations, parades, mass, festivities around such religious celebrations as Christmas and Hanukkah, and the rituals associated with theatre and concert going.

Three hours (lectures and discussion); one term

Prerequisite: Registration in Level III or above of a program in Communication Studies

**CMST 3I03 COMMUNICATION POLICY AND LAW**

An examination of the role of government policy, regulation, and law on the structure and functioning of the mass media. Topics include cultural policy, communication technology policy, free speech, and privacy rights.

Three lectures; one term

Prerequisite: Registration in Level III or above of a program in Communication Studies

**CMST 3K03 MEDIA AUDIENCES AND EFFECTS**

An examination of the media/audience relationship in light of different theories of media effects including social learning, agenda-setting, uses and gratifications, active audiences and cultivation analysis.

Three lectures; one term

Prerequisite: CMST 2A03 and registration in Level III or above of a program in Communication Studies

**CMST 3L03 THEORIZING CULTURE THROUGH PERFORMANCE**

Students will explore artists' practises in making performances and will analyse how artists work with theories, texts, spaces, bodies, audiences and produce challenges to artistic, social and political norms.

Three hours; one term

Prerequisite: One of ART HIST 2D03, 3AA3, CMST 2G03, 2P03, 2S03, THTR&FLM 2C03, 2D03, 2E03

Cross-list: ART HIST 3L03, THTR&FLM 3I03

*Not open to students with credit in DRAMA 2B03, NEW MEDIA AND PERFORMANCE, if taken in 2001-2002, or credit in THTR&FLM 2E03 if taken in 2002-2003.*

*Offered in alternate years.*

*This course is administered by Theatre & Film.*

**CMST 3M03 THEATRE AND COMMUNITY DEVELOPMENT**

Students will explore the different approaches to community-based theatre generated in a range of social and cultural milieus and will analyze the sense of community implicit in a variety of popular and community-based theatre projects.

Three hours (lectures and discussion); one term

Prerequisite: Registration in Level II or above

Cross-list: THTR&FLM 3G03

*Offered in alternate years.*

*This course is administered by the School of the Arts.*

**CMST 3MM3 THE INTERNET AND PUBLIC LIFE**

This course examines how the internet and other digital media may be reshaping political and personal relationships and altering the nature of the public sphere.

Three hours; one term

Prerequisite: CMST 2Z03 or POL SCI 2Z03; and registration in Level III or above

Cross-list: POL SCI 3MM3

*Not open to students with credit in CMST 3A03, TOPICS IN COMMUNICATION, if the topic was Public Life in a Digital Age.*

*This course is administered by the Department of Political Science.*

**CMST 3N03 ETHICAL ISSUES IN COMMUNICATION**

This course will examine ethical issues as they arise in interpersonal communication and mass communication. The dominant moral theories and approaches to moral decision-making will be analysed and put to use to help students understand and evaluate concrete examples.

Three hours (lectures and discussion groups); one term

Prerequisite: CMST 2C03; and one of CMST 2A03 or 2B03; and registration in Level III or above of a program in Communication Studies or Peace Studies

Cross-list: PEACE ST 3N03

*Not open to students with credit in CMST 3A03, TOPICS IN COMMUNICATION, if the topic was Ethical Issues in Communication.*

**CMST 3P03 HISTORY OF PHOTOGRAPHY**

This course examines historical and contemporary photographic images in the visual arts and considers the connections and distinctions between artistic and media uses of the medium.

Three hours (lectures and discussion); one term

Prerequisite: Registration in Level II or above

Cross-list: ART HIST 3PP3

*This course is administered by the School of the Arts.*

**CMST 3Q03 TOPICS IN ORGANIZATIONAL COMMUNICATION**

This course focuses on communication as an effective management tool for issues including consensus-building, corporate culture, leadership and motivation, decision-making, cultural diversity and communicating change.

Three hours (lectures and discussion groups); one term

Prerequisite: CMST 2C03; and one of CMST 2A03 or 2B03; and registration in Level III or above of a program in Communication Studies.

**CMST 3SS3 FILM, VIDEO AND ENTERTAINMENT CULTURE**

Critical approaches to forms of entertainment culture which permeate our everyday lives (e.g., popular films, video culture, television). Topics may include the cultural meanings of popular imagery, star-gazing, and commercialization.

Two hour lecture and discussion, plus one weekly film screening; one term

Prerequisite: CMST 2X03

Cross-list: THTR&FLM 3M03

*Offered in alternate years.*

*This course is administered by the School of the Arts.*

**CMST 3T03 TOPICS IN NATIONAL CINEMAS I**

This course examines film in relation to nations and national contexts. Areas of investigation may include filmic production of a particular country, national belonging and transnational identities.

Two hour lecture and discussion, plus one weekly film screening; one term

Prerequisite: One of CMST 2S03, 2X03

Cross-list: COMP LIT 3V03, THTR&FLM 3Q03

*Offered on an irregular rotation basis.*

*This course is administered by the School of the Arts.*

**CMST 3TT3 TOPICS IN NATIONAL CINEMAS II**

This course examines film in relation to nations and national contexts. Areas of investigation include filmic production of global/local characteristics.

Two hour lecture and discussion, plus one weekly film screening; one term

Prerequisite: One of DRAMA 2B03, 2X06, THTR&FLM 1B03, 2E03, 2F03

Cross-list: COMP LIT 3VV3, THTR&FLM 3QQ3

*Offered on an irregular rotation basis.*

*This course is administered by the School of the Arts.*

**CMST 3U03 PERFORMANCE ART**

This course will examine historical and contemporary concerns related to performance art including the relevance of traditional categories of artistic production, the roles of the audience, the institution and market, and the body as artistic medium.

Three hours (lectures and discussion); one term

Prerequisite: Registration in Level II or above

Cross-list: SOTA 3B03

*This course is administered by the School of the Arts.*

**CMST 3UU3 INDEPENDENT FILM AND VIDEO**

An exploration of artists' film and video produced outside of dominant institutions, including such practises as documentary, autobiography, community projects, experimental film, short film, and video art.

Two hour lecture and discussion, plus one weekly film screening; one term

Prerequisite: CMST 2S03 or 2X03

Cross-list: THTR&FLM 3N03

*Offered in alternate years.*

*This course is administered by the School of the Arts.*

**CMST 3V03 PRAGMATICS**

A discussion of the problems confronting the linguist in the study of text and discourse at the level beyond the sentence. The course will deal with the interaction between grammar and situational factors.

Three lectures; one term

Prerequisite: LINGUIST 1A03 and 1AA3 (or 1A06); or FRENCH 2H03; or permission of the Department of Linguistics and Languages

Cross-list: LINGUIST 3P03

Antirequisite: ANTHROP 3PL3

*Offered in alternate years.*

*This course is administered by the Department of Linguistics and Languages.*

**CMST 3WW3 WOMEN IN A MULTICULTURAL SOCIETY**

An interdisciplinary exploration of the experiences of women in different sub-cultures within a multicultural society, through an examination of social and historical conditions, policies, and personal narratives. Topics may include immigration, voice, mobility, identity, hybridity.

Three hours (seminar and discussion); one term

Prerequisite: Registration in Level II or above. WOMEN ST 1A06 (or 1A03 and 1AA3) is recommended.

Cross-list: WOMEN ST 3DD3

*This course is administered by Women's Studies.*



**CMST 3XX3 FILM HISTORY: 1941 TO THE PRESENT**

An exploration of narrative film from 1941 to the present day, incorporating a study of a variety of narrative cinema styles. Theoretical issues will include questions of cinema's relationship to other art forms, narrative, genre and authorship.

Two lectures, plus one weekly screening; one term

Prerequisite: CMST 2X03

Cross-list: ART HIST 3XX3, THTR&FLM 3L03

Antirequisite: CMST 2X06

Offered in alternate years.

This course is administered by the School of the Arts.

**CMST 3Y03 PHILOSOPHY OF LANGUAGE**

A survey of philosophical problems concerning language. Topics to be considered include reference, synonymy, truth, and linguistic knowledge.

Three lectures; one term

Prerequisite: At least six units of Philosophy, and registration in Level III or IV of any program

Cross-list: PHILOS 3E03

Offered in alternate years.

This course is administered by the Department of Philosophy.

**CMST 4A03 THESIS PROJECT**

Students will develop and execute their own research project, in consultation with a faculty advisor. Involves regular meetings with the advisor and a final public presentation of research endeavours.

Prerequisite: Registration in Level IV of a program in Communication Studies with a Cumulative Average of at least 9.0 and permission of the Committee of Instruction

Enrolment is limited.

**CMST 4B03 INDEPENDENT STUDY IN ADVANCED APPLIED COMMUNICATION**

Students will apply communication skills, theories and methodologies to complete an advanced independent project in the field of communications. This will be undertaken following successful completion of relevant courses in the appropriate Stream. Entry is by application to the Committee of Instruction during the term before the course is to be taken.

Prerequisite: Registration in Level IV of a program in Communication Studies with a Cumulative Average of at least 8.5 and permission of the Committee of Instruction

Enrolment is limited.

**CMST 4C03 ISSUES IN PERFORMANCE STUDIES**

This course serves to synthesize and expand students' engagement with issues studied in performance studies courses through the examination of writings that draw on anthropology, phenomenology, materialist analysis, psychoanalysis, gender theory, postmodernism, postcolonialism and intercultural reception.

Three hours (lectures and discussion); one term

Prerequisite: Registration in Level IV of a program in Communication Studies (Performance Studies or Cultural Studies Stream)

Enrolment is limited.

**CMST 4CC3 MEDIA STUDIES, CULTURAL POLITICS AND PUBLIC PEDAGOGY**

A critical examination of global media in its diverse forms, focusing on the public role of media, the connection between pedagogy and politics, and the crucial role of culture as a primary element of politics.

Three hours (lectures and discussion); one term

Prerequisite: Registration in Level IV of a program in Communication Studies. Students may take only one of CMST 4CC3, 4N03, or 4Q03.

Enrolment is limited.

**CMST 4D03 INTERNATIONAL COMMUNICATION**

The relationship between globalization and the media is examined in light of the debates over cultural imperialism, information and technology flow, cultural hybridization, and the media's impact on socio-economic development.

Three hours (lectures and discussion); one term

Prerequisite: Registration in Level IV of a program in Communication Studies

Enrolment is limited.

**CMST 4E03 MEDIA AND PROMOTIONALISM**

An examination of the media's role in the promotion of different interests, values, and patterns of behaviour. Topics include advertising, public relations, social activism, and public information campaigns.

Three hours (lectures and discussion); one term

Prerequisite: Registration in Level IV of a program in Communication Studies (Mass Communication Stream)

Enrolment is limited.

**CMST 4FF3 STUDIES IN FILM**

Senior seminar: An examination of selected films.

Seminar (two hours); one term

Prerequisite: CMST 2S03 and registration in Level III or IV of a program in Communication Studies. CMST 2X03 is recommended.

Cross-list: THTR&FLM 4E03

Enrolment is limited. Priority will be given first to students registered in Level IV of any Theatre & Film Studies program, and then to students registered in Level IV of the Communication Studies program.

This course is administered by the School of the Arts.

**CMST 4G03 APPLIED LINGUISTICS**

The course acquaints the student with the contributions that the linguist, psycholinguist, sociolinguist can make to second language learning and teaching.

Three lectures; one term

Prerequisite: LINGUIST 1A03, 1AA3 and six units of Linguistics courses above Level I; or permission of the Department of Linguistics and Languages

Cross-list: LINGUIST 4B03

Antirequisite: ANTHROP 4BL3

This course is administered by the Department of Linguistics and Languages.

**CMST 4I03 COMPUTERS AND LINGUISTIC ANALYSIS**

This course studies the linguistic applications of computer technology in general, and language processing in particular, including parsers and machine translation.

Two lectures, one lab; one term

Prerequisite: LINGUIST 1A03, 1AA3 and six units of Linguistics courses above Level I; or permission of the Department of Linguistics and Languages

Cross-list: LINGUIST 4D03

Offered in alternate years.

This course is administered by the Department of Linguistics and Languages.

**CMST 4L03 APPROACHES TO DISCOURSE**

This course offers an overview of different approaches to the analysis of discourse, including speech act theory, interactional sociolinguistics, ethnography of communication, pragmatics, conversation analysis, and critical discourse analysis.

Three hours (lectures and discussion); one term

Prerequisite: Registration in Level III or IV of a program in Communication Studies or Linguistics, or permission of the Program Counsellor for Communication Studies

Cross-list: LINGUIST 4ZZ3

Enrolment is limited.

**CMST 4M03 COMMUNICATION, CULTURE AND TECHNOLOGY, 1844-1927**

This course surveys social patterns of reception and adaptation of communication technologies and their interaction with cultural constructions of (gendered) bodies, everyday life, organization of space and time, and other cultural distinctions.

Three hours (lectures and discussion); one term

Prerequisite: CMST 2BB3 and registration in Level IV of a program in Communication Studies (Cultural Studies Stream)

Enrolment is limited.

**CMST 4N03 PRODUCING AND VIEWING THE NEWS**

This course will examine how the mode of production of the news influences audiences' perceptions and values of social and political life. Specific emphasis will be put on gate-keeping, agenda-setting and headline transformation.

Three hours (lectures and discussion); one term

Prerequisite: Registration in Level IV of a program in Communication Studies

Antirequisite: CMST 4K03

Students may take only one of CMST 4CC3, 4N03 or 4Q03.

Enrolment is limited.

**CMST 4Q03 ADVANCED TOPICS IN COMMUNICATION**

Students will learn about specific areas or aspects of research in communication studies, such as critical media discourse, culture and consumption, media and globalization, etc.

Three hours (lectures and discussion); one term

Prerequisite: Registration in Level IV of a program in Communication Studies

Antirequisite: CMST 4K03

Students may take only one of CMST 4CC3, 4N03 or 4Q03.

Enrolment is limited.

**CMST 4R03 CROSS-CULTURAL COMMUNICATION**

Students explore the links between language and culture and learn skills necessary to be intermediaries between cultures. Topics include: communication between genders, the cognitive role of metaphor, language and perception, emotions across cultures, culture and advertising, body language and cultural stereotyping.

Seminar (two hours); one term

Prerequisite: LINGUIST 1A03, 1AA3 and six units of Linguistics courses above Level I; or permission of the Department

Cross-list: LINGUIST 4R03

*Not open to students with credit in CMST 4H03, TOPICS IN THE APPLICATION OF LINGUISTICS, if the topic was Cross-Cultural Communication. Offered on an irregular rotation basis.*

*This course is administered by the Department of Linguistics and Languages.*

**CMST 4S03 INTERPERSONAL COMMUNICATION**

This course offers an introduction to contemporary interpersonal communication theories and research. Topics include: small group communication, persuasive communication, argumentation strategies, conflict resolution, as well as computer mediated, intercultural, international and political communication.

Seminar (two hours); one term

Prerequisite: LINGUIST 1A03, 1AA3 and six units of Linguistics courses above Level I; or permission of the Department

Cross-list: LINGUIST 4S03

*Not open to students with credit in CMST 4H03, TOPICS IN THE APPLICATION OF LINGUISTICS, if the topic was Interpersonal Communication. Offered on an irregular rotation basis.*

*This course is administered by the Department of Linguistics and Languages.*

**CMST 4T03 FORENSIC LINGUISTICS**

This course examines issues arising from the language-law interface, including: speaker/author identification; interpretation and transcription of police interrogations, witness statements, trial discourse; written legal language.

Seminar (two hours); one term

Prerequisite: LINGUIST 3X03

Cross-list: LINGUIST 4T03

*Not open to students with credit in CMST 4H03, TOPICS IN THE APPLICATION OF LINGUISTICS, if the topic was Forensic Linguistics. Offered on an irregular rotation basis.*

*This course is administered by the Department of Linguistics and Languages.*

**MULTIMEDIA ...**

**WEB ADDRESS:** <http://www.humanities.mcmaster.ca/~macmedia/>

Togo Salmon Hall, Room 512

Ext. 23488

**Courses** *If no prerequisite is listed, the course is open.***MMEDIA 1A03 INTRODUCTION TO DIGITAL MEDIA IN THE HUMANITIES**

Students will be introduced to the history, theory and design of digital media in the context of the arts and humanities. Students will learn to use Internet research resources to create digital media.

One lecture (two hours), one tutorial; one term

Antirequisite: COMP SCI 1BA3, 1SA3, 1TA3

*Enrolment is limited.*

**MMEDIA 1B03 THE DIGITAL IMAGE**

An introduction to the critique and creation of digital images. Readings will explore issues concerning the digital image and graphic design for the Internet. Students will be expected to use graphics software and create web pages in order to complete design assignments.

One lecture (two hours), one tutorial; one term

Antirequisite: MMEDIA 1BE3

*Enrolment is limited.*

**MMEDIA 1BE3 THE DIGITAL IMAGE FOR SOFTWARE ENGINEERING**

An introduction to the critique and creation of digital images. Readings will explore issues concerning the digital image and graphic design for the Internet. Students will be expected to use graphics software and create web pages in order to complete design assignments.

One lecture (two hours), one tutorial; one term

Prerequisite: Registration in the Software Engineering and Game Design program

Antirequisite: MMEDIA 1B03

*Enrolment is limited.*

**MMEDIA 2A03 INTRODUCTION TO MULTIMEDIA**

This course presents arts students with the fundamentals of computer-based multimedia. Students will read about and discuss how to critique multimedia works, create such works, and consider the application of multimedia technology.

One lecture (two hours), one tutorial; one term

Prerequisite: Registration in the Combined Honours in Multimedia program  
*Enrolment is limited.*

**MMEDIA 2B03 DIGITAL MEDIA (AUDIO AND VIDEO)**

A study of digital media where students will create and critique digital audio and video. Readings will explore the evolution of digital media and the technical and social aspects of digital audio and video.

One lecture (two hours), one tutorial; one term

Prerequisite: Registration in the Combined Honours in Multimedia program  
Antirequisite: MMEDIA 2BE3

*Enrolment is limited.*

**MMEDIA 2BE3 DIGITAL MEDIA (AUDIO AND VIDEO) FOR SOFTWARE ENGINEERING**

A study of digital media where students will create and critique digital audio and video. Readings will explore the evolution of digital media and the technical and social aspects of digital audio and video.

One lecture (two hours), one tutorial; one term

Prerequisite: MMEDIA 1BE3 and registration in the Software Engineering and Game Design program

Antirequisite: MMEDIA 2B03

*Enrolment is limited.*

**MMEDIA 2C03 COMPUTER ARCHITECTURE FOR MULTIMEDIA**

This course covers fundamentals of microcomputers, operating systems, and multimedia peripherals with emphasis on: diagnostic knowledge of hardware; operating systems for multimedia development; media acquisition hardware; standards for connecting media devices; computing history.

One lecture (two hours), one tutorial; one term

Prerequisite: Registration in the Combined Honours in Multimedia program  
*Enrolment is limited.*

**MMEDIA 2D03 ELECTRONIC TEXTUALITY AND PROGRAMMING**

An introduction to the fundamentals of markup languages for multimedia and programming information applications. Students will develop a markup model, create an electronic text database, and write stylesheets and programs to transform the data within the context of an original project.

One lecture (two hours), one tutorial; one term

Prerequisite: One of MMEDIA 1A03, 1B03, 1C03, 2I03, 2J03 or registration in the Honours Linguistic Cognitive Science program

*Enrolment is limited.*

**MMEDIA 2E03 COMPUTER GRAPHICS**

This course develops both technical and conceptual aspects of computer drawing using standard computer graphics tools. Students will concentrate on developing drawing abilities through the computer and will be expected to present their work and discuss that of others.

One lecture (one hour), one tutorial (one hour), one hour of independent study; one term

Prerequisite: MMEDIA 1A03 or 1B03

*Enrolment is limited.*

**MMEDIA 2F03 THE HISTORY OF GRAPHIC DESIGN**

An introduction to the history of graphic, two-dimensional design. The course demonstrates the admixture of high and popular culture that informs advertising, posters, book design and illustration, etc. Students will be introduced to desktop publishing.

Three lectures; one term

Prerequisite: Registration in Level II or above of a program in Art History, Communication Studies or Multimedia. Prior completion of ART HIST 1A03 and 1AA3 is recommended.

Cross-list: ART HIST 2F03, CMST 2N03

**MMEDIA 2G03 INTRODUCTION TO MIDI AND COMPUTER MUSIC**

Basic electroacoustic theory; introduction to digital music composition techniques; MIDI applications; computer music notation; aesthetics of music composition. Students produce at least one original work. Experience with computers/music composition not required.

Two lectures, one tutorial; one term

Prerequisite: Registration in the Combined Honours in Multimedia program or registration in Level II or above of a Music program

Cross-list: MUSIC 2Z03

*Enrolment is limited.*

**MMEDIA 2H03 INTRODUCTION TO ANIMATION**

An introduction to the history and basic principles of animation. Students will create a significant work of computer animation displaying a variety of techniques. Readings and discussions will cover theatre, film studies and narrative. Students will be expected to attend screenings.

One lecture (two hours), one tutorial/screening; one term  
Prerequisite: Registration in the Combined Honours in Multimedia program  
Antirequisite: MMEDIA 2HE3

*Enrolment is limited.*

**MMEDIA 2HE3 INTRODUCTION TO ANIMATION FOR SOFTWARE ENGINEERING**

An introduction to the history and basic principles of animation. Students will create a significant work of computer animation displaying a variety of techniques. Readings and discussions will cover theatre, film studies and narrative. Students will be expected to attend screenings.

One lecture (two hours), one tutorial/screening; one term  
Prerequisite: MMEDIA 2BE3 and registration in the Software Engineering and Game Design program  
Antirequisite: MMEDIA 2H03

*Enrolment is limited.*

**MMEDIA 2I03 DIGITAL RHETORIC AND COMMUNICATION**

An introduction to the history of rhetoric, the study of classical and electronic examples of oral discourse. Students analyze the persuasive technique of oral communication and deliver an expository speech with multimedia support.

Two lectures, one tutorial; one term  
Prerequisite: Registration in Level II or above

*Enrolment is limited.*

**MMEDIA 2J03 WRITING IN THE ELECTRONIC AGE**

An introduction to grammar and essay composition in the context of new writing technologies. Students will use supplementary writing software, WWW materials, email discussion lists and readings to explore the effects of information technology on communication.

One lecture, one tutorial, one lab; one term  
Prerequisite: Registration in Level II or above

Antirequisite: MMEDIA 1C03

*Enrolment is limited.*

**MMEDIA 3A03 ADVANCED MULTIMEDIA**

A study of multimedia programming, expanding upon the issues and techniques introduced in MMEDIA 2A03. Students will design and develop multimedia applications that combine text, images, sound, video, and animation. Critical readings and discussion will cover theories of interactivity, hypertext, and instructional technology.

One lecture (two hours), one tutorial; one term  
Prerequisite: MMEDIA 2A03 and registration in the Combined Honours in Multimedia program

*Enrolment is limited.*

**MMEDIA 3B03 TOPICS IN THE PHILOSOPHY AND HISTORY OF COMPUTING**

The history and philosophy of computing and communications technology; topics may include: Computers and Culture, The History of Computers and Communications Technology, Computers and Education, and Privacy and the Freedom of Speech in the Electronic Age.

Three hours; one term  
Prerequisite: Registration in Level III or IV of the Combined Honours in Multimedia program

**MMEDIA 3C03 ADVANCED MIDI AND DIGITAL AUDIO FOR MULTIMEDIA**

The creation of digital music and audio. Students work individually and in teams to develop skills for multimedia audio production. Topics include: advanced MIDI, mixing, audio processing, and frequency equalization.

Two lectures, one tutorial; one term  
Prerequisite: MMEDIA 2G03 or MUSIC 2Z03

Cross-list: MUSIC 3Z03

*Enrolment is limited.*

**MMEDIA 3E03 INTERACTIVE DIGITAL CULTURE**

Covers works, forms, theories of digitally interactive culture. Works may include hypertext fiction, computer games, interactive digital art, video, music; theories may cover hypertext, interactivity, immersion, simulation, reception, participatory culture.

One lecture (two hours), one tutorial; one term  
Prerequisite: Registration in Level III of the Combined Honours in Multimedia program

Antirequisite: MMEDIA 3EE3

*Alternates with MMEDIA 3K03.*

**MMEDIA 3EE3 INTERACTIVE DIGITAL CULTURE FOR SOFTWARE ENGINEERING**

Covers works, forms, theories of digitally interactive culture. Works may include hypertext fiction, computer games, interactive digital art, video, music; theories may cover hypertext, interactivity, immersion, simulation, reception, participatory culture.

One lecture (two hours), one tutorial; one term  
Prerequisite: MMEDIA 2HE3 and registration in the Software Engineering and Game Design program  
Antirequisite: MMEDIA 3E03

*Enrolment is limited.*

**MMEDIA 3F03 HUMAN COMPUTER INTERFACE DESIGN**

Explores history and design of computer interfaces, focusing on the relationship between computers and people. Topics include computer interface usability/evaluation; drama, narrative, and interface; interface and representation; the politics of interface design.

One lecture (two hours), one tutorial; one term  
Prerequisite: Six units of MMEDIA courses beyond Level I; and registration in the Combined Honours in Multimedia program or the Honours Linguistic Cognitive Science program

*Enrolment is limited.*

**MMEDIA 3G03 NETWORK SERVICES FOR MULTIMEDIA**

This course covers network systems/services for multimedia, emphasizing diagnostic knowledge of networked systems and services used for multimedia deployment. Focus on Web servers; also history of networking, the Internet, and the WWW.

One lecture (two hours), one tutorial; one term  
Prerequisite: Registration in the Combined Honours in Multimedia program

*Enrolment is limited.*

**MMEDIA 3H03 ADVANCED COMPUTER ANIMATION**

An advanced study of computer animation with a focus on 3D animation. Students will create a significant work of 3D animation and critique current examples. Readings may cover theories and techniques of animation, performance, film and narrative. Students will attend screenings.

One lecture (two hours), one lab (one hour every week); one term  
Prerequisite: MMEDIA 2H03 and registration in the Combined Honours in Multimedia program

*Enrolment is limited.*

**MMEDIA 3I03 ADVANCED DIGITAL VIDEO**

This course covers advanced techniques in digital video production, post production and delivery (i.e. interactive video, streaming media, video in multimedia.) Readings explore video art, digital and visual culture. Students create/critique digital video projects.

One lecture (two hours), one lab (one hour every week); one term  
Prerequisite: MMEDIA 2B03 and registration in the Combined Honours in Multimedia program

*Enrolment is limited.*

**MMEDIA 3J03 PROGRAMMING FOR THE WEB**

Students build dynamic web sites driven by databases and programmed with server-side and client-side scripting languages; examine operational database driven sites, interface design and documentation; create database-driven sites.

One lecture (two hours), one lab (one hour every week); one term  
Prerequisite: MMEDIA 2D03 or 3A03; and registration in the Combined Honours in Multimedia program or the Honours Linguistic Cognitive Science program

*Enrolment is limited.*

**MMEDIA 3K03 DIGITAL GAMES**

A study of the form, content, and playing of digital games. Topics include: form, genre, and technology; time and space; representation and narrative; and participatory play.

One lecture (two hours), one tutorial; one term  
Prerequisite: Registration in Level III or above of the Combined Honours in Multimedia program

*Alternates with MMEDIA 3E03.*

*Enrolment is limited.*

**MMEDIA 4A03 THE MANAGEMENT OF MULTIMEDIA**

Students build and manage content collections; lead and participate in team based multimedia production; study case histories. Readings cover the design of large media collections, management theory, copyright and intellectual property.

One lecture (two hours), one tutorial; one term  
Prerequisite: Registration in Level IV of the Combined Honours in Multimedia program. (See Program Note under the heading Multimedia in the Faculty of Humanities section of the Calendar.)

**MMEDIA 4B03 SENIOR THESIS PROJECT**

This course provides an opportunity to pursue individual advanced multimedia projects under the supervision of a Thesis Committee. Students will propose a multimedia project, have it approved by the Multimedia Program Committee and present their completed project publicly.

One term

Prerequisite: MMEDIA 4A03 and registration in Level IV of the Combined Honours in Multimedia program. (See Program Note under the heading Multimedia in the Faculty of Humanities section of the Calendar.)

**MMEDIA 4C03 COMPUTERS AND EDUCATION**

A survey of the history of instructional technology and uses of computers in education. Students review instructional materials; create, evaluate, and present an instructional application; and study effects of technology on education.

One lecture (two hours), one tutorial; one term

Prerequisite: MMEDIA 3A03

**MMEDIA 4D03 THE VISUALIZATION OF SPACE**

This course will introduce students to the design and theory of the visualization of space. Projects may include the digital design of fictional spaces, sculptural objects, dramatic settings, or archaeological re-creations.

One lecture (two hours), one lab; one term

Prerequisite: Registration in Level III or above of the Combined Honours in Multimedia program

Enrolment is limited.

**COMPARATIVE LITERATURE**

WEB ADDRESS: <http://www.humanities.mcmaster.ca/~complit>

Togo Salmon Hall, Room 726

Ext. 24265

Courses and programs in Comparative Literature are administered within the Office of Interdisciplinary Studies of the Faculty of Humanities. For information and counselling, please contact the Director of Comparative Literature (Ext. 24091).

**Faculty as of January 15, 2006****Director**

John C. Stout

**Professors**

Joseph Adamson/B.A. (Trent), M.A., Ph.D. (Toronto)

Nasrin Rahimieh/B.A., M.A. (Dalhousie); Ph.D. (Alberta)

**Associate Professor**

Jean Wilson/B.A. (McMaster), B.Ed., M.A., Ph.D. (Toronto)

**Committee of Instruction**

Joseph Adamson (English and Cultural Studies; Comparative Literature)

Iris Bruce (Linguistics and Languages)

Nina Kolesnikoff (Linguistics and Languages)

John C. Stout (French)

Jean Wilson (Comparative Literature; Linguistics and Languages)

**Notes:**

1. No language other than English is required for courses listed under Comparative Literature.
2. Not all courses are offered on an annual basis. Students should consult the timetable for available courses.

**Courses** *If no prerequisite is listed, the course is open.***COMP LIT 1A03 INTRODUCTION TO COMPARATIVE LITERATURE I**

Students engage in the close study of selected literary works from texts of antiquity to the beginnings of modern literature. Considerable attention is given to the development of critical skills in reading and writing.

Two lectures, one tutorial; one term

**COMP LIT 1AA3 INTRODUCTION TO COMPARATIVE LITERATURE II**

An introduction to comparative literary studies, through the exploration of selected works from the eighteenth century on. Considerable attention is given to the development of critical skills on reading and writing.

Two lectures, one tutorial; one term

**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: Registration in Level II or above

**COMP LIT 2AA3 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: Registration in Level II or above

**COMP LIT 2BB3 NORTH AND SOUTH AMERICAN LITERATURES**

A comparative study of key motifs in selected North and South American literary traditions which may include magic realism, the Gothic, poetry, fantasy and metafiction.

Three lectures; one term

Prerequisite: Registration in Level II or above

**COMP LIT 2CC3 WORLD LITERATURE**

An introduction to recent debates on what constitutes "world literature," focusing on a broad range of key works from several different continents, languages and cultures.

Three lectures; one term

Prerequisite: Registration in Level II or above

**COMP LIT 2D03 DRAMATIC FORMS**

Different performance techniques and conventions demand particular forms of dramatic narrative. By comparing the way similar stories are told in different media and genres, students identify the structuring elements of dramatic texts written for live performance, film television and music theatre.

Lectures and group presentations (three hours); one term

Prerequisite: Three units of Level I Theatre & Film or Drama and registration in Level II or above of a Comparative Literature program

Cross-list: CMST 2P03, THTR&FLM 2C03

Antirequisite: DRAMA 2D03, 2D06

*This course is administered by the School of the Arts.*

**COMP LIT 2E03 CONCEPTS OF CULTURE**

An analysis of the development of the concept of culture from the Enlightenment to the present. Theoretical readings combined with the analysis of specific cultural texts, objects, forms and practices will allow students to trace historical and contemporary debates concerning culture.

Three hours; one term

Prerequisite: Registration in a program in Communication Studies, Comparative Literature, Cultural Studies and Critical Theory or English

Cross-list: CMST 2M03, CSCT 2M03, ENGLISH 2M03

*This course is administered by the Department of English and Cultural Studies.*

**COMP LIT 2EE3 MODERN COUNTERCULTURES**

An exploration of a variety of cultural forms (e.g. literature, art, photography, film, music) produced by avant-gardes and counter-cultural groups from the mid-19th century to the present. Areas of investigation may include surrealism, futurism, the beats, the sixties, situationism and punk.

Three hours; one term

Prerequisite: Registration in a program in Communication Studies, Comparative Literature, Cultural Studies and Critical Theory or English

Cross-list: CMST 2MM3, CSCT 2MM3, ENGLISH 2MM3

*This course is administered by the Department of English and Cultural Studies.*

**COMP LIT 2F03 CONTEMPORARY CRITICAL APPROACHES TO LITERATURE**

The course will offer a grounding in reading literary texts from a range of contemporary critical approaches.

Three hours; one term

Prerequisite: Registration in a program in English, Comparative Literature or permission of the Departmental Counsellor for English and Cultural Studies

Cross-list: ENGLISH 2A03

*This course is administered by the Department of English and Cultural Studies.*

**COMP LIT 2G03 THE BIBLE AS LITERATURE**

An examination of narratives from the Hebrew Bible, Intertestamental literature, and New Testament, from a literary perspective. Attention is paid to narrative features such as character, plot, irony and symbolism, as well as to the dynamics of the reading experience.

Two lectures, one tutorial; one term

Prerequisite: Registration in Level II or above

Cross-list: RELIG ST 2VV3

*This course is administered by the Department of Religious Studies.*

**COMP LIT 2H03 GREEK AND ROMAN DRAMA**

Selected Greek and Roman Tragedies and Comedies will be read in translation. The course will concentrate on characterization and the philosophical and religious aspects of ancient drama.

Three lectures; one term

Prerequisite: Registration in Level II or above

Cross-list: CLASSICS 2H03

*This course is administered by the Department of Classics.*

**COMP LIT 2J03 TWENTIETH-CENTURY GERMAN FILM AND FICTION**

A study of literary and cinematic representations and appropriations of German culture from the Weimar Republic to the present.

Three lectures; one term

Prerequisite: Registration in Level II or above

**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 or above

Cross-list: CLASSICS 2D03

*This course is administered by the Department of Classics.*

**COMP LIT 3AA3 THEORIES OF GENDER AND SEXUALITY**

This course explores a range of theories of gender and sexuality by working through readings from the intersecting fields of feminist, queer and masculinity studies.

Three hours; one term

Prerequisite: Registration in a program in Comparative Literature, Cultural Studies and Critical Theory, English or Women's Studies

Cross-list: CSCT 3AA3, ENGLISH 3AA3, WOMEN ST 3HH3

*This course is administered by the Department of English and Cultural Studies.*

**COMP LIT 3BB3 NORTHROP FRYE AND GENRE**

This course focuses on the poetics of literary structures and genres as outlined in the seminal work of Northrop Frye.

Seminar (two hours); one term

Prerequisite: Registration in Level II or above of a Comparative Literature program

*Not open to students with credit in COMP LIT 3DD3, TOPICS IN LITERARY GENRES II, if the topic was Northrop Frye and Genre.*

**COMP LIT 3C03 TWENTIETH-CENTURY THEATRE**

An exploration of important formal and social experiments that marked twentieth-century theatre and paved the way for contemporary theatre forms.

Lecture and discussion (three hours); one term

Prerequisite: Three units of Theatre & Film or Drama and registration in Level III or IV of a Comparative Literature program

Cross-list: THTR&FLM 3E03

*Offered in alternate years.*

*This course is administered by the School of the Arts.*

**COMP LIT 3EE3 KAFKA AFTER KAFKA**

This course examines the influence of Franz Kafka's fiction on writers, critics, and film makers of the twentieth century.

Three hours; one term

Prerequisite: Registration in Level II or above

*Not open to students with credit in COMP LIT 3U03, TOPICS IN MODERN LITERATURE if the topic was Kafka after Kafka.*

**COMP LIT 3G03 EUROPEAN DRAMA**

A study of representative plays by major European dramatists from the 18th century to the present.

Two hours; one term

Prerequisite: Registration in Level II or above

**COMP LIT 3GG3 COMPARATIVE THEATRE**

A comparison of two or more theatrical traditions.

Three lectures; one term

Prerequisite: Three units of Theatre & Film or Drama and registration in Level III or IV of a Comparative Literature program

Cross-list: THTR&FLM 3H03

*Offered in alternate years.*

*This course is administered by the School of the Arts.*

**COMP LIT 3H03 BIBLICAL TRADITIONS IN LITERATURE**

A study of the influence of the Bible on Western literature, especially English. Approaches may include the examination of symbolism, imagery, typology, doctrinal themes and narrative structures.

Three hours; one term

Prerequisite: Registration in Level II or above

Cross-list: ENGLISH 3S03

*This course is administered by the Department of English and Cultural Studies.*

**COMP LIT 3HH3 WORLD POETRY**

Using a wide range of poetry from different cultures and historical periods as examples, this course explores the numerous characteristic features that constitute the diversity of the lyric.

Seminar (two hours); one term

Prerequisite: Registration in Level II or above of a Comparative Literature program

*Not open to students with credit in COMP LIT 3D03, TOPICS IN LITERARY GENRES I, if the topic was The Lyric.*

**COMP LIT 3I03 TOPICS IN GREEK AND ROMAN LITERATURE**

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 program

Cross-list: CLASSICS 3I03

*COMP LIT 3I03 may be repeated, if on a different topic, to a total of six units.*

*This course is administered by the Department of Classics.*

**COMP LIT 3J06 THE AGE OF ELIZABETH I**

A consideration of this tumultuous age, galvanized by revolutions in exploration, religion, and selfhood, and ruled by a female monarch. Authors include Spenser, Sidney and women writers.

Three hours; two terms

Prerequisite: Registration in a program in Comparative Literature

Cross-list: ENGLISH 3I06

*This course is administered by the Department of English and Cultural Studies.*

**COMP LIT 3JJ3 THE FAIRY TALE**

An examination of fairy tales from a variety of cultures and historical periods. Students will also explore theories of the folktale and their implications for our understanding of other literary genres.

Seminar (two hours); one term

Prerequisite: Registration in Level II or above of a Comparative Literature program

*Not open to students with credit in COMP LIT 3DD3, TOPICS IN LITERARY GENRES II, if the topic was The Fairy Tale.*

**COMP LIT 3K03 20TH-CENTURY RUSSIAN LITERATURE**

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 or above

**COMP LIT 3L03 READING FILM**

A critical examination of selected films and film genres as cultural texts, using methods drawn from film theory and cultural studies.

Three hours, plus one weekly film screening; one term

Prerequisite: Registration in Level II or above of a program in Art History, Communication Studies, Comparative Literature, Cultural Studies and Critical Theory, English or Theatre & Film Studies. It is recommended that students should already have completed one of CMST 2X03, 2X06, DRAMA 2X06, THTR&FLM 2F03

Cross-list: CMST 3CC3, CSCT 3CC3, ENGLISH 3CC3, THTR&FLM 3R03

*This course is administered by the Department of English and Cultural Studies.*

**COMP LIT 3M03 ASIAN LITERATURES**

A study of representative texts from Asian Literatures. The course will focus, in particular, on the literatures of India, China and Japan.

Three lectures; one term

Prerequisite: Registration in Level II or above

*Offered in alternate years.*

**COMP LIT 3MM3 THE LITERATURE OF ISRAEL AND PALESTINE**

Through the study of relevant literature and film, with a focus on contemporary Israeli and Arab texts, students gain a context for the exploration of conflicts in the Middle East.

Three hours; one term

Prerequisite: Registration in Level II or above

Cross-list: PEACE ST 3MM3

**COMP LIT 3N03 ARABIC AND PERSIAN LITERATURES**

A study of representative texts from Arabic and Persian literatures, read in English translation. May include a segment on film.

Three lectures; one term

Prerequisite: Registration in Level II or above

Offered in alternate years.

**COMP LIT 3NN3 WOMEN IN GERMAN LITERATURE AND CULTURE**

This course explores the rich literary and cultural history of women writers, filmmakers and artists from the early Middle Ages to the present in German-speaking Europe.

Three hours; one term

Prerequisite: Registration in Level II or above

Cross-list: GERMAN 3NN3, WOMEN ST 3NN3

Offered in alternate years.

This course is administered by the Department of Linguistics and Languages.

**COMP LIT 3Q03 THE HISTORY OF CRITICAL THEORY**

A survey of the main developments in critical theory from Plato to the end of the 19th century. Areas of investigation may include: art, aesthetics, civil society, representation, ethics and knowledge.

Three hours; one term

Prerequisite: Registration in Level III or IV of a Comparative Literature program

Cross-list: CSCT 3Q03, ENGLISH 3Q03

This course is administered by the Department of English and Cultural Studies.

**COMP LIT 3QQ3 CONTEMPORARY CRITICAL THEORY**

This course examines selected issues in contemporary critical theory. Areas of investigation may include: representation, power/knowledge, discourse, subjectivity, and the body.

Three hours; one term

Prerequisite: Registration in a program in Comparative Literature, Cultural Studies and Critical Theory or English. COMP LIT 3Q03, CSCT 3Q03 or ENGLISH 3Q03 is recommended.

Cross-list: CSCT 3QQ3, ENGLISH 3QQ3

This course is administered by the Department of English and Cultural Studies.

**COMP LIT 3R06 POSTCOLONIAL CULTURES: THEORY AND PRACTICE**

A study of contemporary texts including literature, film, art and other forms of popular culture that engage the implications of living in a postcolonial world. Close consideration will be given to issues of imperialism, globalization, race, gender, ethnicity, nation, language and representation.

Three hours; two terms

Prerequisite: Registration in Level III or IV of a Comparative Literature program

Cross-list: CSCT 3R06, ENGLISH 3R06, PEACE ST 3E06

This course is administered by the Department of English and Cultural Studies.

**COMP LIT 3RR3 CRITICAL RACE STUDIES**

This course examines contemporary debates in critical race theory in an attempt to critically decode the operations of race in literary and cultural texts.

Three hours; one term

Prerequisite: Registration in a program in Comparative Literature, Cultural Studies and Critical Theory, English, Peace Studies or Women's Studies

Cross-list: CSCT 3A03, ENGLISH 3A03, PEACE ST 3A03, WOMEN ST 3H03

This course is administered by the Department of English and Cultural Studies.

**COMP LIT 3SS3 19TH-CENTURY RUSSIAN LITERATURE**

A study of the major novels by Dostoevsky and Tolstoy.

Three lectures; one term

Prerequisite: Registration in Level II or above

**COMP LIT 3T03 ANCIENT THEATRE IN CONTEXT**

The history of theatres and theatrical production in Greece and Rome with consideration of the social significance of drama in antiquity. The course will also include archaeological material.

Three lectures; one term

Prerequisite: COMP LIT 2H03 or six units of Classics

Cross-list: CLASSICS 3T03

This course is administered by the Department of Classics.

**COMP LIT 3V03 TOPICS IN NATIONAL CINEMAS I**

This course examines film in relation to nations and national contexts. Areas of investigation may include filmic production of a particular country, national belonging and transnational identities.

Two-hour lecture and discussion, plus one weekly film screening; one term

Prerequisite: One of DRAMA 2B03, 2X06, THTR&FLM 1B03, 2E03, 2F03; and registration in Level III or IV of a Comparative Literature program

Cross-list: CMST 3T03, THTR&FLM 3Q03 (formerly DRAMA 3T03)

Offered on an irregular rotation basis.

This course is administered by the School of the Arts.

**COMP LIT 3VV3 TOPICS IN NATIONAL CINEMAS II**

This course examines film in relation to nations and national contexts. Areas of investigation include filmic production of global/local characteristics.

Two hour lecture and discussion, plus one weekly film screening; one term

Prerequisite: One of DRAMA 2B03, 2X06, THTR&FLM 1B03, 2E03, 2F03

Cross-list: CMST 3TT3, THTR&FLM 3QQ3

Antirequisite: DRAMA 3TT3

Offered on an irregular rotation basis.

This course is administered by the School of the Arts.

**COMP LIT 3WW3 INTERNATIONAL WOMEN WRITERS**

A critical analysis of a selection of literary works by women authors from across the globe, with an emphasis on theories of gender and sexuality.

Two hours; one term

Prerequisite: Registration in Level II or above

Cross-list: WOMEN ST 3WW3

**COMP LIT 3Y03 CLASSICAL LITERATURE AND BEYOND**

A study of representative texts from the Greek and Roman literary traditions as well as their influence and afterlife in one or more later literary traditions.

Two hours; one term

Prerequisite: Registration in Level II or above of a program in Classics or Comparative Literature, or permission of the Director of Comparative Literature or the Chair of Classics

Cross-list: CLASSICS 3Y03

This course is administered by the Department of Classics.

**COMP LIT 4A03 EUROPEAN ROMANTICISM**

A study of selected literary texts of European Romanticism, including women's writing of the period. Attention is also given to Romantic aesthetic theory. Seminar (two hours); one term

Prerequisite: Registration in Level III or IV of a Comparative Literature program

Antirequisite: COMP LIT 4AA3

**COMP LIT 4D03 LITERATURE AS PEACE RESEARCH**

An exploration of new ways of thinking about war, peace, human security and conflict transformation, with emphasis on a close study of selected literary texts.

Two hours; one term

Prerequisite: Registration in Level III or IV of a program in Comparative Literature or Peace Studies

Cross-list: PEACE ST 4D03

**COMP LIT 4E03 TOPICS IN COMPARATIVE LITERATURE**

Previous topics include: Twentieth-Century Women Writers, Literature and Ideology. Consult the Office of Interdisciplinary Studies concerning topic to be offered.

Seminar (two hours); one term

Prerequisite: Registration in Level III or IV of a Comparative Literature program

COMP LIT 4E03 may be repeated, if on a different topic, to a total of six units.

**COMP LIT 4F03 PSYCHE AND CULTURE**

This course explores the psychoanalytic understanding of culture with reference to three main areas: ideology, gender polarity and imaginative culture (the arts and literature).

Seminar (two hours); one term

Prerequisite: Registration in Level III or IV of a Comparative Literature program

Antirequisite: CSCT 4PC3, ENGLISH 4PC3

Not open to students with credit in COMP LIT 4C03, LITERATURE AND OTHER DISCIPLINES, if the topic was Psyche and Culture.

**COMP LIT 4G03****BERLIN/VIENNA:  
THE CULTURAL LIFE OF A CITY**

Students will embark on an interdisciplinary journey into the cultural history of a city from the 19th century to the present. Through literary texts, songs, films, works of art and architecture varied presentations of the city in high and popular culture will be examined.

Three hours; one term

Prerequisite: Registration in Level III or IV

Cross-list: GERMAN 4G03

Offered on an irregular rotation basis.

This course is administered by the Department of Linguistics and Languages.

**COMP LIT 4I13 INDEPENDENT STUDY**

The student will prepare, under the supervision of a faculty member, a research paper involving independent study of an approved topic.

Prerequisite: Registration in Level IV of a Comparative Literature program and permission of the Director of Comparative Literature

**COMP LIT 4J03 THE SPLIT SCREEN - RECONSTRUCTING  
NATIONAL IDENTITIES IN WEST  
AND EAST GERMAN CINEMA**

This course examines German film texts of the post-war period and their representation of West and East German identities. Films will be discussed within the context of important political, social and cultural developments at the time of the films' production.

Two hours plus one film screening per week; one term

Prerequisite: Registration in Level III or IV

Cross-list: GERMAN 4J03, THTR&FLM 4J03

Offered on an irregular rotation basis.

This course is administered by the Department of Linguistics and Languages.

**COMP LIT 4T03 SPECIAL TOPICS**

Previous topics include: Lesbian and Gay Literature, Postmodern Fiction. Consult the Office of Interdisciplinary Studies concerning topic to be offered. Seminar (two hours); one term

Prerequisite: Registration in Level III or IV of a Comparative Literature program

COMP LIT 4T03 may be repeated, if on a different topic, to a total of six units.

**COMPUTER ENGINEERING**

(SEE ELECTRICAL AND COMPUTER ENGINEERING)

**COMPUTER SCIENCE**

(SEE COMPUTING AND SOFTWARE)

**COMPUTING AND SOFTWARE**

WEB ADDRESS: <http://www.cas.mcmaster.ca>

Information Technology Building, Room 202

Ext. 24614

**Faculty as of January 15, 2006****Acting Chair**

Martin von Mohrenschildt

**Professors**

Ivan Bruha/Dipl. Ing. (CVUT, Prague), RNDr (Charles, Prague), Ph.D. (CVUT, Prague)

William M. Farmer/B.A. (Notre Dame), M.A., M.S., Ph.D. (Wisconsin-Madison)

Frantisek Franek/M.Sc., R.N.Dr. (Charles, Prague), Ph.D. (Toronto)

Ryszard Janicki/M.Sc. (Warsaw), Ph.D., D.Hab. (Polish Acad. Sci.)

Thomas S.E. Maibaum/B.Sc. (Toronto), Ph.D. (London), F.I.E.E., F.R.S.A., C.Eng.

David L. Parnas/B.S., M.S., Ph.D. (Carnegie), Dr.h.c. (ETH Zürich), Dr.h.c. (Louvain), F.R.S.C., F.A.C.M., P.Eng.

Sanzheng Qiao/B.S., M.S. (Shanghai Teacher's College) M.S., Ph.D. (Cornell)

Paul A. Taylor/B.Sc., Ph.D. (Univ. of Wales), P.Eng.

Tamás Terlaky/M.Sc., Ph.D. (Loránd Eötvös)

Jeffery I. Zucker/B.Sc. (Witwatersrand), Ph.D. (Stanford)

**Associate Professors**

Antoine Deza/M.Eng. (Ecole Nationale des Ponts et Chaussées, Paris), Ph.D. (Tokyo Institute of Technology)

Douglas G. Down/B.A.Sc., M.A.Sc. (Toronto), Ph.D. (Illinois-Urbana)

Wolfram Kahl/M.Sc. (Oxford), Dr.rer.nat. (University of the German Armed Forces, Munich)

Ridha Khedri/B.Eng. (Tunis), M.Sc., Ph.D. (Laval)

Mark S. Lawford/B.Sc. (Queen's), M.A.Sc., Ph.D. (Toronto), P.Eng.

Ned Nedialkov/B.Sc. (Sophia, Bulgaria), M.Sc., Ph.D. (Toronto)

W.F. Skipper Poehlman/B.S. (Niagara), B.Sc. (Brock), M.Sc., Ph.D. (McMaster), P.Eng.

Martin von Mohrenschildt/Dipl.Math., Dr.Sc.Math. (ETH-Zürich)

Emil Sekerinski/Dipl.Inf., Dr.rer.nat. (Karlsruhe)

Alan Wasssyng/B.Sc., B.Sc., M.Sc., Ph.D. (Witwatersrand)

**Assistant Professors**

Christopher Anand/B.Math. (Waterloo), M.Sc., Ph.D. (McGill)

Jacques Carette/B. Math. (Waterloo), M.Sc. (Montreal), Ph.D. (Paris-Sud)

George Karakostas/Dipl. Eng. (Patras), M.S.A., Ph.D. (Princeton)

Ryan Leduc/B.Eng. (Victoria), M.A.Sc., Ph.D. (Toronto), P.Eng.

Jiming Peng/B.Sc. (Xiang Tan University), M.Sc. (Chinese Academy of Sciences), Ph.D. (Delft University of Technology)

Kamran Sartipi/B.Sc., M.Sc. (Tehran), Ph.D. (Waterloo)

Spencer Smith/B.Eng., M.Eng., Ph.D. (McMaster)

Michael Soltys/B.Sc., M.Sc., Ph.D. (Toronto)

**COMPUTER SCIENCE ...****Department Notes:**

1. While the Faculty of Engineering is responsible for all Computer Science courses, Computer Science Programs are administered by the Faculty of Science.
2. Students wishing to pursue a Computer Science Minor are referred to the Department of Computing and Software in the Faculty of Science section of this Calendar.
3. MATH 1N03 and 1NN3 or ARTS&SCI 1D06 or ARTS&SCI 1D06 can serve as an equivalent prerequisite for upper level Computer Science courses in which MATH 1A03, 1AA3 or 1C03 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 and introduction to computer communications; introduction to operating systems; basics of word processing/desktop publishing and information exchange using the Internet; problem solving using electronic spreadsheets; elementary database concepts. Three lectures, one tutorial; one term

Prerequisite: Registration in the School of Business and one Grade 12 U or M Mathematics credit; or one of MATH 1K03, 1M03, STATS 1L03

Antirequisite: COMP SCI 1TA3, MMEDIA 1A03

**COMP SCI 1FC3 MATHEMATICS FOR COMPUTING**

Introduction to logic and proof techniques; functions, relations, and sets; counting; trees and graphs; concepts are illustrated using computational tools. Three lectures, one tutorial (two hours); second term

Prerequisite: Credit or registration in one of MATH 1A03, 1M03, 1N03, 1X03, ARTS&SCI 1D06. COMP SCI 1MA3 is recommended

**COMP SCI 1MA3 COMPUTER BASED PROBLEM SOLVING**

A first course in computer science, focusing on the practice of problem solving, in the context of interesting software applications. Problem formulation, problem decomposition, procedural formulation of problem solution. Three lectures, one tutorial, one lab; one term

Prerequisite: MATH 1K03 or Grade 12 Advanced Functions and Introductory Calculus U

**COMP SCI 1MD3 INTRODUCTION TO PROGRAMMING**

Introduction to disciplined programming; programming environments; debugging; imperative programming constructs; values and types; libraries; file input-output. Computer Science concepts are illustrated. Three lectures, one tutorial; second term

Prerequisite: Credit or registration in one of MATH 1A03, 1M03, 1N03, 1X03, ARTS&SCI 1D06. COMP SCI 1MA3 is recommended

**COMP SCI 1SA3 COMPUTING FUNDAMENTALS**

Overview of the computer as a tool for problem solving with emphasis on design of sequential programs for problem solving. Topics covered include: organization of microcomputers (hardware and operating systems); data representation; communications and networks; the Internet and Web pages; application packages. Three lectures, one tutorial; one term

Prerequisite: MATH 1K03 or Grade 12 Advanced Functions and Introductory Calculus U

Not open to students with credit or registration in COMP SCI 1BA3, 1MA3, 1MC3, 1TA3.

**COMP SCI 1TA3 ELEMENTARY COMPUTING AND COMPUTER USE**

Organization of microcomputers (hardware and operating systems) and overview of computer communications; introduction to information exchange using word processing/presentation software, the Internet and Web pages; problem solving using electronic spreadsheets and database applications.

Three lectures, one tutorial; one term

Antirequisite: COMP SCI 1BA3, MMEDIA 1A03

Not open to students with credit or registration in Business I, COMP SCI 1MA3, 1MC3, 1SA3 or HUMAN 2E03.

**COMP SCI 2CA3 COMPUTER ARCHITECTURE AND ORGANIZATION**

Computer design: RISC/CISC, instruction sets, memory hierarchy; parallelism: instruction level, software level, multi-threading; storage systems: RAID levels, errors/failures, networks, clusters.

Three lectures; second term

Prerequisite: COMP SCI 2MF3

Antirequisite: COMP SCI 3MG3, SFWR ENG 3GA3

**COMP SCI 2CS3 COMMUNICATION SKILLS**

Oral and written presentation skills; document types and structure; software documentation for the user; formulating and presenting proposals.

Three lectures; first term

Prerequisite: Registration in Level II or above

Antirequisite: SFWR ENG 3I03

**COMP SCI 2ME3 SOFTWARE DESIGN FUNDAMENTALS**

Software development models; modularization; information hiding; specification and abstraction; software requirements; software maintenance; metrics; testing theory and strategies; documentation.

Three lectures; second term

Prerequisite: COMP SCI 2SC3

Antirequisite: SFWR ENG 2AA4

**COMP SCI 2MF3 DIGITAL SYSTEMS AND SYSTEMS PROGRAMMING**

Basic computer technology: gates, registers, memory; machine programming; arithmetic: representations, arithmetic/logic unit, floating point systems; system component details: CPU, memory, I/O devices; pipelining.

Three lectures, one tutorial; first term

Prerequisite: COMP SCI 1MD3

Antirequisite: COMP ENG 2DI4, ELEC ENG 2DI4, SFWR ENG 2DA3, SFWR ENG 3F03

**COMP SCI 2MJ3 THEORY OF COMPUTATION**

Finite state machines, regular languages, regular expressions, applications of regular languages, grammars, context-free languages, models of computation, introduction to complexity theory.

Three lectures, one tutorial (two hours); first term

Prerequisite: COMP SCI 1FC3

**COMP SCI 2003 OBJECT ORIENTED PROGRAMMING**

The object oriented approach to software: classes, objects, fields, methods; modelling and problem decomposition techniques using classes; concurrency, threads, synchronization, communication; inheritance; interface documentation; design documentation.

Three lectures, one tutorial; second term

Prerequisite: COMP SCI 2SC3

**COMP SCI 2SC3 IMPERATIVE PROGRAMMING AND BASIC DATA STRUCTURES**

Disciplined programming in the C language; problem decomposition; iteration and recursion; dynamic memory allocation; design, use and implementation of elementary fixed-size and dynamic data structures.

Three lectures, one tutorial; first term

Prerequisite: COMP SCI 1MD3

Antirequisite: COMP ENG 2SI4, ELEC ENG 2SI4, SFWR ENG 2S03

**COMP SCI 3CB3 SYSTEM ARCHITECTURE FOR INTERACTIVE APPLICATIONS**

A second course in computer architecture with special emphasis on the implementation of virtual-machine language processors (e.g. Forth, Java) and their use for implementing server-client software architecture.

Three lectures; one term

Prerequisite: COMP SCI 2MF3; and registration in Level III or above of a Computer Science program or in Level III of B.Sc. Mathematical Science

Last offered in 2006-2007.

**COMP SCI 3CN3 COMPUTER NETWORKS AND SECURITY**

Networked computer systems: physical media, TCP/IP protocols, switching methods; net layering and components: data link; network, transport; application: wireless, ubiquitous; secure systems: protocols, perimeter defences, access control issues, retrofitting.

Three lectures, one lab; second term

Prerequisite: COMP SCI 3IS3, 3MH3

Antirequisite: SFWR ENG 4C03

First offered in 2007-2008.

**COMP SCI 3DA3 DATA STRUCTURES AND ALGORITHMS**

Abstract data structures; implementation of dense and sparse structures; hashing; sorting; dynamic programming; greedy algorithms; graph algorithms; complexity; organization of libraries.

Three lectures; first term

Prerequisite: Credit or registration in COMP SCI 2SC3

Antirequisite: COMP ENG 2SI4, COMP SCI 2MD3, ELEC ENG 2SI4, SFWR ENG 2C03

First offered in 2007-2008.

**COMP SCI 3DB3 DATA BASES**

Data models, relational databases; SQL; integrity; security; object-oriented and other databases; data storage; query processing; transactions; concurrency control; recovery; distributed and parallel database architectures.

Three lectures; second term

Prerequisite: Credit or registration in COMP SCI 2CA3 or 3MH3

Antirequisite: SFWR ENG 3H03, 4M03

First offered in 2007-2008.

**COMP SCI 3EA3 SOFTWARE DESIGN II (2006-2007 ONLY)**

Object-oriented modelling, design and implementation, fault tolerance and reliability, embedded software, configuration management.

Three lectures; one term

Prerequisite: COMP SCI 2ME3

Antirequisite: SFWR ENG 2B03, 2B04, 3K04

**COMP SCI 3EA3 SOFTWARE SPECIFICATIONS AND CORRECTNESS (EFFECTIVE 2007-2008)**

Formal specifications in software development; logical formalisms; functional and relational specifications; completeness and consistency of specifications; verification; validation; presentation of information; tool supported verification.

Three lectures; first term

Prerequisite: COMP SCI 2ME3

Antirequisite: SFWR ENG 3A04

**COMP SCI 3IA3 SYMBOLIC PROCESSING AND LOGIC PROGRAMMING**

Methodologies, data and control structures for symbolic processing: symbolic expressions; lists, list processing functions, backtracking, matching procedures; resolution principle; elements of logic programming (Prolog).

Three lectures; one term

Prerequisite: COMP SCI 2MD3

Last offered in 2006-2007.

**COMP SCI 3IS3 INFORMATION SECURITY**

Basic principles of information security; threats and defences; cryptography; introduction to network security and security management.

Three lectures; first term

Prerequisite: Credit or registration in COMP SCI 2MJ3

First offered in 2007-2008.

**COMP SCI 3MG3 COMPUTER SYSTEM ARCHITECTURE**

Major components of a computer and their design issues; instruction set, data path, control, memory, and I/O. Principles of computer arithmetic, pipelining, memory hierarchy, and virtual memory.

Three lectures; one term

Prerequisite: COMP SCI 2MD3, 2MF3

Antirequisite: COMP SCI 2CA3, SFWR ENG 3G03, 3GA3

Last offered in 2006-2007.

**COMP SCI 3MH3 PRINCIPLES OF OPERATING SYSTEMS (2006-2007 ONLY)**

Concepts of operating systems; process coordination, memory management, file systems; introduction to distributed systems and computer networks. Involves group projects.

Three lectures; one term

Prerequisite: COMP SCI 3MG3

Antirequisite: COMP SCI 3SH3, 4SH3



# COMBINED B.A. IN INDIGENOUS STUDIES AND ANOTHER SUBJECT

WEB ADDRESS: <http://www.mcmaster.ca/indigenous/default.htm>

Hamilton Hall, Room 103  
Ext. 27426

## Director

D.J. Martin-Hill/B.A., M.A., Ph.D.

## Aboriginal Student Counsellor

R. McLester/B.A.

## ACADEMIC REGULATIONS

### STUDENT ACADEMIC RESPONSIBILITY

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

The Combined B.A. Program in Indigenous Studies is governed by the general Academic Regulations of the University and the regulations described below.

## Combined B.A. Program in Indigenous Studies and Another Subject

### ADMISSION

Completion of any Level I program, with a Cumulative Average of at least 3.5 including an average of at least 4.0 in six units from CAYUGA 1Z03, INDIG ST 1A03, 1AA3, MOHAWK 1Z03, OJIBWE 1Z03 or a grade of at least C- in one of CAYUGA 1Z06, INDIG ST 1A06, MOHAWK 1Z06 or OJIBWE 1Z06 and satisfaction of admission requirements for the B.A. program in the other subject.

### NOTES

- Those students who entered the program prior to September 2005 should follow the requirements as specified in the Calendar which was in effect the year they entered the program.
- Three units of work in the other subject of the combined program which are also in the Course List may be used to fulfill the requirements of both program components.
- Students who previously completed ANTHROP 3F03 or POL SCI 3C03 may use these units toward the Course List requirement.

### COURSE LIST

ANTHROP 2B03, 2H03, 2VV3, 2W03, 3Y03  
SOC WORK 4103

### REQUIREMENTS

90 units total (Levels I to III), of which 42 may be Level I  
30 units from the Level I program completed prior to admission to the program. (See Admission above.)  
6 units from CAYUGA 2Z03, INDIG ST 2AA3, MOHAWK 2Z03, OJIBWE 2Z03  
3 units from INDIG ST 2C03, 2D03  
15 units from Level II, III Indigenous Studies, CAYUGA 2Z03, MOHAWK 2Z03, OJIBWE 2Z03 (if not taken to satisfy requirement above), courses from the Course List of which at least three units must be Level III. (See Notes 2 and 3 above.)  
24 units courses specified for the other subject  
12 units Electives

## Minor in Indigenous Studies

### NOTES

- No more than six of the 18 units from Course List may be Level I courses.
- At least 12 of the 18 units required for the Minor must be Indigenous Studies or Indigenous language courses.
- Students who previously completed ANTHROP 3F03, INDIG ST 3I03, 3J03 or POL SCI 3C03 may use these units toward the Course List requirement.

### COURSE LIST

INDIG ST 1A03	Introduction to Indigenous Studies
INDIG ST 1AA3	Introduction to Contemporary Indigenous Studies
INDIG ST 2A03	Indigenous Peoples' Spirituality
INDIG ST 2AA3	Indigenous Knowledge and Methodology
INDIG ST 2B03	History of Indigenous Peoples' Sovereignty
INDIG ST 2C03	Contemporary Indigenous Societies and Issues: Selected Topics Topic 2006-2007: TBA
INDIG ST 2D03	Traditional Indigenous Ecological Knowledge
INDIG ST 3C03	Study of Iroquois First Nations in Contemporary Times
INDIG ST 3CC3	Contemporary Indigenous Societies: Selected Topics Topic 2006-2007: TBA
INDIG ST 3D03	Contemporary Native Literature in Canada
INDIG ST 3E03	Contemporary Native Literature in the United States
INDIG ST 3G03	Indigenous Creative Arts and Drama: Selected Topics Topic 2006-2007: TBA
INDIG ST 3H03	Indigenous Medicine I - Philosophy
INDIG ST 3HH3	Indigenous Medicine II - Practical
INDIG ST 3K03	Indigenous Human Rights
INDIG ST 3L03	Indigenous Independent Study
CAYUGA 1Z03	Introduction to Cayuga Language and Culture
CAYUGA 2Z03	Intermediate Cayuga
MOHAWK 1Z03	Introduction to Mohawk Language and Culture
MOHAWK 2Z03	Intermediate Mohawk
OJIBWE 1Z03	Introduction to Ojibwe Language and Culture
OJIBWE 2Z03	Intermediate Ojibwe
ANTHROP 2B03	Indigenous Peoples of North America
ANTHROP 2H03	Environment and Culture
ANTHROP 2VV3	The Ancient Maya
ANTHROP 2W03	The Aztecs and Incas
ANTHROP 3Y03	Aboriginal Community Health and Well-Being
SOC WORK 4103	Social Work and Indigenous Peoples

### REQUIREMENTS

6 units

18 units

from INDIG ST 1A03, 1AA3, CAYUGA 1Z03, MOHAWK 1Z03, OJIBWE 1Z03 from the Course List (See Notes 2 and 3 above.)

# INTERDISCIPLINARY MINORS AND THEMATIC AREAS

## INTERDISCIPLINARY MINORS

The following two listings constitute University-sanctioned Minors in Archaeology and Jewish Studies.

No degree is granted for these programs of study, but students registered in four- or five-level programs can receive a Minor designation on their transcripts following graduation if their chosen Minor program is successfully completed. Please see the *Minor* subsection in the *General Academic Regulations* section of this Calendar for further information.

**NOTE:** Students should note that not all courses listed are available each year. As well, it is the student's responsibility to check carefully for prerequisites, corequisites and enrolment restrictions.

### Archaeology

#### Coordinator

Eduard Reinhardt (*Geography and Earth Sciences*)

#### Committee of Instruction

Joe Boyce (*Geography and Earth Sciences*)

Aubrey Cannon (*Anthropology*)

Laura Finsten (*Anthropology*)

Michele George (*Classics*)

Darren Gröcke (*Geography and Earth Sciences*)

Celina Gray (*Classics*)

Alexandra Retzleff (*Classics*)

Hendrik Poinar (*Anthropology*)

Kostalena Michelaki (*Anthropology*)

W. Jack Rink (*Geography and Earth Sciences*)

Shelley Saunders (*Anthropology*)

Henry Schwarcz (*Geography and Earth Sciences*)

The Interdisciplinary Minor in Archaeology is based on archaeology and archaeology-related courses offered in the School of Geography and Earth Sciences, and in the Departments of Classics and Anthropology. It requires students to gain knowledge and understanding of a broad range of arts and sciences relevant to the practice of archaeology, but also permits students the flexibility to specialize in topics of particular interest within related disciplines. Students planning a minor in Archaeology may wish to take CLASSICS 1L03 (History and Archaeology of the Ancient World I) and CLASSICS 1LL3 (History and Archaeology of the Ancient World II).

#### COURSE LIST

ANTHROP 2C03	Environmental Crises in Archaeological Perspectives
ANTHROP 2FF3	Human Skeletal Biology and Bioarchaeology
ANTHROP 2O03	North American Prehistory
ANTHROP 2VV3	The Ancient Maya
ANTHROP 2W03	The Aztecs and Incas
ANTHROP 3AS3	Archaeology and Society
ANTHROP 3CA3	Ceramic Analysis
ANTHROP 3CC6	Archaeological Field School
ANTHROP 3DD3	Archaeology of Death
ANTHROP 3E03	Special Topics in Archaeology I
ANTHROP 3EE3	Special Topics in Archaeology II
ANTHROP 3K03	Archaeological Interpretation
ANTHROP 3N03	Primate Evolution
ANTHROP 3PP3	Paleopathology
ANTHROP 3X03	Zooarchaeology
ANTHROP 4E03	Advanced Topics in Archaeology I
ANTHROP 4EE3	Advanced Topics in Archaeology II
ANTHROP 4F03	Archaeological Theory
ANTHROP 4HF3	Archaeology of Hunters and Foragers
ANTHROP 4R03	Skeletal Biology of Earlier Human Populations
CLASSICS 2B03	Greek Art
CLASSICS 2C03	Roman Art
CLASSICS 3Q03	Greek Sanctuaries
CLASSICS 3S03	The Archaeology of the City of Rome and Roman Italy

CLASSICS 4B03	Seminar in Classical Archaeology
ENVIR SC 1G03	Earth and the Environment
GEO 2B03	Soils and the Environment
GEO 2E03	Earth History
GEO 2G03	Earth Surface Processes
GEO 2GG3	Natural Disasters
GEO 2I03	GIS and Digital Cartography
GEO 3CC3	Earth's Changing Climate
GEO 3DD3	Geoarchaeology of the Underwater Realm
GEO 3E03	Sedimentary Environments
GEO 3G03	Glacial Sediments and Environments
GEO 3I03	Applied GIS
GEO 3P03	Environmental Paleontology
GEO 3Q03	Environmental Reconstruction Using Stable Isotopes
GEO 3V03	Environmental Geophysics
GEO 4E03	Coastal Environments
GEO 4FF3	Topics of Field Research
GEO 4G03	Glacial Sediments and Environments
GEO 4I03	Advanced GIS

#### REQUIREMENTS

##### 24 units total

12 units ANTHROP 1B03 (or 1Z03, if completed prior to 1999), 2PA3, CLASSICS 1A03 (formerly CLASSICS 2A03), ENVIR SC 1G03

12 units from Course List (see above). At least nine of the 12 units must be selected from outside the student's own department.

*Please see the Course Listings section for a detailed description of the above courses.*

### Jewish Studies

Jewish Studies is an international, multidisciplinary field devoted to the study of Judaism, Jewish history, thought, culture and community. The Minor in Jewish Studies is open to all students registered in a four- or five-level program in any Faculty. Students will be required to complete a minimum of 24 units from the lists below. At least 12 of these units will be taken from List A, comprised of courses focusing directly on an area of Jewish Studies. Students are urged to take at least six units of Hebrew language as part of their List A requirements. A minimum of six units will be taken from List B, comprised of courses which provide crucial background for understanding important issues in Jewish Studies. Students taking List B courses as part of their minor are required to write assignments and research papers on topics directly related to Jewish Studies.

Students are also encouraged to engage in a year of study in Israel, normally done in the third year of a four-year program. Details are available through the Department of Religious Studies, University Hall, Room 104, ext. 24567, or the Office of International Affairs, Alumni Memorial Hall, Room 203.

Students wishing to pursue a Minor in Jewish Studies may obtain more information from the Jewish Studies Minor Area Coordinator in the Department of Religious Studies, University Hall, Room 104.

#### LIST A

COMP LIT 2G03	The Bible as Literature
COMP LIT 3MM3	Topics in Modern Literature: Israel/Palestine: Boundaries Crossing Boundaries
HEBREW 2A03	Introduction to Biblical Hebrew I
HEBREW 2B03	Introduction to Biblical Hebrew II
HEBREW 3A03	Intermediate Hebrew I
HEBREW 3B03	Intermediate Hebrew II
HISTORY 3DD3	The Jewish World in New Testament Times
HISTORY 3Z03	Judaism, the Jewish People and the Birth of the Modern World
HISTORY 3ZZ3	Judaism and the Jewish People in the Twentieth Century
PHILOS 3J03	Modern Jewish Thought
RELIG ST 2B03	Women in the Biblical Tradition
RELIG ST 2DD3	The Five Books of Moses
RELIG ST 2EE3	Prophets of the Bible
RELIG ST 2VV3	The Bible as Literature
RELIG ST 2YY3	The Bible and Film
RELIG ST 3A03	Modern Jewish Thought

- RELIG ST 3DD3 The Jewish World in New Testament Times
- RELIG ST 3J03 Jews, Christians, and Others in Antiquity
- RELIG ST 3K03 The Bible through the Ages
- RELIG ST 3M03 Songs of David: Poetry in the Hebrew Bible
- RELIG ST 3R03 Death and the Afterlife in Early Judaism and Christianity
- RELIG ST 3Z03 Judaism, the Jewish People and the Birth of the Modern World
- RELIG ST 3ZZ3 Judaism and the Jewish People in the Twentieth Century

**LIST B**

- ANTHROP 3B03 Ethnology: Europe
- ANTHROP 3G03 Comparative Mythology
- ANTHROP 3H03 Anthropological Demography
- CLASSICS 2P06 Ancient Greek Philosophy
- HISTORY 3AA3 The Modern Middle East
- HISTORY 3I03 The International Relations of the European Powers, 1870-1945
- PEACE ST 3F03 The Modern Middle East
- PEACE ST 3I03 The International Relations of the European Powers, 1870-1945
- PHILOS 2A06 Ancient Greek Philosophy
- PHILOS 2D03 Moral Issues
- PHILOS 3A06 From Kant to Hegel
- PHILOS 3H03 Philosophy of Religion
- POL SCI 3AA3 International Politics in the Postwar Period
- POL SCI 4D06 Human Rights and International Politics
- RELIG ST 2C03 Moral Issues
- SOC WORK 4C03 Racism and Social Marginalization in Canadian Society
- SOC WORK 4J03 Social Change: Social Movements and Advocacy
- SOC WORK 4M03 International and Comparative Social Welfare
- SOCIOLOG 2E06 Racial and Ethnic Group Relations
- SOCIOLOG 3Z03 Ethnic Relations

*Please see the Course Listings section for a detailed description of the above courses.*

**THEMATIC AREAS**

The following listing is designed to assist you in choosing courses in areas of study, in which there is currently no B.A. program.

**Asian Studies**

While there is no B.A. program in Asian Studies, students interested in concentrating in this area may choose from among the following courses offered by various departments. Those desiring further information on specific courses should consult the departmental listing in the Calendar.

Students wishing to pursue Asian Studies may obtain further information from Dr. D. Barrett, Chester New Hall, Room 625, ext. 24130.

**COURSES DEALING STRICTLY WITH ASIAN MATERIAL**

- ART HIST 2Z03 Art and Visual Culture in East Asia
- ART HIST 3Z03 Chinese Art and Visual Culture, 200 - 750
- CMST 2AA3 Japanese Communication
- COMMERCE 4SF3 Japanese Business
- COMP LIT 3M03 Asian Literatures
- COMP LIT 3N03 Arabic and Persian Literatures
- GEO 3HJ3 Geography of Japan
- HISTORY 3AA3 The Modern Middle East
- HISTORY 3B03 Modern Japan
- HISTORY 3GG3 China: the Revolutionary Century, 1895-1995
- HISTORY 4BB6 Special Topics in the History of Modern Japan
- HISTORY 4GG6 Topics in Middle Eastern and Islamic History
- POL SCI 2N03 Politics of India and South Asia
- RELIG ST 2F03 Storytelling in East Asian Religions
- RELIG ST 2I03 Storytelling in Indian Religion
- RELIG ST 2L03 Life, Work and Teachings of Mahatma Gandhi
- RELIG ST 2P06 Japanese Civilization
- RELIG ST 3AA3 Popular Religion in the Indian Tradition
- RELIG ST 3E03 Japanese Religion
- RELIG ST 3L03 The Indian Religious Tradition
- RELIG ST 3P03 Buddhism in Tibet

- RELIG ST 3S03 The East Asian Religious Tradition
- RELIG ST 3U03 The Buddhist Tradition in India
- RELIG ST 3UU3 Buddhism in East Asia
- RELIG ST 3V03 Indian Philosophy
- RELIG ST 4H03 Topics in Asian Religions
- THTR&FLM 2H03 The Contemporary Japanese Film

**COURSES WITH SIGNIFICANT ASIAN CONTENT**

- ECON 2C03 Asian-Pacific Economies
- HISTORY 2HH3 Mediterranean Encounters, 1500-1800
- POL SCI 4MM6 Topics in International Political Economy
- RELIG ST 1B06 World Religions
- RELIG ST 2BB3 Images of the Divine Feminine
- RELIG ST 2H03 Theory and Practice of Non-Violence
- RELIG ST 2QQ3 Cults in North America
- RELIG ST 2SS3 Women and Religion
- RELIG ST 2WW3 Health, Healing and Religion

**LANGUAGE COURSES**

- JAPANESE 1Z06 Beginner's Intensive Japanese
- JAPANESE 2Z03 Intermediate Intensive Japanese I
- JAPANESE 2ZZ3 Intermediate Intensive Japanese II
- JAPANESE 3A03 Advanced Intensive Japanese I
- JAPANESE 3AA3 Advanced Intensive Japanese II
- JAPANESE 3B03 Business Japanese I
- JAPANESE 3CC3 Business Japanese II
- JAPANESE 4A03 Advanced Readings in Current Affairs in Japanese
- JAPANESE 4Z03 Advanced Practice in Japanese
- JAPAN ST 4A06 Guided Reading in Japanese Studies
- JAPAN ST 4B03 Guided Reading in Japanese Studies
- SANSKRIT 3A06 Introduction to Sanskrit Grammar
- SANSKRIT 4B06 Readings in Sanskrit Texts

*Please see the Course Listings section for a detailed description of the above courses.*

**Canadian Studies**

There is no B.A. in Canadian Studies, but students interested in this area may choose from among the following courses, subject to meeting the prerequisites.

**HUMANITIES**

- ART HIST 3B03 Aspects of Canadian Art
- ENGLISH 2C03 Contemporary Canadian Fiction
- FRENCH 2E03 Literature of Quebec
- FRENCH 3AA3 The Modern French-Canadian Novel
- FRENCH 4U03 Topics in French-Canadian Literature
- HISTORY 2T03 Survey of Canadian History, Beginnings to 1885
- HISTORY 2TT3 Survey of Canadian History, 1885 to the Present
- HISTORY 3G03 Business History: The Canadian Experience in International Perspective
- HISTORY 3NN3 Canada's Revolutions: 1939-1982
- HISTORY 3P03 Religion and Society in Canada
- HISTORY 3W03 Women in Canada and the U.S. to 1920
- HISTORY 3WW3 Women in Canada and the U.S. from 1920
- HISTORY 3Y03 Death, Disease and Degeneration: A History of Health and Health Care in Canada
- MUSIC 3T03 Canadian Music

**SOCIAL SCIENCES**

- ANTHROP 3Y03 Aboriginal Community Health and Well-Being
- ECON 2K03 Economic History of Canada
- GEO 2HC3 Canada
- GEO 3HT3 Geography of Planning
- GEO 4HZ3 Urban Housing
- POL SCI 1G06 Politics and Government
- POL SCI 3FF3 Canadian Foreign Policy
- POL SCI 3GG3 Federalism: Theoretical, Constitutional and Institutional Issues
- POL SCI 3HH3 Intergovernmental Policy Issues in Canada
- POL SCI 3JJ3 Provincial Politics in Canada
- POL SCI 4O06 Canadian Public Policy

*Please see the Course Listings section for a detailed description of the above courses.*

## PART-TIME DEGREE STUDIES

The University offers a broad range of educational opportunities if you wish to take degree studies on a part-time basis. In addition to the daytime offerings in the Fall/Winter there is a wide selection of evening classes available in the Fall/Winter and Spring/Summer sessions. There is a limited number of daytime classes scheduled for the Spring/Summer session.

If you take degree courses, 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 program of study. The Level I courses will give you the information you need for this purpose, as well as provide the prerequisites for more advanced courses and admission to programs of study. The programs of study which are available entirely through evening and summer courses are indicated on the *Degrees by Program* chart, in the *Degrees, Programs and Courses* section of this Calendar. You should also familiarize yourself with the requirements and information found in the following sections: *Admission Requirements*, *General Academic Regulations* and *Sessional Dates*, as well as the program descriptions found in the specific Faculty sections.

## ADMISSION

**Before you register for any degree course or program, you must apply for admission.**

- If you have already completed some university, community college, or other post-secondary education, you will be required to submit official transcripts of this work in order to be considered for admission and possible credit towards your McMaster program.
- If you satisfy the University's normal admission requirements for full-time study, you may choose to register for part-time study in most programs.
- If you do not satisfy these requirements, you may be admissible as a **Mature Student** and given the opportunity to show that you can deal successfully with university work. 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.

## INFORMATION AND COUNSELLING

**WEB ADDRESS:** <http://www.mcmaster.ca/parttime>

Interested students may telephone the Office of the Registrar, Admissions, at (905) 525-4600 for information about application procedures and admission regulations. The Office is located in Gilmour Hall, Room 108, and is open Monday through Friday until 4:00 p.m. Hours are extended various times throughout the year to accommodate the registration process.

More detailed information and advice concerning programs and courses is provided by the Academic Counsellors within each Faculty as follows:

- Business: ext. 23941
- Humanities: ext. 27532
- Science: ext. 27590
- Social Sciences: ext. 23772

Information about non-degree courses and programs is available through the Centre for Continuing Education (905) 525-9140, ext. 24321 or at the following url: <http://www.mcmaster.ca/conted/> or in the *Certificate and Diploma Programs* section in this Calendar.

## MAPS

The McMaster Association of Part-time Students (MAPS) maintains an office and student lounge in the McMaster University Student Centre, Room 234, telephone (905) 525-9140, ext. 22021. MAPS also publishes a newsletter, *The Link*, which is sent to all part-time students. The office and lounge are open from Monday to Thursday, day and evening, and Friday during the day.

MAPS staff is available during these hours to help students. All part-time students are invited to use these facilities and to assist their Association in its efforts to improve the quality and range of educational opportunities available to students who can only attend university on a part-time basis.

# CERTIFICATE AND DIPLOMA PROGRAMS

## CENTRE FOR CONTINUING EDUCATION

Located at The Downtown Centre, 50 Main Street East, Hamilton, 2nd Floor, the Centre for Continuing Education offers Certificate and Diploma programs. Short courses and workshops for personal and professional development are also available. The Centre offers registration in degree courses as a *Listener*. For details, please contact the Centre for Continuing Education at extension 24321 or <http://www.mcmastercce.com>

## CERTIFICATE AND DIPLOMA PROGRAMS APPROVED FOR ADVANCED CREDIT

All CCE Certificate and Diploma programs have been approved by the Senate of McMaster University for advanced credit, as shown below. Information regarding advanced credit for degree study is outlined in *Graduates of McMaster Certificate/Diploma Programs* in the *Admission Requirements* section of this Calendar.

### ACCOUNTING, DIPLOMA IN {8956}

**Maximum Credit Toward Degree Studies - 24 units**

This eleven-course program is designed for individuals planning a career in managerial or financial accounting. All courses satisfy program requirements for both the Society of Management Accountants of Ontario (SMA) and the Certified General Accountants Association (CGA).

### ADDICTION CAREWORKER, DIPLOMA IN {8951}

**Maximum Credit Toward Degree Studies - 24 units**

The diploma requirements consist of 24 units of study organized in compulsory courses and skill and knowledge electives. The program meets the core education hours required by The Canadian Addiction Counsellors Certification Federation (CACCF) for professional certification.

### ADDICTION STUDIES, CERTIFICATE IN {8969}

**Maximum Credit Toward Degree Studies - 15 units**

This 15 unit program is designed to provide elective studies in the field of addictions.

### BUSINESS ANALYSIS, DIPLOMA IN {8931}

**Maximum Credit Toward Degree Studies - 24 units**

The Diploma in Business Analysis, is a two-tiered program that combines the technical and management skills, techniques and practices required of an effective business analyst in an information systems environment.

### CASE MANAGEMENT, CERTIFICATE IN {8939}

**Maximum Credit Toward Degree Studies - 15 units**

This six-course program, is designed to develop and/or enhance the ability of health and social service professionals to perform case management functions in a variety of practice settings. Available in-class or on-line.

### CERTIFIED CLINICAL RESEARCH ASSOCIATE, CERTIFICATE IN {8924}

**Maximum Credit Toward Degree Studies - 15 units**

This five-course program is designed to develop the concepts, skills, strategies, attitudes and knowledge required to perform clinical trials.

### CREATIVES WRITING, CERTIFICATE IN {8941}

**Maximum Credit Toward Degree Studies - 15 units**

This program covers the fundamentals and advanced study of writing and publishing across many different genres. It has been developed in collaboration with the Faculty of Humanities and members of the local writing community.

### FAMILY MEDIATION, CERTIFICATE/DIPLOMA IN {8938/8948}

**Maximum Credit Toward Degree Studies**

- 15 units (Certificate)
- 24 units (Diploma)

This five-course (Certificate)/eight-course (Diploma) program offers a rewarding career opportunity for people in a variety of professions to either gain new experience or expand their skills and knowledge in the fields of alternative dispute resolution and family mediation.

### HUMAN RESOURCES MANAGEMENT, DIPLOMA IN {8958}

**Maximum Credit Toward Degree Studies - 24 units**

The Diploma in Human Resources Management will provide the knowledge and skills essential to succeed as a practitioner in Human Resources Management. This program offers all courses required to fulfill the academic requirement of HRPPO to become eligible to write the certification exam for the Certified Human Resources Professional (CHRP) designation.

### MANAGEMENT STUDIES, DIPLOMA IN {8929}

**Maximum Credit Toward Degree Studies - 24 units**

This eight course program offered in association with the Michael G. DeGroot School of Business at McMaster is designed to develop and/or enhance the business management skills needed to function within a management position.

### METALLURGY OF IRON AND STEEL CERTIFICATE {8991}

**Maximum Credit Toward Degree Studies - 15 units**

This six-course program comprehensively covers metallurgical principles involved in the extraction, refining and manufacturing of ferrous products.

### POLICE STUDIES, DIPLOMA IN {8921}

**Maximum Credit Toward Degree Studies - 24 units**

This program is designed to develop a capacity for critical inquiry at the university level, while augmenting the training received by police and security personnel.

### WEB DESIGN AND DEVELOPMENT, CERTIFICATE/DIPLOMA IN {8932/8930}

**Maximum Credit Toward Degree Studies**

- 15 units (Certificate)
- 24 units (Diploma)

This program focuses on the development of technical, design and communication skills as they relate to development in the field of website management.

### PROFESSIONAL ASSOCIATIONS AND INSTITUTES

Many McMaster Certificate and Diploma credit courses are recognized as course equivalencies by the following external associations and institutes:

- Addiction Intervention Association (AIA)
- Association of Administrative Assistants (QAA)
- Canadian Addiction Counsellors Certification Federation (CACCF)
- Canadian Institute of Certified Administrative Managers (CAM)
- Canadian Institute of Management (CIM)
- Certified General Accountants Association of Ontario (CGA)
- Credit Institute of Canada
- Credit Union Institute of Canada (CUIC)
- Global Risk Management Institute (CRM and FRM)
- Human Resources Professionals Association of Ontario (HRPAO)
- Institute of Canadian Bankers (ICB)
- Insurance Institute of Canada-Fellowship (FCIP)
- International Personnel Management Association (IPMA)
- Purchasing Management Association of Canada (PMAC)
- Society of Management Accountants of Ontario

Please contact the Centre for Continuing Education for details.

## **SCHOOL OF GEOGRAPHY AND EARTH SCIENCES**

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The part-time certificate and diploma programs offered by the School of Geography and Earth Sciences can be completed in one or two years and are intended for students with basic academic or experiential training in GIS/Geomatics who wish to obtain a qualification in the theoretical and practical aspects of spatial analysis as well as in the more technical aspects of GIS. Further information can be obtained at <http://sciwebserver.science.mcmaster.ca/gislab/programs/index.html> or by contacting the GIS Laboratory, School of Geography and Earth Sciences at (905) 525-9140 ext. 22542.

### **DIPLOMA IN SPATIAL INFORMATION SCIENCE {8919}**

The eight-course diploma program focuses on advanced concepts in spatial analysis and GIS, complemented with skills in software development and large spatial database design and management. Professionals and graduates are encouraged to register for single courses in this diploma to upgrade their skills.

### **CERTIFICATE IN GIS {8947} (GEOGRAPHIC INFORMATION SYSTEMS)**

The six-course certificate program provides expertise and applied skills in desktop GIS tools, remote sensing and spatial statistics for multidisciplinary applications. This program provides an introduction to geographic information systems (GIS) for students or professionals with no prior GIS experience.

For information concerning other Diploma programs offered at the University, please see the *Post-Professional Health Sciences Education Programs* in the *Faculty of Health Sciences* section as well as the *Diploma in Music Performance* in the *Faculty of Humanities* section of this Calendar.

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# COURSE LISTINGS

The courses listed in this section include all courses approved for the undergraduate curriculum for the 2006-2007 academic year. Not all courses in the approved curriculum will be offered during the year. Students are advised to refer to the course timetables available annually in March, May and August to determine which specific courses will be offered in the upcoming sessions.

## ANTHROPOLOGY

WEB ADDRESS: <http://www.socsci.mcmaster.ca/anthro/>

Chester New Hall, Room 524

Ext. 24423

### Faculty as of January 15, 2006

#### Chair

Matthew Cooper

#### Professors

Aubrey Cannon/B.A. (*Simon Fraser*), Ph.D. (*Cambridge*)  
 John J. Colarusso/(*Linguistics and Languages*) B.A. (*Cornell*), M.A. (*Northwestern*), Ph.D. (*Harvard*)  
 Matthew Cooper/B.A. (*Brooklyn College*), M.Phil., Ph.D. (*Yale*)  
 Harvey Feit/B.A. (*Queen's*), M.A. Ph.D. (*McGill*) F.R.S.C.  
 Laura Finsten/B.A. (*Western Ontario*), M.A. (*Calgary*), Ph.D. (*Purdue*)  
 D. Ann Herring/B.A., M.A., Ph.D. (*Toronto*)  
 William L. Rodman/B.A. (*Sydney*), M.A., Ph.D. (*Chicago*)  
 Shelley Saunders/B.A., M.A., Ph.D. (*Toronto*), F.R.S.C./Canada Research Chair in Human Disease and Population Relationships

#### Adjunct Professors

Regna Darnell/(*Western Ontario*) B.A. (*Bryn Mawr*), M.A., Ph.D. (*Pennsylvania*)  
 Christopher Ellis/(*Western Ontario*), B.A. (*Waterloo*), M.A. (*McMaster*), Ph.D. (*Simon Fraser*)  
 Michael Spence/(*Western Ontario*) B.A., M.A. (*Toronto*), Ph.D. (*Southern Illinois*)

#### Associate Professors

Ellen Badone/(*Religious Studies*) B.A., M.A. (*Toronto*), Ph.D. (*California-Berkeley*)  
 Petra Reithmann/B.A. (*Vienna*), M.A. (*Munich*), Ph.D. (*McGill*)  
 Wayne Warry/B.A., M.A. (*McMaster*), Ph.D. (*ANU*)  
 Dennis Willms/B.A. (*Waterloo*), M.A. (*McMaster*), Ph.D. (*British Columbia*)

#### Adjunct Associate Professors

Trudy Nicks/(*Royal Ontario Museum*), B.A., M.A., Ph.D. (*Alberta*)  
 Robert W. Park/(*Waterloo*) B.A. (*Toronto*), M.A. (*McMaster*), Ph.D. (*Alberta*)

#### Assistant Professors

Eva Mackey/B.A. (*Toronto*), M.A., Ph.D. (*Sussex*)  
 Kostalena Michelaki/B.A. (*Greece*), M.A., Ph.D. (*Michigan*)  
 Christina Moffat/B.Sc. (*Toronto*), B.A., Ph.D. (*McMaster*)  
 Ana Ning/B.A., M.A., Ph.D. (*York*)  
 Hendrik Poinar /B.Sc., M.Sc.(*California*), Ph.D. (*Germany*)

#### Associate Members

Darren Gröckel/(*Geography and Earth Sciences*) B.Sc., (*Adelaide*), M.Sc.(*Monash*), D.Phil. (*Oxford*)  
 Eduard G. Reinhardt/(*Geography and Earth Sciences*) B.A., Ph.D. (*Carleton*)  
 Celia Rothenberg/(*Religious Studies*) B.A. (*Wellesley College*), M.S. (*Oxford*), Ph.D. (*Toronto*)

### Department Notes:

1. Not all Anthropology courses listed in this Calendar are taught every year. Students are advised to consult the department's webpage and the timetable which is published annually by the Registrar's Office to determine whether a course is offered.
2. Registration in all courses with a course code ending \*\* listed as selected topics and independent research require prior arrangement with the instructor; otherwise, no grade will be submitted for the course.
3. To identify Anthropology courses by subdiscipline, students should refer to the lists of courses under Anthropology Subfields in the section Faculty of Social Sciences, Department of Anthropology.

### Courses *If no prerequisite is listed, the course is open.*

#### ANTHROP 1A03 INTRODUCTION TO ANTHROPOLOGY: CULTURE AND SOCIETY

An introduction to the cross-cultural study of existing peoples, their ways of life, and the ways in which they interpret and experience the world. The course discusses a broad range of societies in order to explore some fundamental issues involving human knowledge and behaviour. Two hours (lecture), one hour (tutorial); one term

#### ANTHROP 1B03 WORLD ARCHAEOLOGY

An overview of the chronology and diversity of human prehistory. Examples of archaeological evidence from around the world are used to illustrate the long-term processes of cultural history. Two hours (lecture), one hour (tutorial); one term

#### ANTHROP 1Z03 THE HUMAN SPECIES: BECOMING AND BEING HUMAN

The study of the interaction between biology and culture. Topics may include: human origins, non-human primates, the concept of race, disease, sex and gender.

Two hours (lecture), one hour (tutorial); one term

#### ANTHROP 2A03 THE ANTHROPOLOGY OF FOOD AND NUTRITION

An anthropological perspective on nutrition at the population level. Pre-historic, historic, and contemporary human nutrition, emphasizing links with the environment.

Three hours (lectures and discussion); one term

Prerequisite: Three units of Level I Anthropology

#### ANTHROP 2B03 INDIGENOUS PEOPLES OF NORTH AMERICA

A comparative study of selected cultures of this continent, dealing with traditional and modern situations.

Three hours (lectures and discussion); one term

#### ANTHROP 2C03 ENVIRONMENTAL CRISES IN ARCHAEOLOGICAL PERSPECTIVES

Examination of the influence of natural and human-induced environmental crises on long-term culture histories.

Three hours (lectures and discussion); one term

Prerequisite: ANTHROP 1B03

#### ANTHROP 2D03 GENETICS IN ANTHROPOLOGY

An introduction to human genetics, microevolution and macroevolution.

Three hours (one hour lecture, two hour lab); one term

Prerequisite: ANTHROP 1Z03

(There will be a supplementary fee for supplies used in labs.)  
 Enrolment is limited.

#### ANTHROP 2DD3 PRIMATE BEHAVIOUR

A survey of current issues in primate behaviour, including taxonomy, demography, social structure, reproduction, play cognition and sociobiology. Students will conduct a zoo observation study.

Three hours (lecture and discussion); one term

Prerequisite: Six units of Level I Anthropology

#### ANTHROP 2E03 HUMAN VARIATION AND EVOLUTIONARY CHANGE

An introduction to the study of human evolution and variability in living species of human and non-human primates.

Three hours (lectures and discussion); one term

Prerequisite: Six units of Level I Anthropology. ANTHROP 1Z03 is strongly recommended.

*This course is required of all students registered in an Honours Program in Anthropology, and is a prerequisite for advanced courses in Physical Anthropology.*

#### ANTHROP 2F03 CULTURAL ANTHROPOLOGY

An introduction to concepts, theories, and current debates in cultural anthropology. This course is designed to prepare students for more advanced courses in social and cultural anthropology.

Three hours (lectures and discussion); one term

Prerequisite: Six units of Level I Anthropology. ANTHROP 1A03 is strongly recommended.

*This course is required of all students registered in an Honours Program in Anthropology.*

#### ANTHROP 2FF3 HUMAN SKELETAL BIOLOGY AND BIOARCHAEOLOGY

Study of the human skeleton (bones and dentition) for application in archaeology and forensic anthropology. Includes determination of sex, age, stature and other individual characteristics.

Three hours (lectures, discussion and lab); one term

Prerequisite: Registration in an Honours Anthropology program. Completion of ANTHROP 1Z03 is strongly recommended

*Enrolment is limited.*

**ANTHROP 2G03 READINGS IN INDO-EUROPEAN MYTH**

This course will acquaint students with the myths of Ancient Greece, Ancient India, the Celts, and the Norse. Other traditions may also be examined. Three hours (lectures and discussion); one term

**ANTHROP 2GG3 MYTHS OF EURASIA AND THE NEW WORLD**

An introduction to selected themes in the myths of non-Indo-European peoples of Europe, Asia, and North America.

Three hours (lectures and discussion); one term

Prerequisite: ANTHROP 2G03.

*Enrolment is limited.*

**ANTHROP 2H03 ENVIRONMENT AND CULTURE**

Relationships between human societies and their environments are examined. A focus is how culture shapes our ideas of nature and the consequence of our actions. Case studies explore both environmental movements and aboriginal societies.

Three hours (lectures and discussion); one term

**ANTHROP 2L03 PHONETICS**

A study of the sounds of language and human articulatory capabilities. Three hours (lectures); one term

Prerequisite: LINGUIST 1A03 or permission of the instructor

Cross-list: LINGUIST 2L03

*This course is administered by the Department of Linguistics and Languages.*

**ANTHROP 2LC3 LINGUISTICS AND CULTURE A: STRUCTURALISM**

A study of the application of linguistic models, particularly structuralism, to sociocultural anthropology and related disciplines.

Three hours (lectures and discussion); one term

Prerequisite: Registration in Level II and above

Antirequisite: ANTHROP 2Q03, 3LC3, LINGUIST 2Q03

**ANTHROP 2LL3 INTRODUCTION TO LINGUISTIC TYPOLOGY**

The study of diversity in the languages of the world, language universals and the parameters of cross-linguistic analysis of grammatical systems. Three hours (lectures and discussion); one term

Prerequisite: LINGUIST 1A03 and 1AA3 (or 1A06); or permission of the Department

Cross-list: LINGUIST 2LL3

*This course is administered by the Department of Linguistics and Languages.*

**ANTHROP 2LP3 LANGUAGE AND PREHISTORY**

A survey of the language families of the world, emphasizing the historical implications of language distributions. Historical linguistic methods will be introduced and compared with archaeological findings for prehistoric Eurasia, Africa, Oceania and North America.

Three hours (lectures and discussion); one term

**ANTHROP 2O03 NORTH AMERICAN PREHISTORY**

An examination of the origins and development of the major indigenous cultural groups of prehistoric North America.

Three hours (lectures and discussion); one term

Prerequisite: Three units of Anthropology. ANTHROP 1B03 or 2PA3 is strongly recommended.

**ANTHROP 2P03 PEOPLES OF THE PACIFIC**

Introduction to the peoples of the islands of the Pacific - their history, traditions and current ways of life, and their responses to contact, colonialism and cultural change. Focus will be equally upon the past and the present in Oceania.

Three hours (lectures and discussion); one term

**ANTHROP 2PA3 INTRODUCTION TO PREHISTORIC ARCHAEOLOGY**

An introduction to the goals and methods of archaeological research with a focus on specific problems in human prehistory.

Three hours (lectures and discussion); one term

Prerequisite: Three units of Level I Anthropology

*This course is required of all students registered in an Honours Program in Anthropology.*

**ANTHROP 2R03 RELIGION, MAGIC, AND WITCHCRAFT**

Selected issues in the study of religion, magic, and witchcraft, science, and the supernatural. Perspectives from history, psychology, and sociology also will be discussed.

Three hours (lectures and discussion); one term

Prerequisite: ANTHROP 1A03 or 2F03

**ANTHROP 2U03 PLAGUES AND PEOPLE**

A consideration of the role played by infectious disease in human evolution. The social and biological outcomes of major epidemics and pandemics, past and present, will be explored.

Two hours (lecture), one hour (tutorial); one term

*Enrolment is limited.*

**ANTHROP 2VV3 THE ANCIENT MAYA**

An introduction to prehistoric Maya society and culture, with an emphasis on the Classic period civilization.

Three hours (lectures); one term

*Not open to students with credit in ANTHROP 2V03, AZTECS, MAYA AND INKA prior to September 2001.*

**ANTHROP 2W03 THE AZTECS AND INCAS**

An introduction to and comparison of the late pre-Columbian Aztec empire of Mexico and the Inca empire of Andean South America.

Three hours (lectures); one term

Antirequisite: ANTHROP 2V03

**ANTHROP 2X03 VIOLENCE IN ANTHROPOLOGICAL PERSPECTIVE**

The aim of the course is to assess the extent to which violence is both controlled by and an expression of society and culture.

Three hours (lectures and discussion); one term

**ANTHROP 2Z03 INTRODUCTION TO SOCIAL RESEARCH**

This course is designed to develop those skills necessary to pursue and understand research. Several general methods of sociological research will be examined.

Three hours (lectures and discussion); one term

Prerequisite: Registration in any Anthropology program

Cross-list: SOCIOL 2Z03

Antirequisite: CMST 2A03, GEO 2HR3, GERONTOL 2C03, HEALTH ST 2B03

*This course is administered by the Department of Sociology.*

**ANTHROP 3A03 PHONOLOGY**

A study of the patterns of distinctive sounds in the world's languages.

Three hours (lectures); one term

Prerequisite: One of ANTHROP 2L03 or LINGUIST 2L03; or permission of the instructor

Prerequisite (Beginning in 2006-2007): One of ANTHROP 2L03, LINGUIST 2L03

Antirequisite: ANTHROP 2M03, LINGUIST 3A03

Cross-list: LINGUIST 3A03

*This course is administered by the Department of Linguistics and Languages.*

**ANTHROP 3AS3 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 THE EUROPEAN MOSAIC**

An introduction to the social and cultural diversity of contemporary Europe. Issues to be explored include socioeconomic change regionalism, nationalism and the European Union; religion and ethnicity; racism and xenophobia.

Three hours (lectures and discussion); one term

Prerequisite: Six units of Cultural/Social Anthropology

**ANTHROP 3C03 HEALTH AND ENVIRONMENT: ANTHROPOLOGICAL APPROACHES**

Examination of the ways in which humans alter and cope with their environment. Topics include: health inequalities, nutrition, population, urbanization, resource utilization, and industrial pollution.

Three hours (lectures and discussion); one term

Prerequisite: Three units of Level I Anthropology, and registration in Level III or IV of any program. ANTHROP 2E03 is strongly recommended.

**ANTHROP 3CA3 CERAMIC ANALYSIS**

Examination of theories and methods used by archaeologists to analyze ceramics and understand past ceramic technologies. The class will include strong hands-on and original-research components.

Three hours (lectures, labs, discussion); one term

Prerequisite: ANTHROP 2PA3

*Not open to students with credit in ANTHROP 3EE3, if the topic was Ceramic Analysis.*

*Enrolment is limited.*



**ANTHROP 3CC6 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 3DD3 ARCHAEOLOGY OF DEATH**  
Archaeological analysis and interpretation of burial practices and other death-ritual.  
Three hours (lectures and discussion); one term  
Prerequisite: ANTHROP 2PA3

**ANTHROP 3E03 SPECIAL TOPICS IN ARCHAEOLOGY I**  
2006-2007 Topic: Farming, Frontiers and Transitions  
The topic varies with each instructor (e.g. one class may examine *Ancient Mesoamerican Cities* and another focus on *The Archaeology of Hierarchy*).  
Three hours (lectures and discussion); one term  
Prerequisite: ANTHROP 2PA3

**ANTHROP 3EE3 SPECIAL TOPICS IN ARCHAEOLOGY II**  
2006-2007 Topic: Northwest coast Archaeology and Ethnology  
As per ANTHROP 3E03.  
Three hours (lectures and discussion); one term  
Prerequisite: ANTHROP 2PA3

**ANTHROP 3G03 COMPARATIVE MYTHOLOGY**  
The reconstruction of lost mythic traditions by means of comparative techniques drawn from historical linguistics. The Indo-European traditions of Eurasia will be examined.  
Three hours (lectures and discussion); one term  
Prerequisite: ANTHROP 2G03 or permission of the instructor

**ANTHROP 3H03 ANTHROPOLOGICAL DEMOGRAPHY**  
This course offers an introduction to the study of population dynamics (birth, death, migration) and population structure. It focuses on issues particularly pertinent to anthropological studies of past and present populations.  
Three hours (lectures and discussion); one term  
Prerequisite: ANTHROP 2E03

**ANTHROP 3I03 SYNTAX**  
A study of how words are organized into sentences. The emphasis will be on the Functional approach in comparison with other syntactic theories.  
Three hours (lectures); one term  
Prerequisite: One of ANTHROP 2LL3, LINGUIST 2LL3 or permission of the Department  
Cross-list: LINGUIST 3I03  
*Offered in alternate years.*  
*This course is administered by the Department of Linguistics and Languages.*

**ANTHROP 3II3 SEMANTICS**  
A study of patterns of meaning in language; a critical survey of current theories and issues.  
Three hours (lectures); one term  
Prerequisite: One of ANTHROP 3I03, 3M03, LINGUIST 3I03, or 3M03, and six units of a language other than English; or permission of the Department  
Cross-list: LINGUIST 3II3  
*Offered in alternate years.*  
*This course is administered by the Department of Linguistics and Languages.*

**ANTHROP 3IS3 INDEPENDENT STUDY IN ANTHROPOLOGY**  
Independent study of a research problem through published materials and/or fieldwork. It is incumbent upon the student to secure arrangements with the supervising instructor prior to registration in this course; otherwise, no grade will be submitted.  
One term  
Prerequisite: Registration in any program in Anthropology and permission of the instructor  
*ANTHROP 3IS3 may be repeated, if on a different study, to a total of six units.*

**ANTHROP 3K03 ARCHAEOLOGICAL INTERPRETATION**  
Technique and methodology in the investigation of archaeological material.  
Three hours (lectures and discussion); one term  
Prerequisite: ANTHROP 2PA3  
*Enrolment is limited.*

**ANTHROP 3L03 HISTORY OF ANTHROPOLOGY**  
Some of the major developments and personalities in the history of anthropology as a discipline, with emphasis upon the English-speaking world.  
Three hours (lectures and discussion); one term  
Prerequisite: Registration in Honours Anthropology  
Antirequisite: ANTHROP 2I03  
*This course is required of all students registered in an Honours Program in Anthropology.*

**ANTHROP 3M03 MORPHOLOGY**  
The study of word formation in languages of the world; a critical survey of current theories and issues.  
Three hours (lectures); one term  
Prerequisite: One of ANTHROP 2LL3, LINGUIST 2LL3 or permission of the Department  
Cross-list: LINGUIST 3M03  
*Offered in alternate years.*  
*This course is administered by the Department of Linguistics and Languages.*

**ANTHROP 3N03 PRIMATE EVOLUTION**  
Comparative anatomy and evolutionary development of humans and our nearest living relatives, the other primates.  
Three hours (lectures and discussion); one term  
Prerequisite: ANTHROP 2E03  
Antirequisite: ANTHROP 3NN3

**ANTHROP 3P03 RESEARCH METHODS IN CULTURAL ANTHROPOLOGY**  
Methodologies and techniques of research, especially field study, in sociocultural anthropology.  
Three hours (lectures and discussion); one term  
Prerequisite: Registration in any program in Anthropology

**ANTHROP 3PP3 PALEOPATHOLOGY**  
The origins and evolution of human diseases and methods of identifying disease in ancient human remains.  
Three hours (lectures, discussion and lab); one term  
Prerequisite: ANTHROP 2FF3  
*Enrolment is limited.*

**ANTHROP 3R03 GENETICS AND MODERN HUMAN ORIGINS**  
This course surveys genetic studies in anthropology and considers key issues in the field, such as the human genome diversity project.  
Three hours (one hour lecture, two hour lab), one term  
Prerequisite: ANTHROP 2D03 or BIOLOGY 3J03  
*(There will be a supplementary fee for supplies used in labs.)*  
*Enrolment is limited.*

**ANTHROP 3RR3 THE ANTHROPOLOGY OF GENDER**  
Selected topics relating to the construction and practice of gender in various cultural contexts.  
Three hours (lectures and discussion); one term  
Prerequisite: Registration in Level III or IV of any Anthropology program

**ANTHROP 3T03 POWER AND RESISTANCE**  
A critical examination of power in post-colonial conflicts. Examines concepts and case studies of local resistance to economic globalization, the re-defining of nationalities, and the spread of universalizing cultures.  
Three hours (lectures and discussion); one term  
Prerequisite: Six units of Social/Cultural Anthropology

**ANTHROP 3V03 ANTHROPOLOGY AND THE HISTORICAL IMAGINATION**  
This course is situated at the intersection of history and anthropology, and focuses especially on the ways in which social actors represent, give meaning to, and strategically employ constructions of the past.  
Three hours (lectures and discussion); one term  
Prerequisite: ANTHROP 2F03 and registration in any program in Anthropology  
*Enrolment is limited.*

**ANTHROP 3W03\*\* SPECIAL TOPICS IN ANTHROPOLOGY I**  
The topic varies with each instructor (e.g. one class may examine *Current Issues in Medical Anthropology* and other classes may focus on *Readings in Myth or Contemporary Issues in Archaeology*).  
One term  
Prerequisite: Registration in any program in Anthropology

**ANTHROP 3X03 ZOOARCHAEOLOGY**

Study of the long-term histories of human-environment interaction through analysis of archaeologically recovered animal remains.

Three hours (labs and discussion); one term

Prerequisite: ANTHROP 2PA3

*Enrolment is limited.*

**ANTHROP 3Y03 ABORIGINAL COMMUNITY HEALTH AND WELL-BEING**

A critical examination of the determinants of health in Aboriginal communities, processes of community revitalization, and recent government policy initiatives.

Three hours (lecture and discussion); one term

**ANTHROP 3Z03 MEDICAL ANTHROPOLOGY: THE BIOMEDICAL APPROACH**

Patterns of stress and disease with emphasis on the modern biomedical approach. Disease in the evolutionary context with emphasis on disease as a failure of adaptation and response.

Three hours (lectures and discussion); one term

Prerequisite: Registration in Level III or IV of any program. ANTHROP 2E03 or 2F03 is strongly 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 program. ANTHROP 2E03 or 2F03 is strongly recommended.

**ANTHROP 4AE3 ANTHROPOLOGY AND ENVIRONMENT**

This course examines the different and rapidly changing ways in which anthropologists study relationships between humans and their environments. It also considers the contributions which anthropologists are making to environmentalism and knowledge about current ecological issues.

Three hours (seminar); one term

Prerequisite: ANTHROP 2F03 and registration in an honours program; or permission of the instructor.

**ANTHROP 4B03 CURRENT PROBLEMS IN ANTHROPOLOGY I**

2006-2007 Topic: Rights, Culture and Conflict

The topic varies with each instructor.

Three hours (seminar); one term

Prerequisite: Registration in Level IV Honours Anthropology or permission of the instructor

*ANTHROP 4B03 may be repeated, if on a different topic, to a total of six units.*

**ANTHROP 4BB3 CURRENT PROBLEMS IN ANTHROPOLOGY II**

2006-2007 Topic: Museum Anthropology

As per ANTHROP 4B03.

Three hours (seminar); one term

Prerequisite: Registration in Level IV Honours Anthropology

*ANTHROP 4BB3 may be repeated, if on a different topic, to a total of six units.*

**ANTHROP 4D03 APPLIED ANTHROPOLOGY**

An examination of how anthropology is applied to solve human problems. Includes discussion of how students can use their anthropological training in non-academic occupations.

Three hours (lectures and discussion); one term

Prerequisite: Registration in Level IV Honours Anthropology

**ANTHROP 4E03 ADVANCED TOPICS IN ARCHAEOLOGY I**

2006-2007 Topic: The Peopling of the New World

Study at an advanced level of selected topics in the sub-discipline. Topics may change from year to year.

Three hours (seminar); one term

Prerequisite: ANTHROP 2PA3

**ANTHROP 4F03 ARCHAEOLOGICAL THEORY**

A seminar in current topics and issues in archaeological theory.

Three hours (lectures and discussion); one term

Prerequisite: ANTHROP 2PA3 and registration in any honours program

**ANTHROP 4G03\*\* INDEPENDENT RESEARCH I**

Independent study of a research problem through published materials and/or fieldwork. Study may include museum internship, participation in faculty research, or student-initiated practica or library research. Students will be required to write up the results of their inquiry in scholarly form. It is incumbent upon the student to secure arrangements with the supervising instructor prior to registration in this course; otherwise, no grade will be submitted.

One term

Prerequisite: Registration in any program in Anthropology.

**ANTHROP 4GG3\*\* INDEPENDENT RESEARCH II**

As per ANTHROP 4G03, but on a different topic.

One term

Prerequisite: Registration in Level IV Honours Anthropology

**ANTHROP 4HF3 ARCHAEOLOGY OF HUNTER-FISHER-GATHERERS**

Study of the prehistoric technologies and organizational strategies used in making a living from the natural environment, and examination of the cultural contexts of foraging economies.

Three hours (seminar); one term

Prerequisite: ANTHROP 2PA3

**ANTHROP 4H03 HUMAN EVOLUTIONARY GENETICS**

The use of population genetics for resolving the origins of modern humans.

Three hours (seminar); one term

Prerequisite: ANTHROP 3R03

*Enrolment is limited. Priority will be given to Level IV Honours Anthropology students.*

**ANTHROP 4I03 CONTEMPORARY ANTHROPOLOGICAL THEORY**

Seminar on selected recent developments in anthropological theory.

Three hours (seminar); one term

Prerequisite: ANTHROP 3L03 and 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 I**

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 4J03 may be repeated, if on a different topic, to a total of six units.*

**ANTHROP 4JJ3 ADVANCED TOPICS IN PHYSICAL ANTHROPOLOGY II**

As per ANTHROP 4J03

Three hours (seminar); one term

Prerequisite: ANTHROP 2E03

*ANTHROP 4JJ3 may be repeated, if on a different topic, to a total of six units.*

**ANTHROP 4LB3 ADVANCED PHONETICS, PHONOLOGY AND MORPHOLOGY**

This course will examine advanced issues in phonetics, phonology and morphology, seeking to evaluate current theory and to address data that fall beyond the explanatory capacities of those paradigms. The course is strongly data oriented, with material taken from several languages of the Caucasus.

Three hours (lectures and discussion); one term

Prerequisite: Nine units of Linguistics or Linguistic Anthropology Courses above Level I. (See Department of Anthropology in the Faculty of Social Sciences section in this Calendar)

Cross-list: LINGUIST 4LB3

Antirequisite: ANTHROP 4LA3, LINGUIST 4LA3

*This course is administered by the Department of Linguistics and Languages.*

**ANTHROP 4LC3 ADVANCED SYNTAX AND SEMANTICS**

This course will examine advanced issues in syntax and semantics, seeking to evaluate current theory and to address data that fall beyond the explanatory capacities of those paradigms. The course is strongly data oriented, with material taken from several languages of the Caucasus.

Three hours (lectures and discussion); one term

Prerequisite: Nine units of Linguistics or Linguistic Anthropology Courses above Level I. (See Department of Anthropology in the Faculty of Social Sciences section in this Calendar)

Cross-list: LINGUIST 4LC3

Antirequisite: ANTHROP 4LA3, LINGUIST 4LA3

*This course is administered by the Department of Linguistics and Languages.*

**ANTHROP 4M03 ADVANCED TOPICS IN MYTHOLOGY**

A seminar in current topics and issues in comparative mythology.

Three hours (seminar); one term

Prerequisite: ANTHROP 2G03, 2GG3, 3G03 and registration in any Honours program

**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 any Honours program in the Faculty of Social Sciences

**ANTHROP 4Q03 GLOBAL PROCESSES AND LOCAL CONSEQUENCES**

The seminar seeks: 1) to discern the linkages between some of the main processes at work in *global systems*; 2) to discuss in what ways these processes are global and in what ways they are 'systematic'; 3) to develop hypotheses for the framework of global scale social theory.

Three hours (seminar); one term

Prerequisite: Registration in any Honours program in the Faculty of Social Sciences

**ANTHROP 4R03 SKELETAL BIOLOGY OF EARLIER HUMAN POPULATIONS**

The analysis of human skeletal samples, including such topics as paleopathology, paleodemography, paleonutrition and biological distance analyses.

Three hours (lectures and discussion); one term

Prerequisite: ANTHROP 2FF3

Antirequisite: ANTHROP 3O06

**ANTHROP 4S03 THE ANTHROPOLOGY OF INFECTIOUS DISEASE**

The critical examination of the role of infectious diseases in the course of human history and contemporary society. Self-directed learning format.

Three hours (seminar); one term

Prerequisite: ANTHROP 2E03 and registration in Level IV Honours Anthropology

*Not open to students with credit in ANTHROP 4J03, if the topic was Infectious Disease and Human Evolution.*

**ANTHROP 4XX3 ADVANCED TOPICS IN LINGUISTIC THEORY**

Issues in different aspects of Linguistic Theory and Advanced Philology. Consult the Department of Linguistics and Languages for the topic to be offered.

Two hours (seminar); one term

Prerequisite: One of ANTHROP 3I03, 3M03, LINGUIST 3I03, 3M03

Cross-list: LINGUIST 4XX3

*ANTHROP 4XX3/LINGUIST 4XX3 may be repeated, if on a different topic, to a total of six units.*

*Offered in alternate years.*

*This course is administered by the Department of Linguistics and Languages.*

**ART**

**WEB ADDRESS:** <http://www.humanities.mcmaster.ca/~sota/>

Togo Salmon Hall, Room 414

Ext. 27671

Courses and programs in Art are administered within the School of the Arts of the Faculty of Humanities.

**Note:**

Art courses are open **only** to students registered in a program in Honours Art.

**Courses****ART 1F03 STUDIO FUNDAMENTALS I**

Module one: colour studies, theoretical and practical application of colour.

Module two: Dimensional studies; an exploration of form and space.

Lectures, critiques and studio practice (four hours); one term

Prerequisite: Portfolio interview (See below.)

Antirequisite: ART 1F06

**ART 1FF3 STUDIO FUNDAMENTALS II**

Module one: research studies, strategies inherent within visual practice.

Module two: drawing studies, the development of drawing practice.

Lectures, critiques and studio practice (four hours); one term

Prerequisite: ART 1F03

Antirequisite: ART 1F06

Portfolio review required. Entrance to any Honours Art Program requires the permission of the School of the Arts as these programs and courses have limited enrolments. Students who wish to enrol in ART 1F03 and 1FF3 must first complete a portfolio interview. Portfolio interviews occur between January and April each year for entrance in September of the same calendar year. Only those students who call the Office of the School of the Arts (ext. 27671) before March 1st to book appointments for portfolio interviews will be guaranteed consideration for entrance into ART 1F03 and 1FF3. (Late applicants will only be interviewed if space availability permits). Acceptance into ART 1F03 and 1FF3 will be verified with written confirmation from the School of the

Arts. School of the Arts verification and a Letter of Acceptance from the University guarantee a space in the program as long as the student meets the minimum academic requirements as outlined under *School of the Arts* programs in the *Faculty of Humanities* section of the Calendar.

**Applicants for Art should use the MHA OUAC code.** The portfolio should contain a variety of works in different media that represent the applicant's creative abilities and interests. Aptitude in art, academic ability and demonstrated commitment to the discipline are considered in the selection process. In exceptional circumstances, where distance does not allow for an interview, portfolios may be submitted in the form of colour slides or photographs.

Corequisite: SCIENCE 1A00. Students registering in ART 1F03 must also register in SCIENCE 1A00 when completing their registration. Students who receive advanced credit for ART 1F03 must also register in SCIENCE 1A00 when registering in ART 1FF3.

**ART 2A03 INTRODUCTORY PAINTING I**

A series of studio projects designed to inform and expand the student's technical and conceptual abilities in painting.

Four hours; one term

Prerequisite: ART 1F03, 1FF3 (or ART 1F06)

Antirequisite: ART 2A06

**ART 2AA3 INTRODUCTORY PAINTING II**

A continuation of studio projects designed to provide technical and conceptual investigations in the field of painting.

Four hours; one term

Prerequisite: ART 1F03, 1FF3 (or ART 1F06)

Antirequisite: ART 2A06

**ART 2B03 INTRODUCTORY SCULPTURE I**

A series of three-dimensional studio projects designed to provide technical and conceptual abilities in the field of sculpture.

Four hours; one term

Prerequisite: ART 1F03, 1FF3 (or ART 1F06)

Antirequisite: ART 2B06

**ART 2BB3 INTRODUCTORY SCULPTURE II**

A continuation of three-dimensional studio projects designed to provide technical and conceptual investigations in the field of sculpture.

Four hours; one term

Prerequisite: ART 1F03, 1FF3 (or ART 1F06)

Antirequisite: ART 2B06

**ART 2C03 INTRODUCTORY DRAWING I**

A series of studio projects designed to inform and expand the student's technical and conceptual abilities in drawing.

Four hours; one term

Prerequisite: ART 1F03, 1FF3 (or ART 1F06)

Antirequisite: ART 2C06

**ART 2CC3 INTRODUCTORY DRAWING II**

A continuation of studio projects designed to provide technical and conceptual investigations in the field of drawing.

Four hours; one term

Prerequisite: ART 1F03, 1FF3 (or ART 1F06)

Antirequisite: ART 2C06

**ART 2F03 INTRODUCTORY PRINTMAKING I**

A series of studio projects designed to inform and expand the student's technical and conceptual abilities in printmaking.

Four hours; one term

Prerequisite: ART 1F03, 1FF3 (or ART 1F06)

Antirequisite: ART 2F06

**ART 2FF3 INTRODUCTORY PRINTMAKING II**

A continuation of studio projects designed to provide technical and conceptual investigations in the field of printmaking.

Four hours; one term

Prerequisite: ART 1F03, 1FF3 (or ART 1F06)

Antirequisite: ART 2F06

**ART 3D03 PRACTICAL ISSUES IN STUDIO ART**

This course is designed to familiarize students with a range of topics associated with the professional and practical aspects of producing art. This course utilizes the McMaster Museum of Art collections as a research base for studio production.

Three hours; one term

Prerequisite: Registration in Level III Honours Art or a Combined Program with Honours Art

**ART 3E06 STUDIO PRACTICE AND CRITICISM**

This course introduces self-directed studio study. Weekly critiques, evening Visiting Artists' lectures; two terms  
Prerequisite: Registration in Level III Honours Art or Combined Program with Honours Art and a grade of at least B- in a minimum of six units of Level II Art

**ART 3F03 INTEGRATED DRAWING AND PRINT MEDIA**

This course enables advanced level studio exploration via the interconnections between print media and drawing which may include production of an image in multiple states and integration of a diverse range of two dimensional processes.

Four hours; one term

Prerequisite: Registration in Level III Honours Art or a Combined Program with Honours Art

**ART 3G03 INTERDIMENSIONAL STUDIES IN PAINTING AND SCULPTURE**

This course enables advanced level studio exploration via the interconnections between sculpture and painting which may include the exchange between three dimensional and two dimensional concepts of colour in painted reliefs, polychrome works and installations.

Four hours; one term

Prerequisite: Registration in Level III Honours Art or a Combined Program with Honours Art

**ART 3H03 INTEGRATED PAINTING AND PRINT MEDIA**

This course enables advanced level studio exploration via the interconnections between print media and painting which may include: photo-based image making, cyanotypes, stencilling, hand-painted monotypes, etc.

Four hours; one term

Prerequisite: Registration in Level III Honours Art or a Combined Program with Honours Art

**ART 3I03 INTERDIMENSIONAL STUDIES IN SCULPTURE AND DRAWING**

This course enables advanced level studio exploration via the interconnections between sculpture and drawing and may include exploration in media such as two dimensional studies for three dimensional productions, installation designs, etc.

Four hours; one term

Prerequisite: Registration in Level III Honours Art or a Combined Program with Honours Art

**ART 4C06 MINOR STUDIO PROJECT**

This course combines advanced level, self-directed studio study with critique sessions and a visiting artist lecture series.

Weekly critiques, evening Visiting Artists' lectures; two terms

Prerequisite: Registration in Level IV of a Combined Honours Art and Another Subject program and a grade of at least B- in ART 3E06

Antirequisite: Credit or registration in ART 4E12

**ART 4E12 ADVANCED STUDIO PRACTICE AND CRITICISM**

This course combines an intensive block of advanced level, self-directed studio study with critique sessions and a visiting artist lecture series.

Weekly critiques, evening Visiting Artists' lectures; two terms

Prerequisite: Registration in Level IV of any Honours Art Program and a grade of at least B- in ART 3E06

Antirequisite: ART 4C06

**ART HISTORY**

Courses and programs in Art History are administered within the School of the Arts of the Faculty of Humanities.

**Courses****ART HIST 1A03 INTRODUCTION TO THE STUDY OF ART**

A course that introduces students to the visual arts through a consideration of principles and elements of painting, sculpture and architecture and a discussion of various genres.

Two lectures, one tutorial; one term

**ART HIST 1AA3 INTRODUCTION TO THE HISTORY OF ART**

A brief overview of the Western artistic tradition as embodied in the history of painting, sculpture and architecture.

Two lectures, one tutorial; one term

**ART HIST 2A03 VISUAL LITERACY**

A course of lectures and discussions that explores the concept of visual literacy and examines the ways in which fine and popular arts structure our understanding through images.

One lecture (two hours), one tutorial/discussion; one term

Prerequisite: Registration in Level II or above

Cross-list: CMST 2I03

**ART HIST 2B03 GREEK ART**

The architecture, sculpture and painting of the Greek and Hellenistic worlds.

Three lectures; one term

Prerequisite: Registration in Level II or above

Cross-list: CLASSICS 2B03

*This course is administered by the Department of Classics.*

**ART HIST 2C03 ROMAN ART**

The architecture, sculpture and painting of the Roman world.

Three lectures; one term

Prerequisite: ART HIST 2B03

Cross-list: CLASSICS 2C03

*This course is administered by the Department of Classics.*

**ART HIST 2D03 19TH- AND 20TH-CENTURY ART AND VISUAL CULTURE**

A study of art and visual culture from c. 1800 to c. 1970 and an examination of critical frameworks such as modernism and postmodernism.

Three lectures; one term

Prerequisite: Registration in Level II or above

**ART HIST 2F03 THE HISTORY OF GRAPHIC DESIGN**

An introduction to the history of graphic, two-dimensional design. The course demonstrates the admixture of high and popular culture that informs advertising, posters, book design and illustration, etc.

Three lectures; one term

Prerequisite: Registration in Level II or above. Prior completion of ART HIST 1A03 and 1AA3 is recommended

Cross-list: CMST 2N03, MMEDIA 2F03

*This course is administered by the Department of Communication Studies & Multimedia.*

**ART HIST 2G03 FILM HISTORY TO THE SECOND WORLD WAR**

An introduction to the history of narrative film from its beginnings to the Second World War. It focuses on narrative cinema's development from aesthetic, social, technological and economic perspectives while also touching on a selected number of issues in film theory.

Two lectures, plus one weekly film screening; one term

Prerequisite: Registration in Level II or above

Cross-list: CMST 2X03 (formerly CMST 2X06), THTR&FLM 2F03

Antirequisite: DRAMA 2X06

*This course is administered by Theatre & Film.*

*Enrolment is limited to 150 students.*

**ART HIST 2H03 AESTHETICS**

An introduction to some main theories of the nature of art, criticism and the place of art in life and society.

Three lectures; one term

Prerequisite: Registration in Level II or above

Cross-list: CMST 2O03, PHILOS 2H03

*Offered in alternate years.*

*This course is administered by the Department of Philosophy.*

**ART HIST 2I03 RENAISSANCE AND BAROQUE ART**

An introduction to the history of European art in the period 1400 to 1750.

Three lectures; one term

Prerequisite: Registration in Level II or above

**ART HIST 2Z03 ART AND VISUAL CULTURE IN EAST ASIA**

An introduction to the history of the arts in China, Korea and Japan from antiquity to modern times, highlighting the impact of cultural exchange and diversity.

Three lectures; one term

Prerequisite: Registration in Level II or above

**ART HIST 3AA3 CONTEMPORARY ART AND VISUAL CULTURE**

An examination of international art and visual culture applying theoretical approaches such as modernism, postmodernism, feminism, masculinism, post-colonial and queer theories.

Three lectures; one term

Prerequisite: ART HIST 2D03 and registration in Level II or above

*Alternates with ART HIST 3J03.*

**ART HIST 3B03 ASPECTS OF CANADIAN ART**

A survey of the visual arts in Canada from the earliest explorations and settlements to the present.

Three lectures; one term

Prerequisite: Registration in Level III or IV of any program

*Alternates with ART HIST 3D03.*

**ART HIST 3D03 17TH-CENTURY ART**

An examination of art and architecture produced in the seventeenth century and global variations of Baroque Art.

Three lectures; one term.

Prerequisite: Registration in Level II or above. Prior completion of ART HIST 2I03 is recommended

*Alternates with ART HIST 3B03.*

**ART HIST 3G03 LATE ANTIQUE AND EARLY CHRISTIAN ART**

The art and architecture of the later Roman Empire and the birth of Christian Art (A.D. 200-600).

Three lectures; one term

Prerequisite: ART HIST 2C03

Cross-list: CLASSICS 3G03

*Alternates with ART HIST 3H03.*

*This course is administered by the Department of Classics.*

**ART HIST 3H03 ARCHAIC GREEK ART**

The formative period of Greek Art from its rebirth after the Dark Ages to the Persian Wars (c. 1000-480 B.C.) and its relationship to the art of the Near East.

Three lectures; one term

Prerequisite: ART HIST 2B03

Cross-list: CLASSICS 3H03

*Alternates with ART HIST 3G03.*

*This course is administered by the Department of Classics.*

**ART HIST 3I03 ITALIAN PAINTING AND SCULPTURE 1400-1580**

An advanced level lecture course dealing with selected artists and works from the Early Renaissance to Mannerism.

Three lectures; one term

Prerequisite: Registration in Level II or above. Prior completion of ART HIST 2I03 is recommended

*Alternates with ART HIST 3S03.*

**ART HIST 3J03 ISSUES IN 19TH-CENTURY ART AND VISUAL CULTURE**

An historical and critical investigation of selected issues and artists of the 19th Century.

Three lectures; one term

Prerequisite: ART HIST 2D03 and registration in Level II or above

*Alternates with ART HIST 3AA3.*

**ART HIST 3L03 THEORIZING CULTURE THROUGH PERFORMANCE**

Students will explore artists' practises in making performances and will analyze how artists work with theories, texts, spaces, bodies, audiences and produce challenges to artistic, social and political norms.

Three hours; one term

Prerequisite: One of ART HIST 2D03, 3AA3, CMST 2G03, 2P03, 2S03, THTR&FLM 2C03, 2D03, 2E03

Cross-list: CMST 3L03, THTR&FLM 3I03

*Not open to students with credit in DRAMA 2B03, NEW MEDIA AND PERFORMANCE, if taken in 2001-2002 or credit in THTR&FLM 2E03 if taken in 2002-2003.*

*This course is administered by Theatre & Film.*

*Offered in alternate years.*

**ART HIST 3P03 ISSUES IN STUDIO CRITICISM**

A course that allows non-Art students to explore current studio practice and to investigate approaches to the evaluation of quality in contemporary art. Students taking this course are required to attend a preset number of Studio Critiques and Visiting Artists' Talks\*

Seminar (two hours); one term

Prerequisite: Registration in Level III of an Art History program

\*Studio Art Critiques are regularly scheduled sessions during which the work of Art students is discussed by their peers, faculty members and visiting professionals from the art world. Visiting Artists' talks are held on weekday evenings on the same day as the Studio Critiques.

**ART HIST 3PP3 HISTORY OF PHOTOGRAPHY**

This course examines historical and contemporary photographic images in the visual arts and considers the connections and distinctions between artistic and media uses of the medium.

Three hours (lectures and discussion); one term

Prerequisite: Registration in Level II or above

Cross-list: CMST 3P03

**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 II or above. Prior completion of ART HIST 2I03 is recommended

*Alternates with ART HIST 3I03.*

**ART HIST 3XX3 FILM HISTORY: 1941 TO THE PRESENT**

An exploration of narrative film from 1941 to the present day, incorporating a study of a variety of narrative cinema styles. Theoretical issues will include questions of cinema's relationships to other art forms, narrative, genre and authorship.

Two lectures, plus one weekly film screening; one term

Prerequisite: ART HIST 2G03

Cross-list: CMST 3XX3, THTR&FLM 3L03

*Offered in alternate years.*

*This course is administered by the Theatre & Film program.*

**ART HIST 3Z03 CHINESE ART AND VISUAL CULTURE 200-750**

An examination of how recent archaeological finds are re-defining our understanding of the pluralistic achievements in various arts during the transformative Period of Disunity leading to the Golden Age in China.

Three lectures; one term

Prerequisite: ART HIST 2Z03

**ART HIST 4AA3 SEMINAR IN CONTEMPORARY ART AND VISUAL CULTURE**

An in-depth examination of one or more significant movements in contemporary art, theory and criticism from c. 1970 to the present.

Seminar (two hours); one term

Prerequisite: ART HIST 3AA3 and permission of the School of the Arts

*Offered in alternate years.*

*Enrolment is limited.*

**ART HIST 4BB3 SEMINAR IN ANCIENT ART**

Consult the School of the Arts concerning the topic to be offered.

Seminar (two hours); one term

Prerequisite: ART HIST 2B03, 2C03 and registration in Level III or IV of an Honours program in Art History

Cross-list: CLASSICS 4BB3

*ART HIST 4BB3 may be repeated, if on a different topic, to a total of six units.*

*Enrolment is limited.*

*This course is administered by the Department of Classics.*

**ART HIST 4C03 SEMINAR IN ART AND VISUAL CULTURE 900-1400**

A focused study of issues concerning art and visual culture of the tenth through fourteenth centuries. Consult the School of the Arts concerning the topic to be offered.

Seminar (two hours); one term

Prerequisite: Registration in Level III or IV of an Honours program in Art or Art History. Prior completion of one of ART HIST 3I03, 3S03 or 3Z03 is recommended.

*Offered in alternate years.*

*ART HIST 4C03 may be repeated, if on a different topic, to a total of six units.*

*Enrolment is limited.*

**ART HIST 4E03 SEMINAR IN ART AND VISUAL CULTURE 1400 - 1750**

A focused study of issues concerning art and visual culture of the fourteenth through eighteenth centuries. Consult the School of the Arts concerning the topic to be offered.

Seminar (two hours); one term

Prerequisite: Registration in Level III or IV of an Honours program in Art, Art History or Multimedia. Prior completion of one of ART HIST 3D03, 3I03 or 3S03 is recommended.

*Offered in alternate years.*

*ART HIST 4E03 may be repeated, if on a different topic, to a total of six units.*

*Enrolment is limited.*

**ART HIST 4H03 SEMINAR IN ART AND VISUAL CULTURE 1750 TO THE PRESENT**

A focused study of issues concerning art and visual culture of the eighteenth through twentieth centuries. Consult the School of the Arts concerning the topic to be offered.

Seminar (two hours); one term

Prerequisite: Registration in Level III or IV of an Honours program in Art or Art History. Prior completion of one of ART HIST 3AA3 or 3J03 is recommended.

*Offered in alternate years.*

*ART HIST 4H03 may be repeated, if on a different topic, to a total of six units.*

*Enrolment is limited.*

**ART HIST 4006 THESIS**

Supervised study of a problem in the history of art of special interest to the student.

Tutorials; two terms

Prerequisite: Registration in Level IV of any Honours program in Art History; and a grade of at least A- in a previous course in the chosen field; and permission of the School of the Arts

**ART HIST 4V03 THE STUDY, CRITICISM AND EVALUATION OF ART**

A seminar to introduce students to the history, theory and practice of connoisseurship. Its focus will be to develop skills in confronting the single work of art.

Seminar (two hours); one term

Prerequisite: Registration in Level III or IV of a program in Art or Art History, Communication Studies or Multimedia

Offered in alternate years.

Enrolment is limited.

**ART HIST 4X03 INTRODUCTION TO ART GALLERIES AND MUSEUMS**

A study of the history and methods of institutions created for the purpose of collecting, preserving, displaying and interpreting art objects.

Seminar (two hours); one term

Prerequisite: Registration in Level III or IV of a program in Art or Art History

Offered in alternate years.

Enrolment is limited.

**ARTS AND SCIENCE**

**WEB ADDRESS:** <http://www.mcmaster.ca/artsci>

**Commons Building, Room 105**

**Ext. 24655 or 23153**

**Faculty as of January 15, 2006****Director**

Peter G. Sutherland

**Council of Instructors**

James Benn/(*Religious Studies*) B.A., M.A. (Cambridge), M.A. (London), Ph.D. (California)

John D. Browning/(*Linguistics and Languages*) B.A., M.Phil. (London), Ph.D. (Essex)

Augie Fleras/B.A. (Waterloo), M.A. (McMaster), Ph.D. (Victoria)

Nivaldo H. Galleguillos/(*Political Science*) B.A. (Chile), M.A., Ph.D. (Toronto)

Kathleen Garay/(*Archivist, Mills Library; Women's Studies*) B.A. (East Anglia), M.A., (Toronto), Ph.D. (McMaster)

Louis I. Greenspan/(*Religious Studies*) M.A. (Dalhousie), Ph.D. (Brandeis)

William E. Harris/(*Physics and Astronomy*) B.Sc (Alberta), M.Sc., Ph.D. (Toronto)

Robert Henderson/(*Kinesiology*) B.P.E. (McMaster), M.A., Ph.D. (Alberta)

Robert C. Hudspeth/(*Mechanical Engineering*) B.Eng., M.Eng. (McMaster), P.Eng.

Atif Kubursi/(*Economics*) B.A. (American University, Beirut), M.S., Ph.D. (Purdue)

Miroslav Lovric/(*Mathematics and Statistics*) B.S. (Zagreb), M.S., Ph.D. (Ohio State), 3M Teaching Fellow

Carmel E. Mothersill/(*Medical Physics and Applied Radiation Sciences*) B.Sc., Ph.D. (University College Dublin)

Nicole Neverson/B.A. (Carleton), M.A. (McMaster)

Ann Pearson/(*Religious Studies*) B.A. (Toronto), M.A., Ph.D. (McMaster)

Annette Reed/(*Religious Studies*) B.A. (McGill), M.T.S. (Harvard), M.A., Ph.D. (Princeton)

Colin B. Seymour/(*Medical Physics and Applied Radiation Sciences*) DCR(PT) (Guy's Hospital), B.L. (King's Inn), Ph.D. (Trinity College Dublin)

Pamela Sugiman/(*Sociology*) B.A., M.A., Ph.D. (Toronto)

Peter G. Sutherland/(*Physics and Astronomy; Arts & Science*) B.Sc. (McGill), M.S., Ph.D. (Illinois)

Roman Viveros-Aguilera/(*Mathematics and Statistics*) B.A. (Veracruzana, Mexico), M.A. (National Polytechnic Inst., Mexico), Ph.D. (Waterloo)

Mark Vorobej/(*Philosophy*) B.A. (Carleton), M.A., Ph.D. (Toronto)

Jean Wilson/(*Linguistics and Languages; Comparative Literature and Arts & Science*) B.A. (McMaster), B.Ed., M.A., Ph.D. (Toronto)

**Notes:**

- 1. Prerequisites:** The prerequisite for all Level I, II, III and IV Arts & Science courses is registration in the Arts and Science Program.
- 2. Limited Enrolment:** Enrolment in Level I of the Arts and Science Program is limited to approximately 60 students.

**Courses****ARTS&SCI 1A06 WESTERN CIVILIZATION**

An examination of significant themes in Western social and intellectual history, including theories of historical change and the influence of class, race and gender on the evolution of social systems.

**ARTS&SCI 1B06 WRITING AND INFORMAL LOGIC**

The primary aim of this course is to develop the student's critical and analytical skills in dealing with the written word. Students will examine the structure of selected texts, analyze various types of reasoning and receive individual attention in expository writing.

**ARTS&SCI 1C06 INQUIRY**

This inquiry course, designed to develop skills basic to the systematic evidence-based investigation of public issues, focuses on issues relevant to Third World Development.

**ARTS&SCI 1D06 CALCULUS**

This course aims to provide a thorough understanding of the principles and major applications of differential and integral calculus of functions of one variable, as well as an introduction to multivariate calculus and differential equations.

*ARTS&SCI 1D06 serves as a prerequisite for all upper level Mathematics, Statistics, Computer Science and Physics courses, for which MATH 1A06 or MATH 1AA3 is a prerequisite.*

Antirequisite: MATH 1A03, 1AA3, 1X03, 1XX3

**ARTS&SCI 2A06 MODERN WESTERN CIVILIZATION**

Development of political, economic, sociological and psychological thought in the writings of such major figures as Hobbes, Locke, Rousseau, Adam Smith, Burke, Tocqueville, Marx, Mill, Weber, von Hayek, Polanyi, Nietzsche, Schopenhauer, Freud and Skinner.

**ARTS&SCI 2D06 PHYSICS**

This course explores many of the great concepts of physics in a quantitative way. Beginning with Newtonian mechanics, it moves into Einstein's relativity, wave phenomena, atomic physics, quantum mechanics and cosmology. Selected laboratory projects will be carried out.

**ARTS&SCI 2R06 STATISTICS: MATHEMATICAL MODELS FOR CHANGE, CHANCE AND ERROR**

Probability, distributions, measures of association, tests of significance, mathematical models and other quantitative methods useful in the analysis of variable phenomena, are considered.

**ARTS&SCI 3A06 LITERATURE**

Literary works drawn from a variety of genres, cultures and historical periods will be examined with a focus on how great writers have treated enduring ethical concerns. It aims to show how literature is an indispensable means of thinking about human life and society.

Prerequisite: Registration in Level III or above

**ARTS&SCI 3B03 TECHNOLOGY AND SOCIETY I**

The Culture of Technology. Technological practices and approaches are studied as cultural activities in the contexts of beliefs, philosophies, values and social structures both past and present.

Antirequisite: STPP 2A06

**ARTS&SCI 3BB3 TECHNOLOGY AND SOCIETY II**

The Social Control of Technology. The dominant mechanisms of the social control of technology will be studied. Includes an examination of assessment methods and the role of ethics.

**ARTS&SCI 3CB6 INQUIRY TOPIC: ENVIRONMENTAL EDUCATION**

Environmental crisis will be explored as a crisis of western culture's inability to live in a harmonious relationship with the earth. Intentional communities will be a focus with a residential field experience.

Enrolment is limited.

**ARTS&SCI 3CE6 INQUIRY TOPIC: MEDIA**

This course consists of four sections dealing with theoretical and analytical perspectives, political economy of the media, news media and entertainment media and their cultural effects.

Enrolment is limited.

**ARTS&SCI 3CF3 INQUIRY TOPIC: DISCOVERY:  
THE CONTEXT OF SCIENTIFIC RESEARCH I**

Using an issue-based approach, the antecedents and consequences of scientific discoveries will be explored, focusing on themes such as the role of imagination in leading scientific discovery.

*Enrolment is limited.*

**ARTS&SCI 3CG3 INQUIRY TOPIC: DISCOVERY:  
THE CONTEXT OF SCIENTIFIC RESEARCH II**

Using an issue-based approach, the antecedents and consequences of scientific discoveries will be explored, focusing on themes such as the art of interpreting scientific research.

*Enrolment is limited.*

**ARTS&SCI 3CI3 INQUIRY TOPIC:  
DIVERSITY AND MULTICULTURALISM I**

The social and economic impact in Canada of factors such as race, gender and culture will be explored from an historical perspective.

*Enrolment is limited.*

**ARTS&SCI 3CJ3 INQUIRY TOPIC:  
DIVERSITY AND MULTICULTURALISM II**

This course will focus on issues of diversity in Canada with respect to the Canadian model of multiculturalism and how it relates to other models, e.g. European, Australian and American models.

*Enrolment is limited.*

**ARTS&SCI 3EE3 EXPERIENTIAL LEARNING STUDY I**

Experiential study under the supervision of a McMaster faculty member, including a presentation at a final defence.

Prerequisite: Registration in Level III or above. Permission is based on a study proposal submitted to the review committee, outlining the nature of the inquiry, the learning objectives and proposed modes of evaluation. An information package is available from the Arts & Science Office.

*Enrolment is limited.*

**ARTS&SCI 3L03 THE INDIAN RELIGIOUS TRADITION**

Readings of Indian texts in translation will centre around themes such as the nature of human nature, free will and determinism; renunciation and social action; violence and non-violence; altruism and selfishness.

Two lectures, one tutorial; one term.

Prerequisite: Registration in Level III or above

Cross-list: RELIG ST 3L03

*This course is administered by the Department of Religious Studies.*

**ARTS&SCI 3S03 THE EAST ASIAN RELIGIOUS TRADITION**

Readings of East Asian texts in translation will centre around themes such as culture vs. nature, virtue vs. power, social responsibility vs. personal cultivation, bookish learning vs. meditation.

Two lectures, one tutorial; one term

Prerequisite: Registration in Level III or above

Cross-list: RELIG ST 3S03, JAPAN ST 3S03

*This course is administered by the Department of Religious Studies.*

**ARTS&SCI 4A06 INDIVIDUAL STUDY**

This course consists of study under the supervision of a McMaster faculty member. Proposal deadline is March 1; information package is available in the Program office.

**ARTS&SCI 4A12 INDIVIDUAL STUDY**

The same as ARTS&SCI 4A06 but based on more extensive study.

**ARTS&SCI 4C06 THESIS**

This course consists of original research under the supervision of a McMaster faculty member. Proposal deadline is March 1; information package is available in the Program office.

**ARTS&SCI 4C12 THESIS**

The same as ARTS&SCI 4C06 but based on more extensive research.

**ARTS&SCI 4EE6 EXPERIENTIAL LEARNING STUDY II**

Experiential study under the supervision of a McMaster faculty member, including a presentation at a final defence.

Prerequisite: ARTS&SCI 3EE3 and registration in Level IV or above. Permission is based on a study proposal submitted to the review committee, outlining the nature of the inquiry, the learning objectives and proposed modes of evaluation. An information package is available from the Arts & Science Office.

*Enrolment is limited.*

**ASIAN STUDIES**

(SEE INTERDISCIPLINARY MINORS AND THEMATIC AREAS)

**ASTRONOMY**

(SEE PHYSICS AND ASTRONOMY)

**BIOCHEMISTRY AND BIOMEDICAL SCIENCES**

WEB ADDRESS: <http://www.fhs.mcmaster.ca/biochem/>

Health Sciences Centre, Room 4H43

Ext. 22059

**Faculty as of January 15, 2006****Chair**

Gerard D. Wright

**Professors**

David W. Andrews/B.Sc. (Ottawa), Ph.D. (Toronto)/Senior Canada Research Chair

John P. Capone/B.Sc. (Western Ontario), Ph.D. (McMaster)

Gerhard E. Gerber/B.Sc., Ph.D. (Toronto)

Radhey S. Gupta/B.Sc. (Agra U., India), M.Sc. (New Delhi), Ph.D. (Bombay)

John A. Hassell/B.Sc. (Brooklyn College), Ph.D. (Connecticut)

Paul Higgs/Ph.D. (Cambridge)/Senior Canada Research Chair

Gerard D. Wright/B.Sc., Ph.D. (Waterloo)/Senior Canada Research Chair

Daniel S.C. Yang/B.Sc., M.Sc. (Alberta), Ph.D. (Pittsburgh)

Boris S. Zhorov/M.Sc., Ph.D., D.Sc. (St. Petersburg)

**Associate Professors**

Paul J. Berti/B.Sc. (Waterloo), M.Sc. (Ottawa), Ph.D. (McGill)

Russell E. Bishop/B.Sc., Ph.D. (Alberta)

Eric D. Brown/B.Sc., M.Sc., Ph.D. (Guelph)/Canada Research Chair

Douglas W. Bryant/B.Sc. (McGill), M.Sc., Ph.D. (York)/part-time

Lori L. Burrows/B.Sc., Ph.D. (Guelph)

Yingfu Li/B.Sc. (Anhui, China), M.Sc. (Beijing Agr.), Ph.D. (Simon Fraser)/Canada Research Chair

Justin R. Nodwell/B.Sc., Ph.D. (Toronto)

Ray Truant/B.Sc., Ph.D. (Toronto)

**Assistant Professors**

Cécile Fradin/B.Sc., M.Sc. (Ecole Normale Supérieure, Paris), Ph.D. (Université Pierre et Marie Curie, Paris)/Canada Research Chair

Alba Guarné/B.Sc., M.Sc., Ph.D. (Barcelona)

Murray S. Junop/B.Sc., Ph.D. (Western Ontario)

Michelle L. MacDonald/B.Sc., Ph.D. (McMaster)

Graham A. McGibbon/B.Sc. (Toronto), Ph.D. (McMaster)

Giuseppe Melacini/B.Sc., Ph.D. (Milan)

Joaquin Ortega/B.Sc. (Zaragoza, Spain), Ph.D. (Universidad Autónoma de Madrid, Spain)

Sujata Persad/B.Sc. (Trinidad), M.Sc., Ph.D. (Manitoba)

Bernardo L. Trigatti/B.Sc., Ph.D. (McMaster)

Geoffrey Werstuck/B.Sc., Ph.D. (McMaster)

**Associate Members**

Stephanie A. Atkinson/(Pediatrics) B.A. (Western Ontario), Ph.D. (Toronto)

Christian Baron/Dipl., Ph.D. (Munich)

Jonathan L. Bramson/B.Sc., Ph.D. (McGill)

John D. Brennan/(Chemistry) B.Sc., Ph.D. (Toronto)/Canada Research Chair

Jack Gaudie/(Pathology) B.Sc. (McMaster), Ph.D. (University College, London)

Brian F. Leber/(Medicine) B.Sc., M.D.C.M. (McGill), F.R.C.P.C.

Karen Mossman/(Pathology) B.Sc. (Guelph), Ph.D. (Alberta)

Gurmit Singh/(Pathology) B.Sc., Ph.D. (Dalhousie)

Jeffrey I. Weitz/B.Sc., M.D. (Ottawa)

Peter F.M. Whyte/(Pathology) B.Sc., M.Sc., (British Columbia), Ph.D. (New York)

**Lecturer**

Paulina Dlugosz/B.Sc., M.Sc. (McMaster)

**Courses If no prerequisite is listed, the course is open.****BIOCHEM 2B03 NUCLEIC ACID STRUCTURE AND FUNCTION**

Fundamental concepts and experimental methods in studying both DNA and RNA. Nature of genetic information and its storage. Molecular basis of replication, transcription and translation.

Three lectures; second term

Prerequisite: BIOCHEM 2BB3; and CHEM 2BA3 or 2OA3; and registration in CHEM 2BB3 or 2OB3

Antirequisite: BIOCHEM 2A06, 3B03, 3BT3, 3G03

**BIOCHEM 2BB3 PROTEIN STRUCTURE AND ENZYME FUNCTION**

Fundamental concepts and experimental methods in studying structures of proteins, including membrane proteins. Nature of enzyme catalysis. Introduction to enzyme kinetics and mechanism.

Three lectures, one tutorial; first term

Prerequisite: BIOLOGY 1A03, CHEM 1AA3

Corequisite: Either CHEM 2BA3 or 2OA3, and either CHEM 2PA3 or 2R03; or registration in Honours Molecular Biology

Antirequisite: BIOCHEM 2A06, 3BB3, 3BT3, 3G03

**BIOCHEM 2EE3 METABOLISM AND PHYSIOLOGICAL CHEMISTRY**

A brief introduction to proteins, enzymes and gene expression followed by a more detailed treatment of energy and intermediary metabolism with emphasis on physiological chemistry.

Three lectures; second term

Prerequisite: One of CHEM 2BA3, 2E03, 2OA3 or permission of the department

Antirequisite: BIOCHEM 2A06, 3D03

**BIOCHEM 2L06 INQUIRY IN BIOCHEMICAL TECHNIQUES**

An inquiry approach to learning about current techniques in biochemistry research. Students will work in small groups in labs and workshops, with a focus on how to search the primary literature, prepare and deliver written and oral presentations.

One lecture (one hour), one lab or workshop (four hours); two terms

Prerequisite: Registration in BIOCHEM 2BB3 and registration in Honours Arts & Science and Biochemistry, Honours Biochemistry, Honours Chemistry (Biological Specialization), or Honours Molecular Biology; or BIOCHEM 2EE3 and 3G03 and registration in Honours Chemistry (Biological Specialization); or registration in Honours Physics (Biophysics Specialization)

Cross-list: MOL BIOL 2L06

Antirequisite: BIOCHEM 3L03

**BIOCHEM 3A03 BIOCHEMICAL RESEARCH PRACTICE**

A twelve week research project undertaken in a biochemistry laboratory during the fall, winter or summer term which requires the submission of a formal report. Students are responsible to arrange a suitable project, location and agreement of the supervisor. For further information, please refer to [www.fhs.mcmaster.ca/biochem/Undergraduate.htm](http://www.fhs.mcmaster.ca/biochem/Undergraduate.htm).

Prerequisite: BIOCHEM 2B03 and registration in Honours Biochemistry or Honours Molecular Biology. Permission of the Department is required.

**BIOCHEM 3C03 CELLULAR BIOCHEMISTRY**

Biochemical basis of complex cellular processes such as compartmentalization, vesicular traffic, movement and programmed cell death. Emphasis is placed on the principles of evaluation of current research literature.

Three lectures; second term

Prerequisite: BIOCHEM 2A06 or 3D03; and registration in Honours Biochemistry (Molecular Biology Specialization) or Honours Physics (Biophysics Specialization)

**BIOCHEM 3D03 METABOLISM AND REGULATION**

Principles of bioenergetics. Major pathways for carbohydrates and lipids in energy production. Photosynthesis. Nitrogen metabolism. Biosynthesis of small biomolecules. Integration and regulation of metabolic activities.

Three lectures; first term

Prerequisite: BIOCHEM 2BB3

Antirequisite: BIOCHEM 2A06, 2EE3

**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 2OA3 and 2OB3; or CHEM 2BA3 and 2BB3; or a grade of at least B+ in CHEM 2E03; or CHEM 2E03 and registration in a Chemical Engineering program or Honours Physics (Biophysics Specialization)

Antirequisite: BIOCHEM 2A06, 2B03, 2BB3, 3BT3

**BIOCHEM 3H03 CLINICAL BIOCHEMISTRY**

An outline of clinical chemistry; its relation to disease and relevance to health care.

Three lectures; second term

Prerequisite: BIOCHEM 2A06 or 3D03; or BIOCHEM 2EE3 and 3G03; or a grade of at least C+ in BIOCHEM 2EE3; or HTH SCI 2E03

**BIOCHEM 3L03 BIOCHEMISTRY LABORATORY I**

Illustration of fundamental principles and techniques of experimental biochemistry and molecular biology.

One lab (four hours), one tutorial (two hours); first term

Prerequisite: BIOCHEM 2A06 or 2B03, and registration in Honours Arts & Science and Biochemistry, Honours Biochemistry, Honours Chemistry (Biological Specialization), or Honours Molecular Biology; or BIOCHEM 2EE3 and 3G03 and registration in Honours Chemistry (Biological Specialization); or registration in Honours Physics (Biophysics Specialization); or HTH SCI 2E03

Last offered in 2006-2007.

**BIOCHEM 3N03 NUTRITION AND METABOLISM**

Study of nutritional biochemistry and the regulation of metabolism; the role of specific nutrients in functional processes of the body in health and disease.

Three lectures; second term

Prerequisite: BIOCHEM 2A06 or 3D03; or BIOCHEM 2EE3 and 3G03; or a grade of at least C+ in BIOCHEM 2EE3; or HTH SCI 2E03

**BIOCHEM 3P03 BIOCHEMISTRY LABORATORY II**

A preparation for independent experimental work in molecular biology and biochemistry. Multiple techniques are used together to answer complex biochemical questions in both *E. coli* and *Saccharomyces cerevisiae*.

One lab (three hours), one tutorial (three hours); second term

Prerequisite: BIOCHEM 2L06 or 3L03; and registration in Honours Arts & Science and Biochemistry or an Honours Biochemistry Specialization

Antirequisite: BIOLOGY 3V03, MOL BIOL 3V03

Enrolment is limited. See the heading *Limited Enrolment Courses in the Faculty of Science* section of the Calendar.

**BIOCHEM 3Y03 INTRODUCTION TO COMPUTATIONAL BIOCHEMISTRY**

Introduction to biochemical databases, biological data mining and analysis tools, molecular modelling, and ligand docking. Use of internet resources of biological information, computers and software for solving structure- and information-related problems in a biomedical lab.

Three lectures/tutorials in a computer lab; second term

Prerequisite: Completion of any Biochemistry course

Enrolment is limited.

**BIOCHEM 4B06 SENIOR PROJECT IN BIOCHEMISTRY AND MOLECULAR BIOLOGY**

An extended research project supervised by a member or associate member of the Department of Biochemistry and Biomedical Sciences. It provides a suitable experience for graduate school or industry. Assessment is based on laboratory work, a poster presentation and a final report.

Two terms

Prerequisite: BIOCHEM 3P03 and registration in an Honours Biochemistry Specialization; or registration in Honours Physics (Biophysics Specialization). Permission of the Department is required. Application for permission must be received by March 1st of the academic year prior to registration. Students are expected to have a CA of at least 8.0. For further information, please refer to [www.fhs.mcmaster.ca/biochem/Undergraduate.htm](http://www.fhs.mcmaster.ca/biochem/Undergraduate.htm).

Antirequisite: BIOCHEM 4BB6, 4F09, 4L03, 4P03, CHEM ENG 4LL3

Enrolment is limited. See the heading *Limited Enrolment Courses in the Faculty of Science* section of the Calendar.

**BIOCHEM 4C03 INQUIRY IN BIOCHEMISTRY**

Broader aspects of biochemistry such as those relating to food, drugs, health and environment discussed in small groups. Group and individual projects, seminars and lectures as appropriate to the subject matter.

Three hours; second term

Prerequisite: Registration in Level IV of Honours Biochemistry (Core)

Antirequisite: HTH SCI 3H03, 4A09, 4B06

**BIOCHEM 4E03 RECOMBINANT DNA TECHNOLOGY AND GENE EXPRESSION**

Recombinant DNA techniques; theory and applications to the study of gene function and evolution and to disease diagnostics and gene therapy. Current concepts of gene regulation at different levels.

Three lectures; first term

Prerequisite: One of BIOCHEM 2B03, 3B03, 3BT3; or BIOLOGY 3H03 and BIOCHEM 3G03; or a grade of at least B+ in BIOCHEM 3G03; or HTH SCI 2E03

**BIOCHEM 4EE3 ADVANCED TOPICS IN GENE EXPRESSION**

A critical study of the literature from recent primary manuscripts on gene regulation and inter-related regulatory pathways. Emphasis is on the molecular and cellular biology of multiple pathways that interact to affect phenomena in biology and disease.

Three lectures; second term

Prerequisite: BIOCHEM 4E03



**BIOCHEM 4F09****SENIOR THESIS IN BIOCHEMISTRY AND MOLECULAR BIOLOGY**

A thesis based on a major research project supervised by a member or associate member of the Department of Biochemistry and Biomedical Sciences. The results will also be presented to the department in a seminar or as part of a poster session.

Two terms

Prerequisite: BIOCHEM 3P03 and registration in Honours Biochemistry (Molecular Biology Specialization). Permission of the department is required. Application for permission must be received by March 1st of the academic year prior to registration. Students are expected to have a C.A. of at least 9.5. For further information, please refer to [www.fhs.mcmaster.ca/biochem/Undergraduate.htm](http://www.fhs.mcmaster.ca/biochem/Undergraduate.htm).

Antirequisite: BIOCHEM 4B06, 4BB6, 4G03, 4L03, 4LL3, 4P03, CHEM ENG 4LL3

Enrolment is limited. See the heading *Limited Enrolment Courses* in the Faculty of Science section of the Calendar.

**BIOCHEM 4H03 BIOTECHNOLOGY AND DRUG DISCOVERY**

Selected topics on genomics, proteomics and bioinformatics illustrating the modern application of molecular biology and biochemistry to pharmaceutical and other research.

Three lectures; first term

Prerequisite: One of BIOCHEM 3BB3, 3BT3, 3D03; or BIOCHEM 3G03 and registration in a Chemical Engineering program; or HTH SCI 2E03

Antirequisite: BIOCHEM 4DD3

**BIOCHEM 4J03 BIOCHEMICAL IMMUNOLOGY**

This advanced course applies small-group-based learning to immunological problems. Topics concern development of immunoassays, resistance to infection and immunity in health and disease.

One session (two hours), one tutorial; one term

Prerequisite: BIOLOGY 3X03 or HTH SCI 3I03; and one of BIOCHEM 3B03, 3BT3, 3D03, 3G03, BIOLOGY 3H03

Cross-list: HTH SCI 4J03, MOL BIOL 4J03

This course is administered by the Bachelor of Health Sciences (Honours) Program.

**BIOCHEM 4K03 STRUCTURE AND FUNCTION OF MEMBRANES AND MACROMOLECULES**

Molecular components of biological membranes and their interactions. Transport and other membrane-mediated processes. Membrane-bound receptors and signal transduction. Advanced aspects of macromolecular structure.

Three lectures; second term

Prerequisite: One of BIOCHEM 3BB3, 3BT3, 3D03, 3G03; or BIOCHEM 2BB3 and registration in Honour's Chemistry (Biological Specialization); or HTH SCI 2E03

Antirequisite: BIOCHEM 4I03, 4M03

**BIOCHEM 4L03 ADVANCED BIOCHEMISTRY LABORATORY**

Fundamental principles of experimental biochemistry with emphasis on modern methods in enzymology and molecular biology.

Two labs (four hours); first term

Prerequisite: BIOCHEM 3L03, 3BT3; or BIOCHEM 2L06 or 3L03 and one of BIOCHEM 2B03, 3B03, BIOLOGY 3H03, and one of BIOCHEM 3BB3 or 3D03

Antirequisite: BIOCHEM 4B06, 4BB6, 4F09, 4G03, 4LL3, CHEM ENG 4LL3, MOL BIOL 4R09

Not open to students registered in Honours Biochemistry (Biotechnology and Genetic Engineering Specialization).

**BIOCHEM 4LL3 BIOTECHNOLOGY AND GENETIC ENGINEERING LABORATORY**

Recombinant DNA technology including cloning, directed mutagenesis, DNA sequencing and expression of cloned genes. Reaction kinetics and reactor design for enzyme and fermentation reactions. Advanced separation methods for bioprocessing operations.

Two labs (four hours); second term

Prerequisite: BIOCHEM 4H03 and registration in Honours Biochemistry (Biotechnology and Genetic Engineering Specialization); or BIOCHEM 3G03 and registration in a Chemical Engineering program

Antirequisite: BIOCHEM 4BB6, 4F09, 4G03, 4L03

Cross-list: CHEM ENG 4LL3

**BIOCHEM 4P03 RESEARCH PROJECT IN BIOCHEMISTRY AND MOLECULAR BIOLOGY**

A project supervised by a member or associate member of the Department of Biochemistry and Biomedical Sciences. Assessment is based on laboratory work and a final report.

May be taken first or second term

Prerequisite: BIOCHEM 3P03 or BIOLOGY 3V03; and one of BIOCHEM 3B03, 3BT3, 3D03, BIOLOGY 3H03; and registration in an Honours Biochemistry Specialization, Honours Molecular Biology or Honours Physics (Biophysics Specialization). Permission of the Department is required. Application for permission must be received by March 1st of the academic year prior to registration. Students are expected to have a C.A. of

at least 7.0. For further information, please refer to [www.fhs.mcmaster.ca/biochem/Undergraduate.htm](http://www.fhs.mcmaster.ca/biochem/Undergraduate.htm).

Antirequisite: BIOCHEM 4B06, 4F09, HTH SCI 3H03, 4A09, 4B06, MOL BIOL 4R09

Enrolment is limited. See the heading *Limited Enrolment Courses* in the Faculty of Science section of the Calendar.

**BIOCHEM 4Q03 BIOCHEMICAL PHARMACOLOGY**

The pharmacological and biochemical basis of drug absorption, distribution, metabolism, biotransformation, toxicity and susceptibility. Chemical carcinogenesis and mechanism of action and cellular resistance to anti-bacterial and anticancer drugs.

Three lectures; first term

Prerequisite: One of BIOCHEM 3BB3, 3BT3, 3D03; or BIOCHEM 2EE3 and 3G03; or HTH SCI 2E03

**BIOCHEM 4S03 INTRODUCTION TO MOLECULAR BIOPHYSICS**

A presentation of recent contributions made to the fields of molecular and cell biology by the use of physical approaches. Topics include physical properties of biomolecules, protein folding, molecular motors, cell motion and cell adhesion. Emphasis on the critical evaluation of current research literature.

Three lectures; first term

Prerequisite: One of CHEM 2R03, MATLS 2B03 or PHYSICS 2H04. PHYSICS 3S03 is recommended.

Cross-list: PHYSICS 4S03

This course is administered by the Department of Physics and Astronomy.

**BIOCHEM 4Y03 GENOMES AND EVOLUTION**

Molecular evolution and comparative analysis of genomes. Bacterial evolution, phylogenetics, origins of eukaryotes. Organelles and their genomes. Comparison of the human genome with other species. Use of microarrays and proteomics.

Three lectures; second term

Prerequisite: BIOCHEM 2B03 or 3G03

Antirequisite: BIOLOGY 4DD3

**BIOLOGY**

WEB ADDRESS: <http://www.science.mcmaster.ca/biology/>

Life Sciences Building, Room 118

Ext. 23049

**Faculty as of January 15, 2006****Chair**

Turlough M. Finan

**Associate Chairs**

Patricia Chow-Fraser/Undergraduate Studies

Elizabeth A. Weretilnyk/Graduate Studies

**Distinguished University Professor**

Christopher M. Wood/B.Sc., M.Sc. (British Columbia), Ph.D. (East Anglia), F.R.S.C./Senior Canada Research Chair

**Professors**

Patricia Chow-Fraser/B.Sc., M.Sc. (Waterloo), Ph.D. (Toronto)/Undergraduate Advisor

Turlough M. Finan/B.Sc., M.Sc. (Galway), Ph.D. (Guelph)

G. Brian Golding/B.Sc. (Dalhousie), Ph.D. (Alberta)/Senior Canada Research Chair

Delsworth G. Hamish/(Pathology and Molecular Medicine) B.Sc., M.Sc. (Queen's), Ph.D. (McMaster)

John A. Hassell/(Biochemistry and Biomedical Sciences, Pathology and Molecular Medicine) B.Sc. (Brooklyn College), Ph.D. (Connecticut)

J. Roger Jacobs/B.Sc. (Calgary), M.Sc., Ph.D. (Toronto)

Jurek Kolasa/M.Sc., Ph.D. (Poznan)

Colin A. Nurse/B.E.Sc. (Western Ontario), Ph.D. (Harvard)

Michael J. O'Donnell/B.Sc., Ph.D. (Toronto)

Andrew J. Rainbow/B.Sc. (Manchester), M.Sc. (London), Ph.D. (McMaster)/Undergraduate Advisor

C. David Rollo/B.Sc., M.Sc. (Guelph), Ph.D. (British Columbia)

Herbert E. Schellhorn/B.Sc., M.Sc. (Guelph), Ph.D. (North Carolina)

Rama S. Singh/B.Sc. (Agra), M.Sc. (Kanpur), Ph.D. (California-Davis)

Elizabeth A. Weretilnyk/B.Sc., Ph.D. (Alberta)

**Associate Professors**

Christian Baron/Dipl. Microbiol, Ph.D. (Munich)

André Bédard/B.Sc. (Montreal), Ph.D. (McGill)

Robin K. Cameron/B.Sc. (Waterloo), Ph.D. (McGill)

Ana Campos/B.A., M.A. (*Rio de Janeiro*), Ph.D. (*Brandeis*)  
 Juliet M. Daniel/B.Sc. (*Queen's*), Ph.D. (*British Columbia*)  
 Susan A. Dudley/B.Sc., M.Sc. (*McGill*), Ph.D. (*Chicago*) Undergraduate Advisor  
 Suleiman A. Igoura/B.Sc. (*Victoria*), M.Sc. (*Western Ontario*), Ph.D. (*McGill*)  
 James S. Quinn/B.Sc. (*Queen's*), M.Sc. (*Brock*), Ph.D. (*Oklahoma*)  
 Jianping Xu/B.Sc. (*Jiangxi*), M.Sc. (*Nanjing and Toronto*), Ph.D. (*Toronto*)

#### Adjunct Associate Professors

David A. Galbraith/*(Royal Botanical Gardens)*, B.Sc., M.Sc. (*Guelph*),  
 Ph.D. (*Queen's*)  
 James S. Pringle/*(Royal Botanical Gardens)*, A.B. (*Dartmouth*), M.S.  
 (*New Hampshire*), Ph.D. (*Tennessee*)

#### Assistant Professors

Kimberley Dej/B.Sc. (*Toronto*), Ph.D. (*Johns Hopkins*)  
 Marie Elliot/B.Sc., Ph.D. (*Alberta*)/Canada Research Chair  
 Ben Evans/B.S. (*Tufts*), M.S., M.Phil., Ph.D. (*Columbia*)  
 Bhagwati Gupta/B.Sc. (*Banaras Hindu*), M.Sc. (*Jawaharlal Nehru*), Ph.D.  
 (*TATA Institute*)/Canada Research Chair  
 Lovay Kajlura/B.Sc., M.Sc., Ph.D. (*McMaster*)  
 Grant B. McClelland/B.Sc. (*Ottawa*), Ph.D. (*British Columbia*)  
 Jonathon Stone/B.Sc., M.Sc., Ph.D. (*Toronto*)/SHARCNet Chair in  
 Computational Biology  
 Peter Summers/B.Sc. (*Guelph*), M.Sc., Ph.D. (*Alberta*)  
 Xu-Dong Zhu/B.Sc. (*Nanjing*), M.Sc. (*Regina*), Ph.D. (*Toronto*)

#### Instructional Assistants

Lori Goff/B.Sc., M.Sc. (*Guelph*)  
 Marvin Gunderman/B.Sc., M.Sc. (*McMaster*)  
 Thelma Leech/B.Sc., M.Sc. (*Guelph*), M.Sc.(T.) (*McMaster*)  
 Beryl Piccinin/B.Sc. (*Mount Allison*), M.Sc. (*McMaster*)  
 Raymond Procwat/B.Sc. (*McMaster*), B.Ed. (*Toronto*)

#### Note:

No more than 12 units of Level II, III Biology (six units per year) may be taken in total by students enrolled in a three year Baccalaureate degree program. Detailed course descriptions are available on the program web site at [http://www.science.mcmaster.ca/biology/biology\\_undergraduate\\_CourseOfferings](http://www.science.mcmaster.ca/biology/biology_undergraduate_CourseOfferings)

#### Courses *If no prerequisite is listed, the course is open.*

##### BIOLOGY 1A03 CELLULAR AND MOLECULAR BIOLOGY

Structure, molecular composition and function in sub-cellular and cellular systems.

Three lectures, one lab (three hours); one term

Prerequisite: Grade 12 Biology U and registration in one of Science I, Arts & Science I, Kinesiology I, Mathematics and Statistics I, Medical Radiation Sciences I, Chemical Engineering and Bioengineering, Electrical and Biomedical Engineering, any program above Level I; or a grade of at least 80% in Grade 12 Biology U. Registration in or completion of CHEM 1A03, 1AA3 is strongly recommended. CHEM 1A03, 1AA3 are prerequisites for many Biology courses in Level II, III, and IV.

Corequisite: SCIENCE 1A00. Students registering in BIOLOGY 1A03 must also register in SCIENCE 1A00 when completing their registration. *Students in non-Science programs should consider registering in BIOLOGY 1K03 and SCIENCE 2K03 which do not have laboratories.*

##### BIOLOGY 1AA3 BIODIVERSITY, EVOLUTION AND ECOLOGY

Fundamental evolutionary and ecological concepts with particular reference to the diversity of life.

Three lectures, one lab (three hours); one term

Prerequisite: Grade 12 Biology U and registration in one of Science I, Arts & Science I, Kinesiology I, Mathematics and Statistics I, Medical Radiation Sciences I, Chemical Engineering and Bioengineering, Electrical and Biomedical Engineering, any program above Level I; or a grade of at least 80% in Grade 12 Biology U. Registration in or completion of CHEM 1A03, 1AA3 is strongly recommended. CHEM 1A03, 1AA3 are prerequisites for many Biology courses in Level II, III, and IV.

Corequisite: SCIENCE 1A00 Students registering in BIOLOGY 1AA3 must also register in SCIENCE 1A00 when completing their registration.

*Students in non-Science programs should consider registering in BIOLOGY 1K03 and SCIENCE 2K03 which do not have laboratories.*

##### BIOLOGY 1K03

##### BIOLOGY FOR THE HUMANITIES AND SOCIAL SCIENCES

Principles spanning the realms of biology with a particular emphasis towards the understanding of the human species.

Three lectures, one tutorial; one term

Antirequisite: SCIENCE 2H03

*Not open to students registered in a program in the Faculty of Science. Students who transfer to the Faculty of Science do not retain credit for this course. BIOLOGY 1K03 is not a prerequisite for further courses in Biology. Other Biology courses of interest to students in Humanities and Social Sciences include SCIENCE 2K03.*

##### BIOLOGY 2A03 INTEGRATIVE PHYSIOLOGY OF ANIMALS

Fundamental principles of animal physiology, including: cellular energetics; diffusion, osmosis, membrane transport, excitability and contractility, gas exchange, fluid dynamics, electrolyte balance.

Three lectures, one lab (three hours); one term

Prerequisite: BIOLOGY 1A03, 1AA3

Antirequisite: BIOLOGY 4D03, ENGINEER 4X03, ENG PHYS 3X03, HTH SCI 1H03, 1HH3, 2F03, 2FF3, KINESIOL 1A06, 1Y03, 1YY3

*Not open to students with credit or registration in BIOLOGY 3P03, 3U03, 3UU3.*

##### BIOLOGY 2B03 CELL BIOLOGY

Basic treatment of cell structure and function, including transport and chemical signals; adaptation of structure and function in specialized cells.

Three lectures, one lab (three hours); one tutorial; one term

Prerequisite: BIOLOGY 1A03, 1AA3, CHEM 1AA3

Antirequisite: MOL BIOL 2B03

*Not open to students registered in the Honours Molecular Biology program.*

##### BIOLOGY 2C03 GENETICS

Structure, function and transmission of genes; chromosomal basis of inheritance; mono- and dihybrid crosses; sequential steps in gene function; linkage maps; sex chromosome inheritance.

Three lectures and one tutorial (three hours); one term.

Prerequisite: BIOLOGY 1A03, 1AA3, CHEM 1AA3; and registration in an Honours program in the Faculty of Science, or a program in Arts & Science; Health Sciences or Kinesiology. Students are required to have a C.A. of at least 6.0; students who require this course for completion of their program are guaranteed admission.

*Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.*

##### BIOLOGY 2D03 PLANT BIODIVERSITY

An introduction to plants emphasizing their diversity in structure, development, ecology, mechanisms of reproduction, adaptations for survival in different environments; and human uses.

Two lectures, one lab (three hours); one term

Prerequisite: BIOLOGY 1AA3; and BIOLOGY 1A03 or ENVIR SC 1B03

##### BIOLOGY 2EE3 INTRODUCTION TO MICROBIOLOGY AND BIOTECHNOLOGY

Introduction to microbial cell biology, ecology, pathogenicity, physiology, taxonomy, antimicrobial agent action and to the application of microorganisms in biotechnology.

Two lectures, one lab (three hours); one term

Prerequisite: BIOLOGY 1A03, 1AA3, CHEM 1AA3 and credit or registration in CHEM 2E03 or 2O43; or registration in Level III Chemical Engineering and Bioengineering

Antirequisite: BIOLOGY 3E03

##### BIOLOGY 2F03 FUNDAMENTAL AND APPLIED ECOLOGY

An introduction to fundamental ecological principles and illustration of how these are applied to current environmental problems at the level of organisms, populations and ecosystems.

Two lectures, one optional tutorial, one mandatory lab (three hours); one term

Prerequisite: BIOLOGY 1AA3

##### BIOLOGY 2G03 INQUIRY I - CURRENT ISSUES IN BIODIVERSITY

An interactive course exposing students to current issues in the understanding, preservation and management of biodiversity and ecological integrity.

One lecture (three hours), one tutorial (two hours); one term

Prerequisite: BIOLOGY 2D03, 2F03; and registration in Level II or III of any program in the Faculty of Science, Health Sciences or the Arts & Science Program. Please note, BIOLOGY 3G03 is open only to students registered in the Biodiversity Specialization of the Honours Biology Program.

Antirequisite: BIOLOGY 2I03

**BIOLOGY 2I03 INQUIRY IN BIOLOGY I**

This course provides an active learning approach to developing skills in designing, interpreting and communicating research in Biology.

One lecture, two workshops; one term

Prerequisite: Registration in Level II of any Honours Biology program, Honours Biology and Psychology or Honours Molecular Biology

Antirequisite: BIOLOGY 2G03

*Enrolment is limited.* See the heading *Limited Enrolment Courses* in the *Faculty of Science* section of the Calendar.

*Not offered in 2006-2007.*

**BIOLOGY 3AA3 FUNDAMENTAL CONCEPTS OF PHARMACOLOGY**

Drug interactions with living organisms; absorption and elimination of drugs, variations in drug action, drug toxicity; receptor structure and function, and signal transduction pathways.

Three lectures, one tutorial (three hours); one term

Prerequisite: One of BIOLOGY 2A03, HTH SCI 2FF3, PSYCH 2F03; and one of BIOCHEM 2A06, 2BB3, 2EE3 or registration in BIOCHEM 3G03. BIOLOGY 3P03 is strongly recommended.

*Not open to students with credit in BIOCHEM 4Q03 or registration in Honours Biology and Pharmacology.*

**BIOLOGY 3B03 PLANT PHYSIOLOGY**

Principles of physiology and plant cell metabolism. Topics include: photosynthesis, photorespiration, mineral nutrition, water relations and transpiration.

Two lectures, one lab (three hours); one term

Prerequisite: BIOLOGY 2B03, 2D03

**BIOLOGY 3BB3 ULTRASTRUCTURE, DEVELOPMENT AND FUNCTION OF PLANT CELLS**

Cells and tissues will be studied. Students will take photomicrographs and electron micrographs.

Two lectures, one lab (three hours); one term

Prerequisite: BIOLOGY 2B03, 2D03

*Offered on a irregular rotation basis.*

**BIOLOGY 3CC3 MICROBIAL GENOMES AND SYSTEMS BIOLOGY**

Advanced topics of microbial physiology/biochemistry and introduction to "systems" approaches based on microbial genomics, transcriptions, proteomics and metabolomics projects.

Two lectures, one tutorial (three hours); one term

Prerequisite: BIOCHEM 2B03 or 2EE3; BIOLOGY 2B03, 2C03; and BIOLOGY 2EE3 or 3E03; and CHEM 2OAS, 2OB3

**BIOLOGY 3F03 VERTEBRATE ANATOMY**

An introduction to the development of structure and function in vertebrates.

Three lectures, one lab (three hours); one term

Prerequisite: BIOLOGY 2B03. BIOLOGY 2A03 is strongly recommended.

*Enrolment is limited.* See the heading *Limited Enrolment Courses* in the *Faculty of Science* section of the Calendar.

*Offered in alternate years.*

*Not offered in 2006-2007.*

**BIOLOGY 3FF3 EVOLUTION**

Introduction to the major theoretical concepts and empirical findings in micro- and macroevolution.

Three lectures, one tutorial; one term

Prerequisite: BIOLOGY 2C03

**BIOLOGY 3G03 INQUIRY II - CURRENT RESEARCH IN BIODIVERSITY**

An interactive course highlighting current research programs in the general area of biodiversity within the Biology Department. Preparation for BIOLOGY 4C09 and 4F06 project on a biodiversity topic. A mandatory weekend field trip will be held in September. Students enrolling in this course must pay both the nominal incidental fees as prescribed by the Instructor and regular tuition fees.

One lecture (three hours), one tutorial (two hours); one term

Prerequisite: BIOLOGY 2G03. Restricted to students registered in Level III Honours Biology (Biodiversity Specialization).

**BIOLOGY 3H03 MOLECULAR BIOLOGY OF THE NUCLEUS**

Structure of the nucleus and of chromatin; organization of DNA sequences; DNA replication, transcription; gene expression; some relevant techniques.

Two lectures, one tutorial (two hours); one term

Prerequisite: BIOLOGY 2B03

Antirequisite: BIOCHEM 3B03

**BIOLOGY 3HH3 ORGANIZATION OF THE CYTOPLASM**

A detailed examination of the molecular organization and function of cytoplasmic structures in metazoans, with particular focus on the differentiation and specialization of the cell surface and the cytoskeleton.

Three lectures, one tutorial; one term

Prerequisite: BIOLOGY 2B03

**BIOLOGY 3I03 EUKARYOTIC GENETICS**

Molecular genetics of eukaryotes, with focus on molecular mechanisms of eukaryotic DNA replication, DNA repair and recombination, cell cycle and cancer, telomeres and telomerase.

Three lectures; one term

Prerequisite: BIOLOGY 2B03, 2C03

**BIOLOGY 3K03 ANIMAL HISTOLOGY**

The structure, function, and organization of cells, tissues, organs and organ systems.

Three lectures, one lab (three hours); one term

Prerequisite: BIOLOGY 2B03. BIOLOGY 2A03 is strongly recommended.

Antirequisite: HTH SCI 2F03, 2FF3

*Enrolment is limited.* See the heading *Limited Enrolment Courses* in the *Faculty of Science* section of the Calendar.

**BIOLOGY 3M03 FUNDAMENTAL CONCEPTS OF DEVELOPMENT**

Recent advances using genetic and molecular approaches will be discussed in the context of classical experiments. Various model systems (mice, fruitflies, worms) will be examined.

Two lectures, one tutorial or lab (three hours); one term

Prerequisite: BIOLOGY 2B03, 2C03

**BIOLOGY 3MM3 INVERTEBRATE FORM AND FUNCTION**

Analysis of sensory reception, nervous control systems, feeding, skeletal support, locomotion, excretion, respiration, and reproduction in selected invertebrates.

Two lectures, one lab/tutorial (three hours); one term

Prerequisite: BIOLOGY 2A03

**BIOLOGY 3O03 MICROBIAL GENETICS**

The genetics of bacteriophages, bacteria and fungi. Special emphasis will be placed on relationships between microbial genetics and general problems in genetics and gene regulation.

Three lectures, one tutorial; one term

Prerequisite: BIOLOGY 2C03. BIOLOGY 2EE3 or 3E03 is strongly recommended.

**BIOLOGY 3P03 CELL PHYSIOLOGY**

Analysis of cell function with an emphasis on electrical properties, ion transport proteins, signalling via second messengers, mechanisms of cell homeostasis, and epithelial transport.

Two lectures, one tutorial; one term

Prerequisite: BIOLOGY 2A03 or PSYCH 2F03; and credit or registration in one of BIOCHEM 2A06, 2BB3, or 3G03

**BIOLOGY 3Q03 PEER MENTORING IN BIOLOGY (CELLULAR AND MOLECULAR BIOLOGY)**

This course gives students theoretical and practical experience with teaching methods in cellular and molecular biology and focuses upon effective presentation and scientific writing skills.

One lecture (two hours), one practicum; one term

Prerequisite: BIOLOGY 1A03; and registration in Level III or above of a program in Arts & Science or the Faculty of Science; and permission of the instructor.

Antirequisite: BIOLOGY 3QQ3, HTH SCI 4X03

*Enrolment is limited. Applications must be submitted to the Undergraduate Assistant, Life Sciences Building, Room 118 prior to registration. Placements announced after completion of a successful interview. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.*

**BIOLOGY 3QQ3 PEER MENTORING IN BIOLOGY (BIODIVERSITY, EVOLUTION AND ECOLOGY)**

This course gives students theoretical and practical experience with teaching methods in biodiversity, evolution and ecology and focuses upon effective presentation and scientific writing skills.

One lecture (two hours), one practicum; one term

Prerequisite: BIOLOGY 1AA3; and registration in Level III or above of a program in Arts & Science or the Faculty of Science; and permission of the instructor.

Antirequisite: BIOLOGY 3Q03, HTH SCI 4X03

*Enrolment is limited. Applications must be submitted to the Undergraduate Assistant, Life Sciences Building, Room 118 prior to registration. Placements announced after completion of a successful interview. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.*

**BIOLOGY 3R03 FIELD BIOLOGY I**

Field work plus written assignments chosen from an assortment of modules offered by faculty from McMaster and other Ontario Universities' Biology Departments. This module must differ from any completed for credit in BIOLOGY 4J03, 4JJ3. Available modules are posted in December each year. Content and schedules vary annually. Students enrolling in this course must pay both the incidental fees, as prescribed by the Department, and the regular tuition fees.

Prerequisite: BIOLOGY 1A03, 1AA3 or one of ENVIR SC 1A03, 1B03 or 1G03; and permission of the Course Administrator, Life Sciences Building, Room 118. Some modules have additional prerequisites. For information on Field Biology, please refer to the Biology web site at [http://www.science.mcmaster.ca/biology/biology\\_undergraduate\\_CourseOfferings](http://www.science.mcmaster.ca/biology/biology_undergraduate_CourseOfferings) and click on BIOLOGY 3R03, or contact the Course Administrator.

*Enrolment is limited.* See the heading *Limited Enrolment Courses* in the *Faculty of Science* section of the Calendar.

**BIOLOGY 3S03 AN INTRODUCTION TO BIOINFORMATICS**

This course introduces the techniques and methods of basic computer analysis of sequence data, including alignment, databases, and phylogenetic reconstruction.

Three lectures, one tutorial; one term

Prerequisite: BIOLOGY 2C03

Antirequisite: BIOLOGY 4K03

**BIOLOGY 3SS3 POPULATION ECOLOGY**

Population structure and dynamics. Natural selection and regulation of organisms by environmental and biological factors. An evolutionary view of predation, competition, life history schedules.

Three lectures; one term

Prerequisite: BIOLOGY 2F03

**BIOLOGY 3TT3 COMMUNITY ECOLOGY**

Community structure; succession; patterns of diversity and their relevance to conservation; elements of biological control; energy flow; nutrient cycling and climatic influences.

Two lectures, one lab (three hours); one term

Prerequisite: BIOLOGY 2F03, BIOLOGY 2D03 and STATS 1CC3 are recommended.

**BIOLOGY 3U03 ANIMAL PHYSIOLOGY - HOMEOSTASIS**

Respiration, circulation, acid-base balance and renal function.

Two lectures, one lab/tutorial (three hours); one term

Prerequisite: BIOLOGY 2A03 and registration in Level III or above of any Honours Biology program. BIOCHEM 2EE3 and 3G03 are recommended.

Antirequisite: HTH SCI 1D06, 2F03, 2FF3, 2L03, 2LL3

*Enrolment is limited.* See the heading *Limited Enrolment Courses* in the *Faculty of Science* section of the Calendar.

**BIOLOGY 3UU3 ANIMAL PHYSIOLOGY - REGULATORY SYSTEMS**

Regulation associated with major features and functions of organisms (e.g. feeding, reproduction, thermoregulation, growth, stress, sleep, aging). Emphasis on endocrinology, evolution, vertebrates and ecology. Material will include selected readings.

Two lectures; one term

Prerequisite: BIOLOGY 2A03, BIOLOGY 2B03 and 2C03 are recommended.

Antirequisite: BIOLOGY 4D03, HTH SCI 1D06, 2F03, 2FF3, 2L03, 2LL3

**BIOLOGY 3V03 TECHNIQUES IN MOLECULAR GENETICS**

A laboratory course involving basic experiments in Molecular Genetics. One lecture, two labs (three hours each); one term.

Prerequisite: Credit or registration in BIOLOGY 3O03 and registration in Level III or above of any Honours Biology program; or permission of the instructor

Antirequisite: BIOCHEM 3P03, MOL BIOL 3V03

*Enrolment is limited.* See the heading *Limited Enrolment Courses* in the *Faculty of Science* section of the Calendar.

**BIOLOGY 3WW3 MICROBIOLOGY INQUIRY**

An interactive course highlighting current research programs in the general field of microbiology as well as specific interests in microbiology within the Department of Biology.

One lecture (three hours), one tutorial; one term

Prerequisite: Registration in Level III Honours Biology (Microbiology and Biotechnology Specialization)

*First offered in 2007-2008.*

**BIOLOGY 3Y03 PLANT RESPONSES TO THE ENVIRONMENT**

How plants respond at the genetic, molecular, biochemical and phenotypic levels to environmental stress. Manipulation of these responses to improve crops will be explored.

Three lectures; one term

Prerequisite: BIOLOGY 2B03, 2C03, 2D03

**BIOLOGY 4A03 ADVANCED TOPICS IN ECOLOGY**

Examination of current topics in ecology including ecosystem and landscape ecology, evolutionary ecology and behavioural ecology.

Two lectures, one tutorial (three hours); one term

Prerequisite: One of BIOLOGY 3FF3, 3J03, 3SS3 or 3TT3; and registration in Level III or above of any Honours program

**BIOLOGY 4AA3 CONSERVATION BIOLOGY**

Examination of how biological principles, mainly from population biology and genetics can be applied to conserving diversity in the natural world.

Three lectures, one lab (three hours); one term

Prerequisite: BIOLOGY 2C03; and one of BIOLOGY 3FF3, 3J03, 3SS3 or 3TT3; and registration in Level III or above of any Honours program

**BIOLOGY 4B03 PLANT METABOLISM AND MOLECULAR BIOLOGY**

Analysis of plant cell metabolism and the regulation of metabolism at the biochemical and molecular genetic level.

Three lectures; one term

Prerequisite: One of BIOCHEM 2A06, 2BB3 or 3G03; and registration in Level III or above of any Honours program. BIOLOGY 3B03 and 3H03 are recommended.

*Offered in alternate years.*

*Not offered in 2006-2007.*

**BIOLOGY 4C09 SENIOR THESIS**

A thesis based upon a research project in an area of biology carried out under the direction of a member of the Biology department.

Prerequisite: Registration in Level IV of any Honours Biology program and permission of the Course Administrator, Life Sciences Building, Room 118. Students are expected to have a C.A. of at least 8.5. Arrangements to take BIOLOGY 4C09, including agreement of the supervisory committee, should be made according to Departmental Guidelines before the end of March in Level III. For information on Departmental Guidelines, please refer to the Biology web site at [http://www.science.mcmaster.ca/biology/biology\\_undergraduate\\_CourseOfferings](http://www.science.mcmaster.ca/biology/biology_undergraduate_CourseOfferings) and click on BIOLOGY 4C09, or contact the Course Administrator.

Antirequisite: HTH SCI 3H03, 4A09, 4B06

*Not open to students with credit or registration in courses in the Science Capstone Course List in the Faculty of Science section of the Calendar.*

*Enrolment is limited.* See the heading *Limited Enrolment Courses* in the *Faculty of Science* section of the Calendar.

**BIOLOGY 4DD3 MOLECULAR EVOLUTION**

The study of how molecules change over time within and between species. The experimental data, techniques and theories will be examined.

Two lectures, one tutorial; one term

Prerequisite: ANTHROP 2D03 or BIOLOGY 3FF3; and registration in Level III or above of any Honours program

Antirequisite: BIOCHEM 4Y03

*Offered in alternate years.*

*Offered in 2006-2007.*

**BIOLOGY 4E03 POPULATION GENETICS**

Conceptual foundations of evolutionary theory and principles of population genetics.

Three lectures; or two lectures, one tutorial; one term

Prerequisite: BIOLOGY 2C03, 3FF3; and registration in Level III or above of any Honours program

Antirequisite: BIOLOGY 3J03

**BIOLOGY 4EE3 HUMAN DIVERSITY AND HUMAN NATURE**

The nature of genetic diversity in humans; the nature versus nurture debate in relation to genetic determinism and biological basis of behaviour.

Three lectures and one tutorial; one term

Prerequisite: BIOLOGY 2C03; and one of ANTHROP 2E03, BIOLOGY 3FF3, 3J03; and registration in Level III or above of any Honours program

**BIOLOGY 4F06 SENIOR PROJECT**

Students undertake an experimental or library project in a specialized area of biology under the direction of a member of the Biology department.

Prerequisite: Registration in Level IV of any Honours Biology program and permission of the Course Administrator, Life Sciences Building, Room 118. Students are expected to have a C.A. of at least 8.5. Arrangements to take BIOLOGY 4F06, including the agreement of the supervisory committee, should be made according to Departmental Guidelines before the end of March in Level III. For information on Departmental Guidelines, please refer to the Biology web site at [http://www.science.mcmaster.ca/biology/biology\\_undergraduate\\_CourseOfferings](http://www.science.mcmaster.ca/biology/biology_undergraduate_CourseOfferings) and click on BIOLOGY 4F06, or contact the Course Administrator.

Antirequisite: HTH SCI 3H03, 4A09, 4B06

*Not open to students with credit or registration in courses in the Science Capstone Course List in the Faculty of Science section of the Calendar.*

*Enrolment is limited.* See the heading *Limited Enrolment Courses* in the *Faculty of Science* section of the Calendar.

**BIOLOGY 4G06 HUMAN ANATOMY**

A study of the human body by dissection, self-teaching modules and videotapes. Two labs (two and one half hours); two terms

Prerequisite: A grade of at least B+ in BIOLOGY 3F03 or 3K03 (or co-registration in BIOLOGY 3K03); and registration in Level III or above of any Honours program; and permission of the instructor. Application for permission must be received by the Course Administrator, Life Sciences Building, Room 118, by March 31st of the academic year prior to registration. These are minimum requirements, and final selection will be based on academic merit.

*Enrolment is limited.* See the heading *Limited Enrolment Courses* in the *Faculty of Science* section of the Calendar.

*Offered in alternate years.*

*Offered in 2006-2007.*

**BIOLOGY 4GG9 SENIOR GENETICS CO-OP THESIS**

A thesis based upon a research project in an area of genetics carried out under the direction of a member of the Biology department.

Prerequisite: Registration in Level IV of the Honours Biology Genetics Specialization Co-Op program and permission of the Course Administrator, Life Sciences Building, Room 118. Arrangements to take BIOLOGY 4GG9, including the agreement of the supervisory committee, should be made according to Departmental Guidelines before the end of March in Level III. For information on Departmental Guidelines, please refer to the Biology web site at [http://www.science.mcmaster.ca/biology/biology\\_undergraduate\\_CourseOfferings](http://www.science.mcmaster.ca/biology/biology_undergraduate_CourseOfferings) and click on BIOLOGY 4GG9.

Antirequisite: HTH SCI 3H03, 4A09, 4B06

*Not open to students with credit or registration in courses in the Science Capstone course List in the Faculty of Science section of the Calendar.*

*Enrolment is limited.* See the heading *Limited Enrolment Courses* in the *Faculty of Science* section of the Calendar.

**BIOLOGY 4I03 INQUIRY IN BIOLOGY II**

This course provides an opportunity to explore a specialized area of Biology in a small group setting.

Lectures, seminars and discussions (three hours); one term

Prerequisite: Registration in Level IV Honours Biology. BIOLOGY 4I03 may not be repeated. For information regarding module offerings, please refer to the Biology web site at [http://www.science.mcmaster.ca/biology/biology\\_undergraduate\\_CourseOfferings](http://www.science.mcmaster.ca/biology/biology_undergraduate_CourseOfferings) and click on BIOLOGY 4I03; or contact the Course Administrator, Life Sciences Building, Room 118.

Antirequisite: BIOLOGY 4C09, 4F06, 4FF3, 4GG9, HTH SCI 3H03, 4A09, 4B06, MOL BIOL 4R09, PHARMAC 4F09

*Enrolment is limited.*

See the heading *Limited Enrolment Courses* in the *Faculty of Science* section of the Calendar.

**BIOLOGY 4J03 FIELD BIOLOGY II**

A second field module chosen from those offered by faculty from McMaster and other Ontario Universities' Biology Departments. This module must differ from any completed for credit in BIOLOGY 3R03, 4JJ3. Available modules are posted in December of each year. Content and schedules vary annually. Students enrolling in this course must pay both the incidental fees, as prescribed by the Department, and the regular tuition fees.

Prerequisite: BIOLOGY 1A03, 1AA3 or one of ENVIR SC 1A03, 1B03 or 1G03; and permission of the Course Administrator, Life Sciences Building, Room 118. Some modules have additional prerequisites. For information on Field Biology, please refer to the Biology web site at [http://www.science.mcmaster.ca/biology/biology\\_undergraduate\\_CourseOfferings](http://www.science.mcmaster.ca/biology/biology_undergraduate_CourseOfferings) and click on BIOLOGY 4J03, or contact the Course Administrator.

*Enrolment is limited.* See the heading *Limited Enrolment Courses* in the *Faculty of Science* section of the Calendar.

**BIOLOGY 4JJ3 FIELD BIOLOGY III**

A third 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, 4J03. Available modules are posted in December of each year. Content and schedules vary annually. Students enrolling in this course must pay both the incidental fees, as prescribed by the Department, and the regular tuition fees.

Prerequisite: BIOLOGY 1A03, 1AA3 or one of ENVIR SC 1A03, 1B03 or 1G03; and permission of the Course Administrator, Life Sciences Building, Room 118. Restricted to students who have completed Level III Honours Biology (Biodiversity Specialization). Some modules have additional prerequisites. For information on Field Biology, please refer to the

Biology web site at [http://www.science.mcmaster.ca/biology/biology\\_undergraduate\\_CourseOfferings](http://www.science.mcmaster.ca/biology/biology_undergraduate_CourseOfferings) and click on BIOLOGY 4JJ3, or contact the Course Administrator.

*Enrolment is limited.* See the heading *Limited Enrolment Courses* in the *Faculty of Science* section of the Calendar.

**BIOLOGY 4P03 MEDICAL MICROBIOLOGY**

Infectious diseases: identification, epidemiology and treatment.

Two lectures, one tutorial (three hours); one term

Prerequisite: BIOLOGY 2EE3 or 3E03; and registration in Level III or above of any Honours program. Credit or registration in BIOLOGY 3O03 is strongly recommended.

**BIOLOGY 4PP3 MICROBIAL DIVERSITY AND ENVIRONMENTAL BIOTECHNOLOGY**

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 tutorial (three hours); one term

Prerequisite: BIOLOGY 2EE3 or 3E03; and registration in Level III or above of any Honours program. Credit or registration in BIOLOGY 3O03 is strongly recommended.

*Offered in alternate years.*

*Offered in 2006-2007.*

**BIOLOGY 4R03 HUMAN GENETICS**

The human genome and genetic medicine. Topics include normal and pathological cytology; the human genome project; gene mapping, linkage and therapy.

Two lectures, one tutorial (two hours); one term

Prerequisite: BIOLOGY 2B03, 2C03, 3I03; and registration in Level III or above of any Honours program.

**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 lectures, one tutorial (three hours); one term

Prerequisite: BIOLOGY 3P03 and registration in Level III or above of any Honours program. One or more of BIOLOGY 3H03, 3HH3, 3UU3, PSYCH 2F03, 3FA3 is also recommended.

*Offered in alternate years.*

*Offered in 2006-2007.*

**BIOLOGY 4U03 RADIATION BIOLOGY**

The effects of radiation on biological material at the molecular, cellular, tissue and whole organism level.

Three lectures; or two lectures and one tutorial; one term

Prerequisite: BIOLOGY 2B03 or 2C03, and credit or registration in one of MED PHYS 3T03, 4B03, PHYSICS 3T03; or registration in Year 4 of Medical and Health Physics Co-op; or permission of the instructor.

**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.

Three lectures, one tutorial (two hours); one term

Prerequisite: One of BIOCHEM 3C03, BIOLOGY 3H03, 3HH3 and registration in Level III or above of any Honours program; or permission of the instructor. *Not offered 2006-2007.*

**BIOLOGY 4X03 ENVIRONMENTAL PHYSIOLOGY**

The influence of environmental factors on the physiology of animals and the adaptation of animals to diverse environments in the context of biodiversity.

Three lectures; or two lectures, one tutorial; one term

Prerequisite: One of BIOLOGY 3MM3, 3P03, 3U03, 3UU3; and registration in Level III or above of any Honours program.

*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 2006-2007.*

**BIOLOGY 4XX3 WORKSHOP IN MOLECULAR GENETICS**

An intensive two week laboratory/lecture course. Topics covered will include scientific reasoning, ethics, technology transfer, molecular genetics techniques, techniques used in cell culture and gene expression studies.

NOTE: Course will consist of two weeks of laboratory instruction, seminars and workshops. To be held the first two weeks of May.

Prerequisite: BIOLOGY 2EE3 or 3E03; and registration in Honours Biology (Genetics Specialization or Microbiology and Biotechnology Specialization) or Honours Biology Genetics Specialization Co-op; and permission of the instructor. Application for permission must be received by March 31st of the academic year prior to registration.

*Enrolment is limited.* See the heading *Limited Enrolment Courses* in the *Faculty of Science* section of the Calendar.

**BIOLOGY 4Y03 ECOLOGY OF INLAND WATERS**

Physical, chemical and biological interrelationships of inland waters, including aspects of pollution.

Two lectures, one lab (three hours); one term

Prerequisite: BIOLOGY 2F03 and credit or registration in one of BIOLOGY 3G03, 3SS3, 3TT3 and registration in Level III or above of any Honours program; or permission of the instructor

Offered in alternate years.

Offered in 2006-2007.

**HTH SCI 3I03 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; one term

Prerequisite: BIOLOGY 2B03 or HTH SCI 2K03

Antirequisite: BIOLOGY 3X03

**HTH SCI 4I13 ADVANCED TOPICS IN IMMUNOLOGY**

This course will build on knowledge of the immune system and focus on the immune system in disease: allergy, inflammation, autoimmunity, immunodeficiency, malignancy and cancer immunotherapy.

Two lectures, one tutorial; one term

Prerequisite: BIOLOGY 3X03 or HTH SCI 3I03

Antirequisite: BIOLOGY 4I13

**MED PHYS 4B03 RADIOACTIVITY AND RADIATION INTERACTIONS**

Radioactivity and radiation phenomenology: interaction of radiations with matter, dosimetry, radiation in medicine, biological effects, radiation levels and regulations, radiation protection.

Three lectures; one term

Prerequisite: One of PHYSICS 1BA3, 1BB3 or permission of the instructor

Antirequisite: BIOL 3L03, MED PHYS 3T03, PHYSICS 3T03

**MOL BIOL 4H03 MOLECULAR BIOLOGY OF CANCER**

Cancer at the cellular and molecular level. Topics include: properties of cancer cells, activation of proto-oncogenes, function of oncoproteins, transgenic mouse models, and tumour viruses, tumour suppressor genes.

Two lectures; one tutorial; one term

Prerequisite: One of BIOCHEM 3B03, 3BT3, 3D03, 3G03, BIOLOGY 3H03, 3HH3 and registration in Level III or above of any Honours program; or permission of the instructor

**MOL BIOL 4J03 MOLECULAR IMMUNOLOGY**

This advanced course applies small group based learning to immunological problems. Topics concern development of immunoassays, resistance to infection and immunity in health and disease.

One session (two hours), one tutorial; one term

Prerequisite: One of BIOLOGY 3X03 or HTH SCI 3I03; and one of BIOCHEM 3B03, 3BT3, 3D03, 3G03, BIOLOGY 3H03; or permission of the instructor

Cross-list: BIOCHEM 4J03, HTH SCI 4J03

This course is administered by the Bachelor of Health Sciences (Honours) Program.

**BUSINESS**

(SEE COMMERCE)

**CANADIAN STUDIES**

(SEE INTERDISCIPLINARY MINORS AND THEMATIC AREAS)

**CAYUGA**

(SEE INDIGENOUS STUDIES, CAYUGA)

**CHEMICAL ENGINEERING**

WEB ADDRESS: <http://www.chemeng.mcmaster.ca>

John Hodgins Engineering Building, Room 374

Ext. 24957

**Faculty as of January 15, 2006****Chair**

A. N. Hrymak

**Distinguished University Professors**

John L. Brash/B.Sc., Ph.D. (Glasgow), D.Hon.C. (Paris Nord), F.B.S.E., F.R.S.C., P.Eng

John F. MacGregor/B.Eng. (McMaster), M.Sc., Ph.D. (Wisconsin), F.A.S.A., F.C.A.E., P.Eng./Dofasco Chair in Process Automation and Information Technology

**Professors**

James M. Dickson/ B.A.Sc., M.A.Sc. (Waterloo); Ph.D. (Virginia Tech.)  
Andrew N. Hrymak/B.Eng. (McMaster), Ph.D. (Carnegie Mellon), P.Eng., F.C.I.C.

Rafik O. Loufy/B.Sc., M.Sc. (Ain Shams), Ph.D. (Western Ontario), M.B.A. (Toronto), F.C.I.C.

Thomas E. Marlin/B.S. (SUNY), M.S. (Dayton), Ph.D. (Massachusetts)

Robert H. Peiton/B.Sc., M.Sc. (Guelph), Ph.D. (Bristol)/Senior Canada Research Chair

Paul A. Taylor/B.Sc., Ph.D. (Wales), P.Eng.

John Vlachopoulos/Dipl. Ch. Eng. (National Technical University of Athens), M.S., D.Sc. (Washington, St. Louis), F.C.I.C., P.Eng.

Philip E. Wood/B.A.Sc. (Waterloo), Ph.D. (California Inst. Tech.), F.C.I.C., P.Eng.

Shiping Zhu/B.Eng. (Zhejiang), Ph.D. (McMaster), P.Eng./Canada Research Chair

**Adjunct Professor**

Joseph D. Wright/B.Sc. (Alberta), Ph.D. (Cambridge), P.Eng.

**Associate Professors**

Christopher L. E. Swartz/B.Sc.Eng. (Cape Town), Ph.D. (Wisconsin)

Heather Sheardown/B.Eng. (McMaster), Ph.D. (Toronto), P.Eng.

**Adjunct Associate Professors**

Lyndon W.J. Jones/B.Sc. (Wales), Ph.D. (Aston)

Theodora Kourti/Dipl. Eng. (Chemical) (Aristotle), Ph.D. (McMaster)

**Assistant Professors**

Carlos Filipe/B.S. (Universidade Catolica Portuguesa), Ph.D. (Clemson)

Raja Ghosh/B.S., M.S. (Jadavpur), D.Phil. (Oxford)/Canada Research Chair

Kim Jones/B.A.Sc. (Waterloo), M.Sc. (Guelph), Ph.D. (Toronto)

Prashant Mhaskar/B.Tech (IIT), M.S. (Louisiana State), Ph.D. (UCLA)

Michael Thompson/B.Sc., B.Eng., M.Eng. (McMaster), Ph.D. (Waterloo)

**Adjunct Assistant Professors**

Leopold K. (Kris) Kostanski/M.Eng., Ph.D. (Technical University of Szczecin)

Shannon L. Quinn/B.Sc., B.A.Sc. (Ottawa), Ph.D. (Queen's)

**Associate Members**

Michael Brook/(Chemistry) B.Sc. (Toronto), Ph.D. (McGill)

Kari Dalnoki-Veress/(Physics and Astronomy) B.Sc., M.Sc., Ph.D. (Guelph)

Nicholas Kevlahan/(Mathematics and Statistics) B.Sc. (British Columbia), Ph.D. (Cambridge)

Joseph McDermid/(Mechanical Engineering) B.A.Sc. (Queens) M.Eng., Ph.D. (McGill)

Judith West-Mays/(Pathology and Molecular Medicine) B.Sc. (Wilfrid Laurier), M.Sc., Ph.D. (Waterloo)

**Department Note:**

All Chemical Engineering courses are open to students registered in a Chemical Engineering program, subject to prerequisite requirements. Prior permission of the Department is necessary for students from other Engineering departments and other faculties.

**Courses****CHEM ENG 2A04 HEAT TRANSFER**

Steady and unsteady conduction and convection, condensation and boiling. Understanding fundamentals behind heat exchangers, and finned arrangements. Numerical simulations of complex heat transfer systems. Three lectures, one tutorial (two hours); second term

Prerequisite: Registration in a Chemical Engineering or Materials Engineering program

Corequisite: One of CHEM ENG 2B03, 2F04, MATLS 2B03, 2D03

**CHEM ENG 2B03 INTRODUCTION TO BIOPROCESS ENGINEERING**

Unit operations approach; material and energy balances; survey of momentum, heat and mass transfer; basics of chemical process design.

Two lectures (one hour each), one tutorial (two hours); first term

Prerequisite: Registration in Level II Honours Biochemistry (Biotechnology and Genetic Engineering Specialization); or Level II Civil Engineering (Water/Environmental Engineering Stream)

Not open to students registered in a Chemical Engineering program.

**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 of any Chemical Engineering program.

**CHEM ENG 2F04 CHEMICAL ENGINEERING PRINCIPLES II**

Combined mass and energy balances in the steady and unsteady state. The second law of thermodynamics and physical chemical equilibria. Introduction of process simulation packages.

Three lectures, one tutorial (three hours); second term

Prerequisite: Registration or credit in CHEM ENG 2D04

**CHEM ENG 2G03 PROBLEM SOLVING AND TECHNICAL COMMUNICATION**

Developing awareness, strategies, creativity, analysis and interpersonal skills in the context of solving homework problems and preparing technical communications. Interpretation, retrieval manipulation and communication of information.

Three lectures; first term

Antirequisite: CHEM ENG 2C02, 2G02

**CHEM ENG 3BC4 CELL BIOLOGY AND MICROBIOLOGY**

Introduction to cell structure and function, including transport and chemical signals, adaptation of structure and function. Use of micro organisms in biotechnology. Biology of the prokaryotic cell.

Three lectures, one lab (three hours); second term

Prerequisite: Registration in Chemical Engineering and Bioengineering

*Not offered in 2006-2007.*

**CHEM ENG 3BK3 BIO-REACTION ENGINEERING**

Kinetics of cellular processes, microbial processes and enzyme reactions including those of immobilized cells and enzymes. Cell culturing. Bioreactor design. Bioprocess development including downstream processing.

Three lectures; first term

Prerequisite: Registration in Level IV of any Chemical Engineering program; or CHEM ENG 2B03; or permission of the Department

**CHEM ENG 3BM3 BIOSEPARATIONS ENGINEERING**

Introduction to bioseparations engineering, cell disintegration, precipitation based separation processes, extraction, adsorption, chromatography, centrifugal separations, filtration, membrane based separation processes, electrophoresis.

Three lectures; second term

Prerequisite: Registration in Level IV of a Chemical Engineering Program; or CHEM ENG 2B03; or permission of the Department

**CHEM ENG 3D03 CHEMICAL ENGINEERING THERMODYNAMICS**

Review of the total energy balance, mechanical energy balance and thermodynamics of one component system. Chemical reaction and phase equilibria of multicomponent systems, with emphasis on non-ideality.

Two lectures, one tutorial (two hours); first term

Prerequisite: CHEM ENG 2F04

**CHEM ENG 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; and MATH 2M06 or both MATH 2A03 and 2C03, or both MATH 2P04 and 2Q04

**CHEM ENG 3G04 SIMULATION, MODELLING AND PROBLEM SOLVING**

Chemical process simulation including models for heat exchangers, separators and reactors. Group skills, decision-making and self-directed, problem-based learning.

Three lectures, one tutorial (two hours); second term

Prerequisite: CHEM ENG 2G02, or both CHEM ENG 2F04 and 2G03; and credit or registration in CHEM ENG 3D03

Antirequisite: CHEM ENG 3G03

**CHEM ENG 3K04 INTRODUCTION TO REACTOR DESIGN**

Stoichiometry of multiple reactions, kinetics of homogeneous reactions, interpretation of batch data, design of ideal and non-ideal CSTR and plug flow reactors.

Three lectures; one tutorial (two hours); second term

Prerequisite: MATH 2M06, or both MATH 2A03 and 2C03, or both MATH 2P04 and 2Q04 and registration or credit in CHEM ENG 2F04 and 3D03; or a grade of at least B+ in CHEM ENG 2B03 and permission of the Department

**CHEM ENG 3L02 INTERMEDIATE LABORATORY SKILLS**

Experiments and projects in heat transfer, thermodynamics, mass transfer and fluid mechanics with appropriate data analysis and report writing.

One lecture, one lab (three hours); second term

Prerequisite: CHEM ENG 3D03 and credit or registration in CHEM ENG 2A04 and 3O04

**CHEM ENG 3M04 MASS TRANSFER AND STAGewise OPERATIONS**

Stagewise operations, diffusion, mass transfer coefficients, distillation, differential contacting and absorption.

Three lectures, one tutorial (two hours); first term

Prerequisite: CHEM ENG 2F04

**CHEM ENG 3O04 FLUID MECHANICS**

The laws of statics and dynamics in both compressible and incompressible fluids. Equations of conservation and modern turbulence and boundary layer theory applied to submerged and conduit flow. Similitude, unsteady flow, measuring devices and fluid machinery.

Three lectures, one tutorial (three hours); first term

Prerequisite: MATH 2M06, or both MATH 2P04 and 2Q04, or both MATH 2A03 and 2C03 (any of which may be taken concurrently); and registration in a Chemical Engineering, Materials Science, Materials Engineering or Engineering Physics (Nuclear Engineering and Energy Systems Stream) program

**CHEM ENG 3P04 PROCESS CONTROL**

Transient behaviour of chemical processes. Theory and practice of automatic control. Introduction to computer process control.

Three lectures, one tutorial (two hours); second term

Prerequisite: MATH 2M06, or both MATH 2A03 and 2C03, or both MATH 2P04 and 2Q04; and credit or registration in CHEM ENG 2A04, 3E04, 3K04, 3O04

Antirequisite: CHEM ENG 3P03

**CHEM ENG 3Q03 INTRODUCTION TO POLYMER SCIENCE**

An overview of important synthetic and natural polymers with emphasis on polymer structure, the chemistry of polymer formation. An introduction to polymer characterization.

Three lectures; second term

Prerequisite: One of CHEM 2A03, 2E03, 2O03, 2OB3, 2WW2

**CHEM ENG 4B03 POLYMER REACTION ENGINEERING**

Kinetics of polymerization: step-growth and chain-growth (free radical, anionic, anionic coordination and cationic). Polymerization processes: solution/bulk, suspension, emulsion, gas-phase, slurry and reactive processing. Principles of polymer process and reactor design, optimization and control.

Three lectures; first term

Prerequisite: CHEM ENG 3K04

**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; one term

Prerequisite: One of COMMERCE 2QA3, STATS 3N03 or 3Y03

**CHEM ENG 4E03 DIGITAL COMPUTER PROCESS CONTROL**

This course addresses key aspects of implementing control via discrete calculations using digital computers. Topics include discrete-time dynamic models, system identification, analysis of discrete-time systems, design of digital control systems and model predictive control.

Three lectures; first term

Prerequisite: CHEM ENG 3P03 or 3P04

**CHEM ENG 4G03 OPTIMIZATION IN CHEMICAL ENGINEERING**

The application on optimization methods to important engineering problems in equipment design and operation, statistics, control, engineering economics and scheduling. The course will emphasize problem definition, model formulation and solution analysis, with sufficient details on existing algorithms and software to solve problems.

Two lectures, one tutorial (two hours); second term

Prerequisite: CHEM ENG 3E04, 3M04, 3O04, 3P03 (or 3P04); and CHEM ENG 3G03 or 3G04

**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 of any Chemical Engineering program

**CHEM ENG 4LL3 BIO LABORATORIES**

Recombinant DNA technology including cloning, directed mutagenesis, DNA sequencing and expression of cloned genes. Reaction kinetics and reactor design for enzyme and fermentation reactions. Advanced separation methods for bioprocessing operations.

Two labs (four hours); second term

Prerequisite: BIOCHEM 4H03 and registration in Honours Biochemistry (Biotechnology and Genetic Engineering Specialization); or BIOCHEM 3G03 and registration in Chemical Engineering and Bioengineering

Antirequisite: BIOCHEM 4B06, 4BB6, 4F09, 4G03, 4L03

Cross-list: BIOCHEM 4LL3

*This course is administered by the Department of Biochemistry and Biomedical Sciences.*

**CHEM ENG 4M03 SEPARATIONS**

Overview of separation processes, liquid-liquid extraction, supercritical fluid extraction, adsorption, filtration, membrane separation processes. Three lectures; first term

Prerequisite: CHEM ENG 2A04, 3O04, 3M04

**CHEM ENG 4N04 ENGINEERING ECONOMICS AND PROBLEM SOLVING**

Making decisions about the design and operation of engineering systems, with the analysis emphasizing safety, economics, equipment performance, uncertainty, flexibility and monitoring, including trouble shooting. Students will work individually and in groups on problem-based projects.

Three lectures, one tutorial (two hours); first term

Prerequisite: CHEM ENG 3K04, 3M04, 3O04, 3P03 (or 3P04); and registration in CHEM ENG 3G03 or 3G04

Antirequisite: ENGINEER 2B03 or 4B03

**CHEM ENG 4T03 APPLICATIONS OF CHEMICAL ENGINEERING IN MEDICINE**

Applications of chemical engineering principles to biological systems and medical problems including examples from hemodynamics, blood oxygenation, artificial kidney systems, controlled drug release, biosensors and biomaterials.

Three lectures; second term

Prerequisite: One of CHEM ENG 3O04, ENG PHYS 3O03 or MECH ENG 3O04

**CHEM ENG 4W04 CHEMICAL PLANT DESIGN AND SIMULATION**

Projects, often in cooperation with industry, usually involve steady-state computer simulation of an existing process or design of a new process. Plant equipment may be tested to develop simulation models.

Two lectures and two tutorials (two hours); second term

Prerequisite: Registration in CHEM ENG 4N04; and registration in Level IV Chemical Engineering or Level V Chemical Engineering and Management or Level V Chemical Engineering and Society or Level V Chemical Engineering and Bioengineering

**CHEM ENG 4X03 POLYMER PROCESSING**

An introduction to the basic principles of polymer processing, stressing the development of models. Rheology of polymers, extrusion, molding, films, fibers, and mixing. Reactive processing.

Three lectures; one term

Prerequisite: One of CHEM ENG 2A04, MATLS 3E04 or MECH ENG 3R03; and CHEM ENG 3O04 or MECH ENG 3O04

**CHEM ENG 4Y04 SENIOR INDEPENDENT PROJECT**

A research and design project with students working independently under the direction of a Faculty member.

Two labs (three hours); both terms. The hours assigned can be freely scheduled to suit those involved in a particular project and may include computation classes, laboratory work, discussions, or individual study.

Prerequisite: Registration in Level IV Chemical Engineering or Level V Chemical Engineering and Management or Level V Chemical Engineering and Society or Level V Chemical Engineering and Bioengineering; and a CA of at least 9.5

**CHEM ENG 4Z03 INTERFACIAL ENGINEERING**

The physics and chemistry at the "nano" scale including interactions forces, colloids, surface active systems, wetting, adhesion, and flocculation.

Three lectures; second term

Prerequisite: Registration in final level of any Engineering program

**CHEMISTRY**

WEB ADDRESS: <http://www.chemistry.mcmaster.ca>

A.N. Bourns Science Building, Room 156

Ext. 23490

**Faculty as of January 15, 2006****Chair**

Brian E. McCarry

**Associate Chair**

Jacques Barbier

**Professors**

Alexander D. Bain/B.Sc. (Toronto), M.Sc. (British Columbia), Ph.D. (Cambridge)

Jacques Barbier/M.Sc. (Toronto), Ph.D. (ANU)

Michael A. Brook/B.Sc. (Toronto), Ph.D. (McGill)

John E. Greedan/B.A. (Bucknell), Ph.D. (Tufts), F.C.I.C.

Adam P. Hitchcock/B.Sc. (McMaster), Ph.D. (British Columbia), F.C.I.C./

Senior Canada Research Chair

William J. Leigh/B.Sc., M.Sc., Ph.D. (Western Ontario), F.C.I.C.

Brian E. McCarry/B.Sc. (British Columbia), Ph.D. (Stanford), F.C.I.C./

Stephen A. Jarislowsky Chair in Environment and Health

Gary J. Schrobilgen/B.Sc. (Loras College, Iowa), M.Sc. (Brock), Ph.D.

(McMaster), F.R.S.C

Harald D.H. Stöver/B.Sc. (Darmstadt), Ph.D. (Ottawa)

Johan K. Terlouw/B.Sc., M.Sc., Ph.D. (Utrecht)

**Adjunct Professor**

Timothy P. Bender/B.Sc., Ph.D. (Carleton)

**Associate Professors**

Paul J. Berti/B.Sc. (Waterloo), M.Sc. (Ottawa), Ph.D. (McGill)

John D. Brennan/B.Sc., M.Sc., Ph.D. (Toronto)/Canada Research Chair

Alfredo Capretta/B.Sc., Ph.D. (McMaster)

Randall S. Dumont/B.Sc. (Western Ontario), Ph.D. (Toronto)

Paul H.M. Harrison/B.A. (Oxford), Ph.D. (Alberta)

Yingfu Li/B.Sc. (Anhui, China), M.Sc. (Beijing Agr.), Ph.D. (Simon

Fraser)/Canada Research Chair

Jim McNulty/B.Sc., M.Sc., Ph.D. (Toronto)

John F. Valliant/B.Sc., Ph.D. (McMaster)

**Assistant Professors**

Alex Adronov/B.Sc. (McMaster), Ph.D. (California-Berkeley)

Paul W. Ayers/B.S. (David Lipscomb), Ph.D. (North Carolina-Chapel Hill)/Canada Research Chair

James F. Britten/B.Sc. (St. Francis Xavier), Ph.D. (McMaster)

Philip Britz-McKibbin/B.Sc. (Toronto), Ph.D. (British Columbia)

David J.H. Emslie/B.Sc., Ph.D. (Bristol)

Gillian R. Goward/B.Sc. (McMaster), Ph.D. (Waterloo)

Donald W. Hughes/B.Sc., Ph.D. (McMaster)

Peter Kruse/Dipl. Chem. (FSU-Jena), Ph.D. (California-San Diego)

Philippa Lock/B.Sc., Ph.D. (McMaster)

Graham A. McGibbon/B.Sc. (Toronto), Ph.D. (McMaster)

Giuseppe Melacini/B.Sc., Ph.D. (Milan)

Yurij Mozharivskiy/B.Sc., M.Sc. (Lviv State), Ph.D. (Iowa State)

Barbara Russer/M.Sc. (Jagiellonian, Cracow), Ph.D. (Cracow)

Kalaicheivi Saravanamuttu/B.Sc., Ph.D. (McGill)

Ignacio Vargas-Baca/B.Sc., M.Sc. (UNAM), Ph.D. (Calgary)/Undergraduate Advisor

**Associate Members**

Raman Chirakal/(Radiology) B.Sc. (Kerala, India), M.Sc. (Brock), Ph.D. (McMaster)

Richard M. Epand/(Biochemistry and Biomedical Sciences) AB (Johns Hopkins), Ph.D. (Columbia)

Robert H. Peltoni/(Chemical Engineering) M.Sc. (Guelph), Ph.D. (Bristol)

Gerald D. Wright/(Biochemistry and Biomedical Sciences) B.Sc., Ph.D. (Waterloo)

Daniel S.C. Yang/(Biochemistry and Biomedical Sciences) B.Sc., M.Sc. (Alberta), Ph.D. (Pittsburgh)

Shiping (Stephen) Zhu/(Chemical Engineering and Materials Science and Engineering) B.Eng. (Zhejiang), Ph.D. (McMaster), P.Eng.



**Department Notes:**

1. Course codes ending with \* indicate that the course is not necessarily offered every session.
2. Students not in a Science program should note that CHEM 1AA3 is a prerequisite for CHEM 2E03 and that CHEM 2E03 is a prerequisite for BIOCHEM 2EE3.

**Courses** *If no prerequisite is listed, the course is open.***CHEM 1A03 INTRODUCTORY CHEMISTRY I**

An introduction to chemical principles, including bonding, structure, energetics and electrochemistry. A laboratory provides experience in experimental techniques and accurate measurement.

Three lectures, one tutorial, one lab (three hours) every other week; first term  
Prerequisite: Grade 12 Chemistry U and either registration in one of Science I, Engineering I, Arts & Science I, Health Science I, Kinesiology I, Mathematics and Statistics I, Medical Radiation Sciences I, any program above Level I; or a grade of at least 80% in Grade 12 Chemistry U; or CHEM 1R03

Corequisite: SCIENCE 1A00. Students registering in CHEM 1A03 must also register in SCIENCE 1A00 when completing their registration.  
Antirequisite: CHEM 1E03

**CHEM 1AA3 INTRODUCTORY CHEMISTRY II**

An introduction to equilibrium, chemical kinetics and organic chemistry. Three lectures, one tutorial, one lab (three hours) every other week; second term

Prerequisite: CHEM 1A03 or 1E03

**CHEM 1E03 GENERAL CHEMISTRY FOR ENGINEERING I**

An introduction to chemical principles for Engineering students, including reactivity, bonding, structure, energetics and electrochemistry.

Three lectures, one tutorial (one hour), one lab (three hours) every other week; first term

Prerequisite: Registration in a program in Engineering

Antirequisite: CHEM 1A03

**CHEM 1R03 GENERAL CHEMISTRY**

A general introduction to chemistry, suitable for students without Grade 12 Chemistry U.

Three lectures; second term

Prerequisite: Grade 11 Chemistry SCH 3U

*Not open to students with 80% or higher in Grade 12 Chemistry U.*

*Not open to students with credit or registration in CHEM 1A03.*

*Students in the Faculty of Science do not receive credit for this course.*

**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, one lab (three hours); first term

Prerequisite: Registration in a Chemical Engineering program; or credit or registration in CHEM 2PB3 or 2R03

Antirequisite: CHEM 2N03

**CHEM 2BA3 ORGANIC CHEMISTRY A**

Bonding. Alkanes, alkyl halides, alkynes, alkenes, and alcohols. Stereochemistry. Reaction intermediates and reaction mechanisms.

Three lectures, one lab (three hours) every week; first term  
Prerequisite: CHEM 1AA3; and registration in an Honours Biochemistry program (with a grade of at least B+ in CHEM 1AA3), an Honours Chemistry program, B.Sc. Physical Science or the Honours Science (Stream D) program

Antirequisite: CHEM 2E03, 2OA3, 2WW2

**CHEM 2BB3 ORGANIC CHEMISTRY B**

Infra-red,  $^1\text{H}$  and  $^{13}\text{C}$  nuclear magnetic resonance, ultraviolet and mass-spectrometric methods. Aldehydes and ketones including enolates. Electrophilic aromatic substitution. Carboxylic acids and functional derivatives. Reaction intermediates and reaction mechanisms.

Three lectures, one lab (three hours) every week; second term

Prerequisite: CHEM 2BA3

Antirequisite: CHEM 2OB3

**CHEM 2E03 INTRODUCTORY ORGANIC CHEMISTRY**

An introduction to the chemistry of monofunctional aliphatic and aromatic compounds.

Three lectures, one tutorial; first term

Prerequisite: CHEM 1AA3

Antirequisite: CHEM 2BA3, 2OA3

**CHEM 2E03 is not a prerequisite for further courses in Organic Chemistry.**

**CHEM 2I03 STRUCTURE AND REACTIONS OF THE MAIN GROUP ELEMENTS**

Comparative chemistry of the non-transition elements; introduction to symmetry.

Three lectures, one lab (three hours) every week; second term

Prerequisite: Registration in a Biochemistry, Chemistry, Honours Materials Science, Honours Science (Stream D) or B.Sc. Physical Science program; or permission of the instructor

Antirequisite: CHEM 2WW2

**CHEM 2N03 BIO-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); second term

Prerequisite: Registration in an Honours Biochemistry program; or credit or registration in either CHEM 2R03 or both CHEM 2PA3 and 2PB3; or permission of the instructor

Antirequisite: CHEM 2A03

**CHEM 2OA3 ORGANIC CHEMISTRY I**

An introduction to organic chemistry with emphasis on the reactions of functional groups and an introduction to spectroscopic techniques for structure determination.

Three lectures, one lab (three hours) every other week; one tutorial (two hours) every other week; first term

Prerequisite: CHEM 1AA3 with a grade of at least C-; or registration in a Chemical Engineering program, Honours Biochemistry, Honours Biology and Psychology or Honours Molecular Biology. Students with a grade of less than C- in CHEM 1AA3 are encouraged to seek counselling before attempting this course. Students who receive special permission to register in this course after completing CHEM 2E03 will not retain credit for CHEM 2E03 on completion of this course.

Antirequisite: CHEM 2BA3, 2E03

**CHEM 2OB3 ORGANIC CHEMISTRY II**

Nucleophilic substitutions at carbonyl centres, aromatic chemistry, carbohydrates, applications of spectroscopic techniques in organic chemistry.

Three lectures, one lab (three hours) every other week; one tutorial (two hours) every other week; second term

Prerequisite: CHEM 2OA3

Antirequisite: CHEM 2BB3

**CHEM 2PA3 THERMODYNAMICS AND PHASE EQUILIBRIA**

An introduction to macroscopic and microscopic aspects of thermodynamics and their application to physical transformations.

Three lectures, one lab (three hours), one tutorial; first term

Prerequisite: CHEM 1AA3, MATH 1AA3

Antirequisite: CHEM 2R03, PHYSICS 2H04

**CHEM 2PB3 CHEMICAL THERMODYNAMICS AND KINETICS**

Thermodynamics of equilibrium chemical and electrochemical systems, and macroscopic and microscopic aspects of kinetics.

Three lectures, one lab (three hours), one tutorial; second term

Prerequisite: CHEM 2PA3

Antirequisite: CHEM 2R03

**CHEM 2R03 GENERAL PHYSICAL CHEMISTRY**

Physical chemistry as applied to life and environmental sciences. Topics include thermodynamics, chemical equilibria, physical equilibria, transport phenomena, kinetics and enzyme kinetics.

Three lectures; first term

Prerequisite: CHEM 1AA3; and ARTS&SCI 1D06 or MATH 1A03

Antirequisite: CHEM 2PA3, 2PB3, PHYSICS 2H04

**CHEM 2WW2 INTRODUCTORY INORGANIC CHEMISTRY**

An introduction to inorganic chemistry. Emphasis on bonding and structure in inorganic compounds of representative main group and transition elements.

Two lectures; first term

Prerequisite: CHEM 1A03 or 1E03; and registration in a program administered by the Department of Materials Science and Engineering

Antirequisite: CHEM 2I03, 3Q03

**CHEM 3A03 ANALYTICAL CHEMISTRY II**

An introduction to modern instrumental methods of analysis.

Two lectures, one lab (three hours); first term

Prerequisite: CHEM 2A03 or 2N03; and CHEM 2PA3 or 2R03

Antirequisite: ENVIR.SC 3A03

**CHEM 3BA3 QUANTUM MECHANICS AND SPECTROSCOPY I**

An introduction to quantum chemistry, quantum structures, group theory and symmetry, and vibrational and rotational spectroscopy, and molecular orbital theory.

Three lectures, one lab (three hours), one tutorial; first term

Prerequisite: CHEM 2PB3; and PHYSICS 1BA3 or 1BB3

Antirequisite: CHEM 3B03

**CHEM 3BB3 QUANTUM MECHANICS AND SPECTROSCOPY II**

An introduction to the electronic structure and spectroscopy of atoms and molecules.

Three lectures; second term

Prerequisite: CHEM 3BA3; and MATH 2A03 or 2P04

Antirequisite: CHEM 3B03

**CHEM 3D03 ORGANIC CHEMISTRY**

A mechanistically oriented discussion of mono- and polyfunctional organic compounds with emphasis on applications to synthesis.

Three lectures, one lab (three hours); first term

Prerequisite: CHEM 2BB3 or 2OB3

Antirequisite: CHEM 3F03

**CHEM 3FF3 BIO-ORGANIC CHEMISTRY**

Topics in bio-organic chemistry focusing on catalysis in chemistry and nature.

Three lectures, one lab (three hours); second term

Prerequisite: CHEM 2BB3 or 2OB3

Antirequisite: CHEM 3F03

**CHEM 3I03 INDUSTRIAL CHEMISTRY**

A survey of processes in the chemical industry, with examples drawn from inorganic, organic and polymer chemistry.

Three lectures; first term

Prerequisite: CHEM 2I03 and one of CHEM 2BB3, 2E03, 2OB3; or registration in Level III or IV of a Chemical Engineering program

**CHEM 3LI3 CHEMISTRY LABORATORY INQUIRY**

An experimental chemistry laboratory. Experiments will be selected based on the student's Chemistry Specialization.

Two labs (three hours each); second term

Prerequisite: CHEM 2A03, 2BB3, 2I03, 2PB3 and registration in a Level III Honours Chemistry program

Antirequisite: CHEM 4TA3

**CHEM 3P03 TRANSITION METAL CHEMISTRY**

The chemistry of the heavier transition elements; an introduction to organometallic chemistry and bio-inorganic chemistry.

Three lectures, one lab (three hours); second term

Prerequisite: CHEM 3Q03

**CHEM 3Q03 INORGANIC CHEMISTRY**

The properties, structures and reactions of inorganic compounds with emphasis on transition metal chemistry.

Three lectures, one lab (three hours); first term

Prerequisite: CHEM 2I03

Antirequisite: CHEM 2WW2

**CHEM 3ZZ3\* PROPERTIES OF MATERIALS**

Familiar material properties—optical, thermal, electromagnetic and mechanical—and their exploitation in commercial applications; are investigated in terms of the physical chemistry toolkit of quantum mechanics, spectroscopy and introductory statistical mechanics.

Three lectures; second term

Prerequisite: CHEM 2PB3 and credit or registration in CHEM 3BA3; or permission of the instructor.

Antirequisite: CHEM 3Z03

**CHEM 4A03\* ADVANCED ORGANIC CHEMISTRY**

An introduction to the principles of physical organic chemistry and the elucidation of organic reaction mechanisms, and either pericyclic organic reactions or organic photochemistry.

Three lectures; one term

Prerequisite: CHEM 3D03 or 3F03

**CHEM 4B03 CHEMICAL APPLICATIONS OF SPECTROSCOPY**

Aspects of molecular spectroscopies and their application to the solution of chemical problems.

Three lectures; one term

Prerequisite: CHEM 3BA3

**CHEM 4C03\* SOLID STATE CHEMISTRY**

Structure and properties of crystalline solids. Topics include crystal chemistry and crystal symmetry, introduction to space groups, defects in ionic crystals, non-stoichiometry, electronic structure and properties of semiconductors and metals.

Three lectures; one term

Prerequisite: CHEM 3Q03

**CHEM 4D03 ORGANIC STRUCTURE AND SYNTHESIS**

Application of spectroscopic methods to structure determination. Synthetic methodology in organic chemistry.

Three lectures; one term

Prerequisite: CHEM 3D03 or 3F03

**CHEM 4DD3 MECHANISTIC BIOLOGICAL CHEMISTRY**

Amino acid, nucleic acid, enzyme and coenzyme chemistry with emphasis on molecular reaction mechanisms.

Three lectures; one term

Prerequisite: One of CHEM 3D03, 3F03 or 3FF3

**CHEM 4F03\* SURFACE CHEMISTRY**

Current topics in surface science; surface characterization and microscopy; adsorption and heterogeneous catalysis; applications in electronic materials and nanotechnology.

Three lectures; one term

Prerequisite: CHEM 3BA3 or permission of the instructor

**CHEM 4G06 SENIOR THESIS**

A thesis based on a project under the direction of a Chemistry Department faculty member.

Prerequisite: Registration in Level IV of any Honours Chemistry program and a C.A. of 6.0 or permission of the Department

*Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.*

**CHEM 4P03\* ADVANCED ANALYTICAL CHEMISTRY**

A course dealing with modern topics in analytical chemistry.

Three lectures; one term

Prerequisite: CHEM 3A03; and CHEM 2PB3 or 2R03

**CHEM 4PP3\* POLYMER CHEMISTRY**

Chemistry of monomers, polymers, polymerization mechanisms and processes, with emphasis on organic polymer chemistry.

Three lectures, one term

Corequisite: CHEM 3D03 or 3F03

**CHEM 4Q03\* ADVANCED QUANTUM MECHANICS**

Applications of quantum mechanics to problems of chemical interest.

Three lectures; one term

Prerequisite: CHEM 3BB3 or PHYSICS 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.

Three lectures; one term

Prerequisite: CHEM 3P03 or permission of the instructor

**CHEM 4S03\* ADVANCED MAIN GROUP CHEMISTRY**

A selection from the following topics: chemistry of selected main group elements, electron deficient compounds, and applications of physical methods to inorganic structure determination.

Three lectures; one term

Prerequisite: CHEM 3Q03

**CIVIL ENGINEERING**

WEB ADDRESS: <http://www.eng.mcmaster.ca/civil/>

John Hodgins Engineering Building, Room 301

Ext. 24287 or 24315

**Faculty as of January 15, 2006****Chair**

Dieter F.E. Stolle

**Professors**

Brian Baetz/B.A.Sc., M.A.Sc. (Toronto), Ph.D. (Duke), P.Eng.

Ahmed Ghobarah/B.Sc. (Cairo), M.Eng., Ph.D. (McMaster), P.Eng., Joe Ng/JNE Consulting Chair in Design, Construction and Management in Infrastructure Renewal

Frederick L. Hall/B.A. (Amherst), M.Sc. (M.I.T.), Ph.D. (Chicago)

Gail Krantzberg/B.Sc., (McGill), M.Sc., Ph.D. (Toronto)

Susan Masten/B.S. (Fairleigh Dickinson), M.S.E. (West Virginia), Ph.D. (Harvard), P.E.

Stan Pietruszczak/B.Sc., M.Sc. (Warsaw), Ph.D. (Polish Acad. Sci.)

A. Ghani Razaqpur/B.Sc. (American University of Beirut), M.Sc. (Hawaii), Ph.D. (Calgary), P.Eng.

K.S. Sivakumaran/B.Sc. (Sri Lanka), M.Eng. (Asian Inst. Tech.), Ph.D. (Calgary), P.Eng.

Dieter Stolle/B.Eng., M.Eng., Ph.D. (McMaster), P.Eng.

Ioannis K. Tsanis/Dip.Civ.Eng. (Aristoteles Univ., Thessaloniki), M.A.Sc., Ph.D. (Toronto), P.Eng.

**Associate Professors**

Samir E. Chidiac/B.Eng., M. Eng.; Ph.D. (*McMaster*), P. Eng.  
John C. Wilson/B.Eng., M.Eng. (*McMaster*), Ph.D. (*Caltech.*), P.Eng.

**Assistant Professors**

Cameron Churchill/B.Eng., M.Eng. (*McMaster*)  
Paulin Coulibaly/B.A.Sc., M.A.Sc. (*Nice*), Ph.D. (*Laval*)  
Sarah Dickson/B.A.Sc., Ph.D. (*Waterloo*), P.Eng.  
Wael El-Dakhakhni/B.Sc. (*Ain Shams*), M.Sc., Ph.D. (*Drexel*), P.Eng.  
Peijun Guo/B.Sc., M.Sc., Ph.D. (*SWJTU*), Ph.D. (*Calgary*)  
Yiping Guo/B.Sc. (*Zhejiang*), M.A. Sc., Ph.D. (*Toronto*), P.Eng.  
Michael J. Tait/B.E.Sc., Ph.D. (*Western Ontario*)

**Adjunct Professors**

Dean Inglis/B.Eng., Ph.D. (*McMaster*)  
Syed Moin/B.S. (*Osmania*), M.S. (*Nevada*), Ph.D. (*McMaster*), P.Eng.

**Department Notes:**

- All civil engineering courses are open to students registered in a civil engineering program, subject to prerequisite requirements. Prior permission of the Department is necessary for students from other engineering departments and other faculties.
- Unless otherwise stated, the duration and the frequency of activities are as follows:
  - one lecture consists of one hour each week
  - one tutorial consists of two hours each week
  - one lab consists of three hours each week

**Courses**

**CIV ENG 2A02 SURVEYING AND MEASUREMENT**

Introduction to measurement and computational techniques of surveying, the theory of measurement and errors, adjustment of observations. One lecture, one tutorial or one lab; first term

**CIV ENG 2C04 STRUCTURAL MECHANICS**

Review of stress/strain state and strain-displacement relations; 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; stress/strain invariants; yield and fracture criteria energy methods; stability of columns.

Three lectures, one tutorial or one lab; second term

Prerequisite: Credit or registration in ENGINEER 2P04

**CIV ENG 2E03 COMPUTER APPLICATIONS IN CIVIL ENGINEERING**

Numerical techniques including error analysis, root finding, linear algebraic equations, curve fitting, integration and differentiation, ordinary differential equations; sensitivity analysis; use of several software packages for numerical analysis; civil engineering applications.

Two lectures, one tutorial; second term

Prerequisite: Credit or registration in ENGINEER 2P04

**CIV ENG 2I03 COMMUNICATIONS IN CIVIL ENGINEERING**

Oral and written communication in context of civil engineering activity. A professional liaison program involving site visits.

Two lectures, one tutorial (three hours); first term

**CIV ENG 2J04 ECOLOGICAL AND GEOLOGICAL ASPECTS OF CIVIL ENGINEERING**

The relationship between humans and their earth environment. Composition of "earth"; processes that operate on or beneath the surface. Global interactions of the atmosphere, hydrosphere, lithosphere and the biosphere. Principles of ecological systems. Man's perturbations on the biosphere.

Three lectures, one tutorial or one lab; second term

Prerequisite: Credit or registration in CIV ENG 2I03

Antirequisite: GEO 3U03

**CIV ENG 2O04 FLUID MECHANICS**

Fluid properties; hydrostatics; continuity, momentum and energy equations; potential flow; laminar and turbulent flow; flow in closed conduits, transients, open channel flow; hydraulic cross-sections.

Three lectures, one tutorial or one lab; second term

Prerequisite: Credit or registration in ENGINEER 2P04 and MATH 2M06

**CIV ENG 2Q04 ENGINEERING MECHANICS: DYNAMICS**

Kinematics and dynamics of particles and rigid bodies. Motion with respect to a rotating frame of reference. Work, energy and momentum principles. 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 term

Prerequisite: Credit or registration in ENGINEER 2P04

Antirequisite: ENGINEER 2Q04, MECH ENG 2Q04

**CIV ENG 3A03 GEOTECHNICAL ENGINEERING I**

Composition of soils, soil identification and classification; compaction; seepage theory; effective stress concept; stresses and displacements using elastic solutions; consolidation theory; numerical solutions.

Two lectures, one tutorial or one lab; first term

Prerequisite: CIV ENG 2J04, 2O04

**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 tutorial or one lab; second term

Prerequisite: Credit or registration in CIV ENG 3A03

**CIV ENG 3C03 ENGINEERING SYSTEMS**

Mathematical models and systems; economic comparison of projects; optimization; linear, nonlinear and dynamic programming; simulation modelling.

Two lectures, one tutorial; second term

Prerequisite: CIV ENG 2E03; and credit or registration in MATH 3J04 or STATS 3J04

**CIV ENG 3G03 STRUCTURAL ANALYSIS**

Structural analysis and modelling of linear elastic truss, beam and frame structures; stress resultants and deformations of statically determinate structures; methods for analysis of indeterminate structures; stiffness matrix method; plane frame computer analysis.

Two lectures, one tutorial; first term

Prerequisite: CIV ENG 2C04

**CIV ENG 3J04 REINFORCED CONCRETE DESIGN**

Design by limit states methods to ensure adequate capacities for bending moment, shear and diagonal tension, axial force, bond and anchorage; and design to satisfy serviceability requirements for deflection and cracking; practical design requirements; interpretation of building code for behaviour of structures.

Three lectures, one lab; second term

Prerequisite: Credit or registration in CIV ENG 3G03, 3P03

**CIV ENG 3K03 INTRODUCTION TO TRANSPORTATION ENGINEERING**

A transportation impact study serves as the focus for group projects, and provides the context for application of material on traffic flow characteristics, capacity and control for signalized and unsignalized intersections, and travel demand forecasting. Safety; social impacts.

Two lectures, one tutorial; first term

**CIV ENG 3L03 WATER QUALITY**

Physical, chemical and biological characteristics of water; Stoichiometry, reaction kinetics and material balances; mathematical modelling of physical systems; water quality in rivers, and lakes; water quality standards.

Two lectures, one tutorial; first term

Prerequisite: Credit or registration in CHEM ENG 2B03

Antirequisite: CIV ENG 3M04

**CIV ENG 3M03 MUNICIPAL HYDRAULICS**

Analysis/design of water distribution networks; analysis and design of wastewater collection systems; pumps.

Two lectures, one tutorial or one lab; second term

Prerequisite: CIV ENG 2O04; and credit or registration in MATH 3J04 or STATS 3J04

Antirequisite: CIV ENG 3M04

**CIV ENG 3P03 CIVIL ENGINEERING MATERIALS AND DESIGN**

Characteristics, behaviour and use of Civil Engineering materials: concrete, metals, wood, and composites; Physical, chemical and mechanical properties; Quality control and material tests; Concepts of Structural design, limit states design, estimation of structural loads.

Three lectures, two labs (three hours each); first term

Prerequisite: CIV ENG 2C04, MATLS 1M03

Antirequisite: ENGINEER 3P03

**CIV ENG 3R03 PROJECT MANAGEMENT WITH CONSTRUCTION APPLICATIONS**

An introduction to construction project management; tender documents, estimating, bidding, proposals, and construction contracts; project planning, scheduling, controlling of time, cost and quality, dispute resolution; Safety Act and construction regulations, liability, legal and ethical considerations; case histories.

Two lectures, one tutorial; first term

Prerequisite: Registration in Level III or above of a Civil Engineering program

**CIV ENG 3S03 STEEL STRUCTURES**

Introduction to design in steel, tension and compression members, plate buckling aspects, beam instability, beam design, beam-columns, bolted and welded connections. Applications employing steel structures building code. Two lectures, one tutorial; second term  
Prerequisite: Credit or registration in CIV ENG 3G03, 3P03

**CIV ENG 3U03 PHYSICO-CHEMICAL PROCESSES IN WATER AND WASTEWATER TREATMENT**

Water/waste water quality/characteristics; primary and secondary treatment; emphasis is placed on physical and chemical unit processes including coagulation, flocculation, sedimentation, filtration, precipitation; advanced treatment processes, including ion exchange, chemical oxidation, and membranes are also addressed.  
Two lectures, one tutorial; second term  
Prerequisite: One of CHEM ENG 2B03, 2D04, 2F04.

**CIV ENG 4A04 ENGINEERING HYDROLOGY**

Hydrologic cycle; climate; hydrologic processes, precipitation; unit hydrograph; hydrologic statistic, hydrologic routing; groundwater flow. Design units = 1.0  
Three lectures, one tutorial (three hours); first term  
Prerequisite: CIV ENG 3M04

**CIV ENG 4C04 ENVIRONMENTAL IMPACT AND SUSTAINABILITY**

Natural and urban ecosystems; environmental impact/assessment/legislation; energy and environmental audits; life cycle analysis; solid and hazardous wastes; air quality and control; sustainable infrastructure design. Design units = 3.0  
Three lectures, one tutorial, capstone project; first term  
Prerequisite: Registration in the final level of a Civil Engineering program  
Antirequisite: CIV ENG 4C03

**CIV ENG 4D04 GEOMETRIC HIGHWAY DESIGN**

Design of various types and classes of streets and highways. Theory and practice in design of intersections, interchanges, arterial highways, and freeways. Design and traffic safety concepts. Design units = 3.0  
Three lectures, one tutorial; first term  
Prerequisite: CIV ENG 3K03

**CIV ENG 4G03 PAVEMENT MATERIALS AND 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. Design units = 2.0  
Two lectures, one lab; second term  
Prerequisite: CIV ENG 3B03

**CIV ENG 4H03 ANALYSIS OF TRANSPORTATION SYSTEMS**

An introduction to the use of models in transportation planning. Topics include data issues, the four-stage approach to modelling transportation systems, discrete choice models and contextual factors such as land use. Design units = 0.0  
Three lectures; one term  
Prerequisite: MATH 3J04 or STATS 3J04  
Cross-list: GEO 4D03

*This course is administered by the School of Geography and Earth Sciences.*

**CIV ENG 4K04 MODERN METHODS OF STRUCTURAL ANALYSIS**

Stiffness method; development and applications in structural analysis. Introduction to finite element method. Influence lines, elastic stability analysis of frames with and without sway effects. Application of computer programs. Design units = 0.0  
Three lectures, one tutorial; first term  
Prerequisite: CIV ENG 3G03; MATH 3J04 or STATS 3J04

**CIV ENG 4L04 DESIGN OF WATER RESOURCES SYSTEMS**

Investigation, planning, analysis and design of water resources systems. Introduction to GIS tools. Frequency analysis, design storms, urban drainage and analysis, floodplain analysis and flood control. Design units = 4.0  
Two lectures, one tutorial (one hour), one lab; second term  
Prerequisite: CIV ENG 3M04

**CIV ENG 4R04 DESIGN AND SYNTHESIS OF STRUCTURES**

Structural design process, gravity and lateral loading requirements, structural performance criteria, choice of structural systems. Analysis and design of different structural systems, such as frames, structural walls and slabs. Analysis and design of actual buildings. Design units = 4.0  
Three lectures, one lab, capstone project; second term  
Prerequisite: CIV ENG 3G03, 3J04, 3S03

**CIV ENG 4S04 FOUNDATION ENGINEERING**

Principles of foundation design; bearing capacity, settlement and location, footings, deep foundations, piles, pile groups and drilled piers; retaining walls. Design units = 3.0  
Three lectures, one tutorial; first term  
Prerequisite: CIV ENG 3B03

**CIV ENG 4W04 DESIGN OF LOW RISE BUILDINGS**

Structural systems and load distribution, design of masonry, wood, and cold-formed steel. Introduction to building envelope design. Design units = 4.0  
Three lectures, one tutorial; second term  
Prerequisite: CIV ENG 3G03, 3J04, 3S03

**CIV ENG 4Y04 BRIDGES AND OTHERS TRUCTURAL SYSTEMS**

Bridge loads and analysis for load effects. Design of reinforced concrete solid-slab, T-beam type bridges, composite floor system and plate girders. Stresses, ultimate strength, and design of pre-stressed concrete structures. Fatigue Design. Design units = 4.0  
Three lectures, one tutorial; first term  
Prerequisite: CIV ENG 3G03, 3J04, 3S03

**CIV ENG 4Z04 INDEPENDENT STUDY**

An experimental and/or analytical investigation related to any branch of civil engineering, under the direction of a faculty member. Students choose a project from a list of department approved projects. The student may be required to present a seminar, and will submit a final written report before April 1. Design units = variable according to project  
Two labs (three hours); both terms. The hours assigned can be freely scheduled to suit those involved in a particular project and may include computation classes, laboratory work, discussion or individual study.  
Prerequisite: Registration in a final level of a Civil Engineering program, and a SA of at least 9.5.  
*Enrolment is limited.*

**CLASSICS**

**WEB ADDRESS:** <http://www.humanities.mcmaster.ca/~classics/>

**Togo Salmon Hall, Room 706**

**Ext. 24311**

**Faculty as of January 15, 2006****Chair**

Michele G. George

**Professors**

Katherine M. D. Dunbabin/M.A., D. Phil. (*Oxford*)  
Howard Jones/B.A. (*London*), M.A., Ph.D. (*Indiana*)  
Paul Murgatroyd/B.A., M.A. (*Cambridge*), Ph.D. (*London*)

**Associate Professors**

Claude Eilers/B.A. (*Saskatchewan*), M.A. (*McMaster*), D.Phil. (*Oxford*)  
Michele G. George/B.A. (*Toronto*), M.A., Ph.D. (*McMaster*)  
Evan Haley/A.B. (*Dartmouth*), Ph.D. (*Columbia*)

**Assistant Professors**

Sean Corner/B.A., M.A. (*Oxford*), Ph.D. (*Princeton*)  
Celina Gray/B.A. (*Vassar*), M.A., Ph.D. (*California-Berkeley*)  
Cashman Kerr Prince/B.A. (*Wesleyan*), D.E.A. (*Paris-VIII*), Ph.D. (*Stanford*)  
Alexandra Retzleff/B.A. (*McGill*), M.A. (*British Columbia*), Ph.D. (*North Carolina-Chapel Hill*)

**Department Note:**

The following courses are available as electives to qualified students in any program:

- a) **Classical Archaeology and Art History**  
CLASSICS 1A03, 2B03, 2C03, 3G03, 3H03, 3Q03, 3S03
- b) **Ancient History and Society**  
CLASSICS 2K03, 2L03, 2LL3, 3C03, 3CC3, 3E03, 3EE3, 3LL3, 3T03
- c) **Ancient Philosophy**  
CLASSICS 2P06, 4K03
- d) **Classical Literature in Translation**  
CLASSICS 2D03, 2E03, 2H03, 3EE3, 3I03, CLASSICS 3II3, 3T03
- e) **Greek Language and Literature**  
GREEK 1Z03, 1ZZ3, 2A03, 2AA3, 3A03, 3B03, 4AA3, 4B03, 4BB3
- f) **Latin Language and Literature**  
LATIN 1Z03, 1ZZ3, 2A03, 2AA3, 3A03, 3B03, 4AA3, 4B03, 4BB3

## CLASSICS ...

No language other than English is required for courses listed under Classics.

**Courses** If no prerequisite is listed, the course is open.

**CLASSICS 1A03 INTRODUCTION TO CLASSICAL ARCHAEOLOGY**

A study of the history and methodology of Greek and Roman archaeology illustrated with materials from excavated sites.

Three lectures; one term

**CLASSICS 1B03 MYTH AND LITERATURE: THE TROJAN WAR AND BEYOND**

A study of Greek and Roman mythology and literature with emphasis on the heroines and heroes of the Trojan War. Homer's *Odyssey* and Vergil's *Aeneid* will be read in translation.

Two lectures, one tutorial; one term

**CLASSICS 1BB3 MYTH AND LITERATURE: JUSTICE, POWER AND DESTINY**

A study of the main themes of Classical mythology through the reading of Greek and Roman authors. Attention will also be given to mythological themes in post-classical writers and artists.

Two lectures, one tutorial; one term

**CLASSICS 1L03 HISTORY AND ARCHAEOLOGY OF THE ANCIENT WORLD I**

The history of the Ancient Near East and Greece down to the end of the 5th century B.C. based on documentary sources and archaeological evidence.

Two lectures, one tutorial; one term

Cross-list: HISTORY 1L03

**CLASSICS 1LL3 HISTORY AND ARCHAEOLOGY OF THE ANCIENT WORLD II**

The history of Greece and Rome from the 4th century B.C. to the fall of Rome based on documentary sources and archaeological evidence.

Two lectures, one tutorial; one term

Cross-list: HISTORY 1LL3

**CLASSICS 2B03 GREEK ART**

The architecture, sculpture and painting of the Greek and Hellenistic world.

Three lectures; one term

Prerequisite: Registration in Level II or above

Cross-list: ART HIST 2B03

**CLASSICS 2C03 ROMAN ART**

The architecture, sculpture, and painting of the Roman world.

Three lectures; one term

Prerequisite: CLASSICS 2B03

Cross-list: ART HIST 2C03

**CLASSICS 2D03 GREEK AND ROMAN MYTHOLOGY**

A study of the myths of Greek and Roman gods and heroes, their explanation according to theories on the nature of myths, and their use by Greek and Roman authors, particularly Homer and Vergil.

Three lectures; one term

Prerequisite: Registration in Level II or above

Cross-list: COMPLIT 2M03

**CLASSICS 2E03 THE ANCIENT WORLD IN FILM**

The emphasis is on myth (Amazons, Hercules) and history (slave revolts, banquets, decadent emperors), studied via Greek and Latin accounts (in translation) and cinematic versions (e.g. *Electra*, *Medea*, *Mighty Aphrodite*, *Apocalypse Now*, *Spartacus*, *I Claudius*).

Three lectures; one term

Prerequisite: Registration in Level II or above

Cross-list: CMST 2Y03, THTR&FLM 2G03

**CLASSICS 2H03 GREEK AND ROMAN DRAMA**

Selected Greek and Roman Tragedies and Comedies will be read in translation. The course will concentrate on characterization and the philosophical and religious aspects of ancient drama.

Three lectures; one term

Prerequisite: Registration in Level II or above

Cross-list: COMPLIT 2H03

**CLASSICS 2K03 THE SOCIETY OF GREECE AND ROME**

An examination of selected aspects of the social life of Greece and Rome. Attention will be given to subjects such as work and leisure, war and the warrior, slavery, marriage and family, and the role of women.

Three lectures; one term

Prerequisite: Registration in Level II or above

Cross-list: HISTORY 2K03

**CLASSICS 2L03 HISTORY OF CLASSICAL GREECE**

Greece from the rise of the city-states to Alexander, with particular attention to political, social and cultural development in the light of literary and archaeological evidence (No Greek or Latin required).

Three lectures; one term

Prerequisite: Registration in Level II or above

Cross-list: HISTORY 2L03

**CLASSICS 2LL3 HISTORY OF CLASSICAL ROME**

Rome from the middle Republic through the Empire, with particular attention to the political, military and social developments in the light of literary and archaeological evidence. (No Greek or Latin required.)

Three lectures; one term

Prerequisite: Registration in Level II or above

Cross-list: HISTORY 2LL3

**CLASSICS 2P06 ANCIENT GREEK PHILOSOPHY**

A study of Western philosophical thought from its earliest beginnings to late Roman times; with emphasis on Plato and Aristotle.

Three lectures; two terms

Prerequisite: One of three units of Philosophy, ARTS&SCI 1A06, registration in a program in Classics or Philosophy or permission of the Department

Cross-list: PHILOS 2A06

*This course is administered by the Department of Philosophy.*

**CLASSICS 3C03 THE LATE ROMAN REPUBLIC**

An examination of major themes in the political, social, and economic history of Rome from the mid-second century B.C. to the assassination of Caesar.

Three lectures; one term

Prerequisite: One of CLASSICS 1LL3, 2K03, 2LL3, 3CC3, 3E03; and registration in Level III or above

Cross-list: HISTORY 3C03

*Not open to students with credit in CLASSICS 3MM3 or HISTORY 3MM3 if the topic was The Late Republic.*

*Alternates with CLASSICS 3CC3.*

**CLASSICS 3CC3 THE EARLY ROMAN EMPIRE**

An examination of major themes in the political, social, and administrative history of Rome under the early emperors.

Three lectures; one term

Prerequisite: One of CLASSICS 1LL3, 2K03, 2LL3, 3C03, 3E03; and registration in Level III or above

Cross-list: HISTORY 3CC3

*Not open to students with credit in CLASSICS 3MM3 or HISTORY 3MM3 if the topic was The Early Empire.*

*Alternates with CLASSICS 3C03.*

**CLASSICS 3E03 THE ROMAN FAMILY**

The ancient Roman family, including social, economic and legal aspects.

Three lectures; one term

Prerequisite: One of CLASSICS 1LL3, 2K03, 2LL3, 3C03, 3CC3; and registration in Level III or above

Cross-list: HISTORY 3E03

*Alternates with CLASSICS 3EE3.*

**CLASSICS 3EE3 THE GREEK HISTORIANS**

The study in translation of Herodotus, Thucydides, and other Greek historical writers, with consideration of the evolution of their genre and their contributions to the development of historiography.

Three lectures; one term

Prerequisite: Registration in Level III or above

Cross-list: HISTORY 3EE3

*Alternates with CLASSICS 3E03.*

**CLASSICS 3G03 LATE ANTIQUE AND EARLY CHRISTIAN ART**

The art and architecture of the later Roman Empire, and the birth of Christian art (A.D. 200-600).

Three lectures; one term

Prerequisite: ART HIST 2C03 or CLASSICS 2C03

Cross-list: ART HIST 3G03

*Alternates with CLASSICS 3H03.*

**CLASSICS 3H03 ARCHAIC GREEK ART**

The formative period of Greek Art, from its rebirth after the Dark Ages to the Persian Wars (c. 1000-480 B.C.), and its relationship to the art of the Near East.

Three lectures; one term

Prerequisite: CLASSICS 2B03

Cross-list: ART HIST 3H03

*Alternates with CLASSICS 3G03.*

**CLASSICS 3103 TOPICS IN GREEK AND ROMAN LITERATURE**  
Previous topics include: Greek and Roman Epic, Greek and Roman Elegiac and Lyric Poetry, The Legend of the Trojan War, Crime and Punishment, Satire, The Poet and Society. Consult the Department concerning the topic to be offered.

Three lectures; one term  
Prerequisite: Six units of Classics  
Cross-list: COMP LIT 3103

*CLASSICS 3103 may be repeated, if on a different topic, to a total of six units.*

**CLASSICS 3LL3 THE HELLENISTIC AGE**

The successors of Alexander, the world of the monarchies and their absorption into the Roman Empire. Political, cultural and social achievements in the light of modern historical research will be emphasized. Three hours (lectures and discussion groups); one term.

Prerequisite: One of CLASSICS 1L03, 1LL3, 2L03  
Cross-list: HISTORY 3LL3

**CLASSICS 3MM3 TOPICS IN ANCIENT HISTORY**

Studies of Roman history and institutions during the Republic of the Empire. Consult the Department for the topic to be offered.

Three lectures; one term  
Prerequisite: One of CLASSICS 1LL3, 2K03, 2L03, 2LL3, 3VV3  
Cross-list: HISTORY 3MM3

*CLASSICS 3MM3 may be repeated, if on a different topic, to a total of six units.*

**CLASSICS 3Q03 GREEK SANCTUARIES**

Ancient Greek sanctuaries and their social and political context. Topics will include architecture and art, as well as activities such as sacrifice, athletic games, healing, and oracular consultation.

Three lectures; one term  
Prerequisite: CLASSICS 1A03 or 2B03  
*Alternates with CLASSICS 3S03.*

**CLASSICS 3S03 THE ARCHAEOLOGY OF THE ROMAN CITY**

Urbanism in Roman Italy through an examination of the archaeological remains of Pompeii, Herculaneum, Ostia and other cities of Roman Italy. Three lectures; one term

Prerequisite: CLASSICS 1A03 or 2C03  
*Alternates with CLASSICS 3Q03.*

**CLASSICS 3T03 ANCIENT THEATRE IN CONTEXT**

The history of theatres and theatrical production in Greece and Rome with consideration of the social significance of drama in antiquity. The course will also include archaeological material.

Three lectures; one term  
Prerequisite: CLASSICS 2H03 or six units of Classics  
Cross-list: COMP LIT 3T03

**CLASSICS 3Y03 CLASSICAL LITERATURES AND BEYOND**

A study of representative texts from the Greek and Roman literary traditions as well as their influence and afterlife in one or more later literary traditions. Two hours; one term

Prerequisite: Registration in Level II or above of a Classics or Comparative Literature program or permission of the Department.  
Cross-list: COMP LIT 3Y03

**CLASSICS 4B03 SEMINAR IN CLASSICAL ARCHAEOLOGY**

Consult the Department concerning the topic to be offered. Seminar (two hours); one term

Prerequisite: Six units from CLASSICS 1A03, 3Q03, 3S03 and registration in Level III or IV of an Honours program in Classics (A); or permission of the Department

*CLASSICS 4B03 may be repeated, if on a different topic, to a total of six units. Enrolment is limited.*

**CLASSICS 4BB3 SEMINAR IN ANCIENT ART**

Consult the Department concerning the topic to be offered. Seminar (two hours); one term

Prerequisite: CLASSICS 2B03, 2C03 and registration in Level III or IV of an Honours program in Classics (A)  
Cross-list: ART HIST 4BB3

*CLASSICS 4BB3 may be repeated, if on a different topic, to a total of six units. Enrolment is limited.*

**CLASSICS 4E03 SEMINAR IN ANCIENT SOCIETY**

Consult the Department for the topic to be offered.

Prerequisite: Six units from CLASSICS 2K03, 2L03, 2LL3, 3C03, 3CC3, 3E03, 3LL3 and registration in Level III or IV of an Honours program in Classics (A); or permission of the department

*CLASSICS 4E03 may be repeated, if on a different topic, to a total of six units. Enrolment is limited.*

**CLASSICS 4K03 ANCIENT PHILOSOPHY**

A critical study of one or more ancient Greek philosophers such as Parmenides, Plato, Aristotle.

Seminar (two hours); one term

Prerequisite: CLASSICS 2P06 and registration in Level III or above

Cross-list: PHILOS.4K03

*Offered in alternate years.*

*This course is administered by the Department of Philosophy.*

**CLASSICS 4T03 INDEPENDENT STUDY**

Reading and research in Classics, supervised by a department member and culminating in a major paper to be evaluated by the supervisor, with confirmation by a second reader. See Department for more detailed guidelines. Tutorials; two terms

Prerequisite: Registration in Level IV of any Honours program in Classics with a Cumulative Average of at least 9.5, and permission of the Department

**GREEK ...**

**Notes:**

1. Students should note that the Department has classified its Greek language courses under the following categories:

**Introductory Level Language Course**

GREEK 1Z03, 1ZZ3

**Intermediate Level Language Courses**

GREEK 2A03, 2AA3

2. Students with Grade 12 Greek U should normally register in GREEK 2A03, but with special permission, may register in either GREEK 1Z03 or 1ZZ3.

**Courses** *If no prerequisite is listed, the course is open.*

**GREEK 1Z03 BEGINNER'S INTENSIVE ANCIENT GREEK I**

A rapid introduction to the basic grammar of Ancient Greek.

Three lectures; one term

*Not open to graduates of Grade 12 Greek U, who must have special permission to register in the course.*

**GREEK 1ZZ3 BEGINNER'S INTENSIVE ANCIENT GREEK II**

This course continues the study of the grammar of Ancient Greek begun in Greek 1Z03.

Three lectures; one term

Prerequisite: GREEK 1Z03. Students with Grade 12 Greek U must obtain special permission to register in the course.

*This course, with a grade of at least B- is accepted as a prerequisite for admission to any Honours program in Classics, or, with a grade of at least C-, for admission to the B.A. program in Classics.*

**GREEK 2A03 INTERMEDIATE GREEK I**

This course continues the study of Greek grammar begun in Greek 1Z03 and 1ZZ3 and introduces students to the reading of simple passages from Greek authors.

Three lectures; one term

Prerequisite: One of Grade 12 Greek U, GREEK 1ZZ3. Students using this course as a Humanities I requirement will register for GREEK 2A03 and 2AA3

**GREEK 2AA3 INTERMEDIATE GREEK II**

A study of selected passages from Greek authors designed to develop further the student's proficiency in reading Greek. The course may also include grammatical exercises.

Three lectures; one term

Prerequisite: GREEK 2A03

**GREEK 3A03 GREEK HISTORIANS**

Selected readings from Greek historical authors, such as Herodotus and Thucydides.

Three lectures; one term

Prerequisite: Six units of Level II Greek

**GREEK 3B03 GREEK EPIC**

Selected readings from Homer, Hesiod, and/or other Greek epic authors. Three lectures; one term

Prerequisite: Six units of Level II Greek

*Alternates with GREEK 4B03.*

**GREEK 4AA3 GREEK PROSE**

Selected readings in one or more Greek prose authors.

Three lectures; one term

Prerequisite: Six units of Level II Greek

**GREEK 4B03 GREEK DRAMA**  
 Selected readings from Greek tragedy and/or comedy.  
 Three lectures; one term  
 Prerequisite: Six units of Level II Greek.  
*Alternates with GREEK 3B03.*

**GREEK 4BB3 TOPICS IN GREEK LITERATURE**  
 Consult the Department for the topic to be offered.  
 Three lectures; one term  
 Prerequisite: Six units of Level II Greek  
*GREEK 4BB3 may be repeated, if on a different topic, to a total of six units.*

**GREEK 4K03 INDEPENDENT STUDY IN GREEK**  
 Selected readings from Greek authors supervised by a member of the Department.  
 Tutorials; one term  
 Prerequisite: Six units of Level II Greek and registration in Level III or IV of any Honours program in Classics, and permission of the Department  
*GREEK 4K03 may be repeated, if on a different topic, to a total of six units.*

**LATIN ...**

**Notes:**

- Students should note that the Department has classified its Latin language courses under the following categories:  
**Introductory Level Language Course**  
 LATIN 1Z03, 1ZZ3  
**Intermediate Level Language Courses**  
 LATIN 2A03, 2AA3
- Students with Grade 12 Latin U should normally register in LATIN 2A03, but with special permission, may register in either LATIN 1Z03, 1ZZ3.

**Courses** *If no prerequisite is listed, the course is open.*

**LATIN 1Z03 BEGINNER'S INTENSIVE LATIN I**  
 A rapid introduction to the basic grammar of Classical Latin.  
 Five hours (lectures and tutorials); one term  
*Not open to graduates of Grade 12 Latin U, who must obtain special permission to register in the course.*

**LATIN 1ZZ3 BEGINNER'S INTENSIVE LATIN II**  
 This course continues the study of Latin grammar begun in LATIN 1Z03.  
 Five hours (lectures and tutorials); one term  
 Prerequisite: LATIN 1Z03. Students with Grade 12 Latin U must obtain special permission to register in the course.  
*This course, with a grade of at least B-, is accepted as a prerequisite for admission to any Honours program in Classics, or, with a grade of at least C-, for admission to the B.A. program in Classics.*

**LATIN 2A03 INTERMEDIATE LATIN I**  
 This course continues the study of Latin grammar begun in LATIN 1Z03 and 1ZZ3 and introduces students to the reading of simple passages from Latin authors.  
 Three lectures; one term  
 Prerequisite: One of Grade 12 Latin U, LATIN 1ZZ3. Students using this course as a Humanities I requirement will register for LATIN 2A03 and 2AA3.

**LATIN 2AA3 INTERMEDIATE LATIN II**  
 A study of selected passages from Latin authors designed to further the student's proficiency in reading Latin. Attention will be given to grammar and techniques of literary criticism.  
 Three lectures; one term  
 Prerequisite: LATIN 2A03

**LATIN 3A03 LATIN HISTORIANS**  
 Readings in selected Latin historians such as Sallust, Livy, and Tacitus.  
 Three lectures; one term  
 Prerequisite: LATIN 2A03, 2AA3

**LATIN 3B03 LATIN EPIC**  
 Readings from Vergil, and/or other epic authors.  
 Three lectures; one term  
 Prerequisite: LATIN 2A03, 2AA3  
*Alternates with LATIN 4B03.*

**LATIN 4AA3 LATIN PROSE**  
 Selected readings in one or more Latin prose authors.  
 Three lectures; one term  
 Prerequisite: Six units of Level II Latin

**LATIN 4B03 LATIN LOVE POETRY**  
 Readings in Latin Love Poetry.  
 Three lectures; one term  
 Prerequisite: LATIN 2A03, 2AA3  
*Alternates with LATIN 3B03.*

**LATIN 4BB3 TOPICS IN LATIN LITERATURE**  
 Consult the Department for the topic to be offered.  
 Three lectures; one term  
 Prerequisite: Six units of Level II Latin  
*LATIN 4BB3 may be repeated, if on a different topic, to a total of six units.*

**LATIN 4K03 INDEPENDENT STUDY IN LATIN**  
 Selected readings from Latin authors supervised by a member of the Department.  
 Tutorials; one term  
 Prerequisite: Six units of Level II Latin; and registration in Level III or IV of any Honours program in Classics; and permission of the Department.  
*LATIN 4K03 may be repeated, if on a different topic, to a total of six units.*

**COLLAB**

(SEE NURSING, NURSING CONSORTIUM (D) STREAM)

**COMMERCE**

WEB ADDRESS: <http://www.degroote.mcmaster.ca>

DeGroot School of Business, Room 104

Ext. 24433

**Faculty as of January 15, 2006**

**Chair, Marketing, Strategic Market Leadership and Health Services Management**

Kenneth R. Deal

**Chair, Finance and Business Economics Area**

Trevor Chamberlain

**Chair, Accounting and Financial Management Services Area**

Khalid Nainar

**Chair, Human Resources and Management Area**

Willi Wiesner

**Chair, Management Science and Information Systems Area**

Mahmut Parlar

**Professors**

Prakash L. Abad/B.Tech. (Indian Institute of Technology), M.S., M.B.A., Ph.D. (Cincinnati)/(Management Science)

Naresh C. Agarwal/B.A., M.A. (Delhi), Ph.D. (Minnesota)/(Human Resources)/Coordinator, Ph.D. Program (Human Resources)

Amin Amershi/B.Sc. (University of East Africa), Ph.D. (British Columbia) (Accounting and Financial Management Services Area)/AIC Chair in Investment and Portfolio Management; Director, AIC Institute for Strategic Business Studies

Vishwanath Baba/B. Eng. (Madras), M.B.A. (Western Illinois), Ph.D. (British Columbia)/(Organizational Behaviour)

Christopher K. Bart/B.A., M.B.A. (York), Ph.D. (Western Ontario), C.A. (Business Policy)/Director of the Management of Innovation and Technology Program

Trevor W. Chamberlain/B.Sc. (California-Berkeley), M.B.A. (McGill), Ph.D. (Toronto), C.A. (Finance)/Chair, Finance and Business Economics Area  
 M.W. Luke Chan/B.Sc. (Prince Edward Island), M.A., Ph.D. (McMaster) (Finance and Business Economics)/Associate Vice-President (International Affairs)

C. Sherman Cheung/B.S. (Louisiana State), M.S., Ph.D. (Illinois)/(Finance and Business Economics)

Robert G. Cooper/B.Eng., M.Eng. (McGill), M.B.A., Ph.D. (Western Ontario) (Marketing)

Richard W. Deaves/B.A., M.A., Ph.D. (Toronto)/(Finance and Business Economics)

Rick D. Hackett/B.Sc. (Toronto), M.A. (Windsor), Ph.D. (Bowling Green State)/(Human Resources)/Canada Research Chair, Management of Organizational Behaviour and Human Performance

Elko J. Kleinschmidt/Dip.Ing. (*Staatliche Ingenieurschule, Hannover*), M.B.A., Ph.D. (*McGill*)/(Marketing and International Business)  
 Clarence C.Y. Kwan/Ph.D. (*Ottawa*), M.B.A. (*McMaster*), Ph.D. (*Toronto*), P.Eng. (Finance)/CIBC Chair in Financial Markets  
 John W. Medcof/B.A. (*New Brunswick*), M.A., Ph.D. (*Toronto*)/(Organizational Behaviour)/Director, Engineering and Management Programs  
 G. John Miltenburg/B.Eng.Mgt., M.B.A. (*McMaster*), M.Eng. (*Toronto*), Ph.D. (*Waterloo*), P.Eng. (Production and Management Science)  
 Dean C. Mountain/B.A. (*McMaster*), M.A., Ph.D. (*Western Ontario*)/(Finance and Business Economics)  
 Mahmut Parlar/B.Sc., M.Sc. (*Middle East Technical University*), Ph.D. (*Waterloo*)/(Management Science)/Chair, Management Science and Information Systems Area  
 William Richardson/B. Sc., Ph.D., M.B.A. (*McMaster*)/(Accounting and Financial Management Services Area)  
 Joseph B. Rose/B.B.A. (*Adelphi*), M.B.A. (*California*), Ph.D. (*SUNY-Buffalo*)/(Industrial Relations)  
 Mohamed M. Shehata/B.Com. (*Tanta*), M.S. (*Ain-Shams*), M.B.A. (*North Texas State*), Ph.D. (*Florida*)/(Accounting)  
 George Steiner/M.Sc. (*Budapest*), Ph.D. (*Waterloo*)/(Production and Management Science)/Coordinator, Ph.D. Program (Management Science/Systems)  
 George O. Wesolowsky/B.A.Sc. (*Toronto*), M.B.A. (*Western Ontario*), Ph.D. (*Wisconsin*)/(Management Science)  
 Yufei Yuan/B.S. (*Fudan*), Ph.D. (*Michigan*)/(Information Systems)/Wayne C. Fox Chair  
 F. Isik Zeytinoglu/B.A., M.A. (*Bogazici*), M.S., Ph.D. (*Pennsylvania*)/(Management and Industrial Relations)

#### Associate Professors

Nick Bontis/B.A., Ph.D. (*Western Ontario*)/(Strategic Market Leadership and Health Services Management)/Director, Undergraduate Programs  
 Y.C. Lillian Chan/B.B.A. (*Chinese Univ. of Hong Kong*), Ph.D. (*Virginia Polytechnic Institute and State University*)/(Accounting)  
 Narat Charupatt/B.A. (*Thammasat*), M.B.A. (*Drexel*), Ph.D. (*York*)/(Finance)  
 Kenneth R. Deal/B.S., M.B.A., Ph.D. (*SUNY-Buffalo*)/(Marketing and Management Science)/Chair, Strategic Market Leadership and Health Services Management  
 Brian Detlor/B.Sc. (*Western Ontario*), M.I.S., Ph.D. (*Toronto*)/(Information Systems)  
 Khaled Hassanein/B.Sc. (*Kuwait*), M.A.Sc. (*Toronto*), Ph.D. (*Waterloo*), M.B.A. (*Wilfrid Laurier*)/(Information Systems)/Director, MeRC  
 Milena Head/B.Math. (*Waterloo*), M.B.A., Ph.D. (*McMaster*)/(Management Science/Information Systems)/Associate Dean Academic  
 Rosemary Luo/B.Eng. (Business) (*Beijing*), M.A. (*McMaster*), Ph.D. (*Western Ontario*)/(Finance)  
 Ali R. Montazemi/H.N.D. (*Teesside Polytechnic*), M.Sc. (*Southampton*), Ph.D. (*Waterloo*)/(Information Systems)  
 S.M. Khalid Nainar, B.A., M.A. (*Delhi*), Ph.D. (*Florida*)/(Accounting)/Chair, Accounting and Financial Management Services Area  
 Sudipto Sarkar/B.Tech. (*Indian Institute of Technology*), Ph.D. (*Columbia*)/(Finance)  
 D. Wayne Taylor/B.A. (*Toronto*), M.P.A., Ph.D. (*York*)/(Business and Public Policy)/Director, Health Services Management Program  
 James H. Tiessen/B.Sc. (*Alberta*), M.Sc. (*Guelph*), Ph.D. (*York*)/(International Business)/Director, M.B.A. Programs  
 Willi Wiesner/ B.A. (*Wilfrid Laurier*), M.A.Sc., Ph.D. (*Waterloo*)/(Human Resources)/Chair, Human Resources and Management Area

#### Assistant Professors

Catherine Connelly/B.Com. (*McMaster*), M.Sc., Ph.D. (*Queen's*)/(Organization Behaviour)  
 Anna Danielova/ B.Sc. (*Yerevan Polytechnic Institute*), M.S. (*American University of Armenia*), M.A., Ph.D. (*Indiana*)/(Finance)  
 Terry Flynn/B.A. (*Carleton*), M.S., Ph.D. (*Syracuse*)/(Marketing)  
 Maureen Hupfer/B.Com., M.A., Ph.D. (*Alberta*)/(Marketing)  
 Kiridaran Kanagaretnam/B.Sc. (*Sri Lanka*), M.S.E.E. (*Purdue*), Ph.D. (*Syracuse*), C.M.A. (Accounting and Financial Management Services Area)  
 Peter Miu/B.Sc. (*Hong Kong*), M.B.A., Ph.D. (*Toronto*)/Finance  
 Emad Mohd/ B.A. (*Kuwait*), M.B.A., Ph.D. (*Georgia State*)/(Accounting)

Devashish Pujari/B. Com, M.Com. (*Kurukshetra*), M.Phil, Ph.D. (*Bradford*)/(Strategic Market Leadership and Health Services Management)  
 Glen Randall/B.A., M.B.A. (*McMaster*), Ph.D. (*Toronto*)/(Marketing)  
 Sourav Ray/B.Tech (*India*), M.S. (*Texas*), Ph.D. (*Minnesota*)/(Marketing)  
 Aaron Schat/B.A. (*Redeemer*), M.A., Ph.D. (*Guelph*)/(Organizational Behaviour)  
 Alfred Seaman/B.B.A Admin. (*New Brunswick*), Ph.D. (*Queen's*) C.M.A. (Accounting)  
 John Siam/B.A., M.A., Ph.D. (*Concordia*)/(Accounting)  
 Kevin Tasa/B.Com. (*Saskatchewan*), M.Sc., Ph.D. (*Toronto*)/(Human Resource Management)  
 Patricia Wakefield/B.S. (*Alberta*), M.S. (*Cornell*), M.P.A. (*New York*), Ph.D. (*Boston*)/(Marketing)

#### Industry Professors

Paul K. Bates/(Financial Management Services)/Dean

#### Lecturers

Rita Cossa/H.B.B.A. (*Wilfrid Laurier*), M.B.A. (*McMaster*)/(Marketing)  
 Horng-Tzu Hao/B.B.A. Finance (*Tamkang*)/(Accounting)  
 Teal McAteer-Early/B.Comm. (*Queen's*), M.I.R., Ph.D. (*Toronto*)/(Marketing and Business Policy)  
 Mandeep Malik/B.A. (*Chandigarh*), M.A. (*Canberra*)/(Marketing)  
 Marvin G. Ryder/B.A., B.Sc. (*Carleton*), M.B.A. (*McMaster*)/(Marketing and Business Policy)  
 Tlira Salisbury/B.Com., M.B.A. (*McMaster*)/(Management Science and Information Systems)  
 Linda Stockton/M.B.A. (*McMaster*)/(Marketing)  
 Peter Vilks/B.Sc.E.E., (*Suny-Buffalo*), M.B.A. (*McMaster*), P.Eng. (Marketing)

#### Faculty Notes:

- Upper Level Commerce courses are not open to Business I students.
- The Commerce courses for the Business Minor are open to students registered in any four- or five-level McMaster degree program. For these students, enrolment will be limited to 40 spaces per course on a first-come, first-served basis in the following courses: COMMERCE 2AA3, 2AB3, 2BA3, 2FA3, 2MA3, 2QA3, 2QB3, 3BC3, 3FA3, 3MC3. Please note that all prerequisites for these courses must also be satisfied. Students registered in a McMaster Commerce, Engineering Management or Labour Studies program (where applicable) will be guaranteed enrolment in these courses. See *Minor in Business* in the *Faculty of Business* section of this Calendar. Students taking COMMERCE 2AA3, 2FA3, 2MA3 as **Business Minor courses** will also be required to have obtained a **minimum grade of B-** in ECON 1A06 or 1B03 as a prerequisite.
- The Commerce courses for the Minor in Finance and the Minor in Accounting and Financial Management Services are open to students admitted to the Minor. Please take note that all prerequisites for these courses must also be satisfied. Students taking COMMERCE 2AA3 and 2FA3 as Minor in Accounting or Minor in Accounting and Financial Management Services courses will also be required to have obtained a minimum grade of B- in ECONOMICS 1A06 or an average of at least 7.0 in ECON 1B03 and 1BB3 as a prerequisite.
- Graduates of McMaster's Commerce programs or one of the Engineering and Management programs may take, as part-time students, Level III and IV Commerce courses (not previously taken, to a maximum of 18 units), excluding COMMERCE 4AG3\*, 4AH3\*, 4AI3\*, with the permission of the Academic Programs Office. (See the *Admission Requirements* section of this Calendar under the heading *Continuing Students*.)  
 \*These courses are available as ACC 500, ACC 501, ACC 502, through the School of Business, subject to sufficient enrolments and availability of qualified instructors.  
**Other than those graduates specified above, Commerce courses are not open to Continuing Students.**
- Level II and Level III Commerce courses are generally scheduled for three one-hour lectures per week; one term. Level IV Commerce courses are generally scheduled for two lectures per week (a two-hour lecture and a one-hour lecture); one term.
- Level IV Commerce requirements: the six units of Level III or IV Commerce courses noted in the School of Business section of this Calendar can only be taken by Level IV Commerce students in their final year.**



**Courses**

**COMMERCE 1E03 BUSINESS ENVIRONMENT AND ORGANIZATION**

This course will examine the relationship between business organizations, their functional areas, and the environments - social, political, legal and regulatory and technological - that affect them.  
Prerequisite: Registration in Business I

**COMMERCE 2AA3 FINANCIAL ACCOUNTING I**

This is an introduction to the basic principles and practices of financial accounting, which includes an examination of income measurement and asset and liability valuation, to provide an understanding of financial accounting information and the ethics of financial reporting.  
Prerequisite: ECON 1A06 or 1B03 and registration in any Commerce or Engineering and Management program; or a grade of at least B- in ECON 1A06 or 1B03 and registration in any four or five-level non-Commerce program  
*Enrolment is limited. (See Note 2 above.)*

**COMMERCE 2AB3 MANAGERIAL ACCOUNTING I**

An introduction to concepts underlying the use of cost accounting information for managerial planning and control, and for inventory valuation. The nature and analysis of costs, and the usefulness and limitations of accounting data for decision-making, including ethical considerations, will be discussed.  
Prerequisite: COMMERCE 2AA3 and registration in any Commerce, Engineering and Management or four or five-level non-Commerce program  
*Enrolment is limited. (See Note 2 above.)*

**COMMERCE 2BA3 ORGANIZATIONAL BEHAVIOUR**

The central objective of this course is to develop an understanding of human behaviour in organizations with a view toward effective management of such behaviour.  
Prerequisite: Registration in any Commerce, Engineering and Management, Labour Studies or four or five-level non-Commerce program  
Antirequisite: KINESIOL 3L03  
*Enrolment is limited. (See Note 2 above.)*

**COMMERCE 2FA3 INTRODUCTION TO FINANCE**

This course introduces the main instruments and institutions in the Canadian financial system. The basic concepts and models of modern financial theory are introduced through lectures and "hands-on" problem solving. Topics include: the time value of money, capital budgeting, the trade-off between risk and return and security valuation.  
Prerequisite: ECON 1A06 or 1B03; and one of MATH 1A03, 1M03, or 1N03; and COMMERCE 2AA3; and registration in any Commerce, Engineering and Management or four or five-level non-Commerce program. Students in a four- or five-level non-Commerce program must have at least B- in ECON 1A06 or 1B03.  
*Not open to students with credit or registration in ECON 2103.*  
*Enrolment is limited. (See Note 2 above.)*

**COMMERCE 2MA3 INTRODUCTION TO MARKETING**

This course introduces the conceptual underpinnings and operational facets of marketing with a primarily consumer (as opposed to industrial) focus.  
Prerequisite: ECON 1A06 or 1B03 and registration in any Commerce or Engineering and Management program; or a grade of at least B- in ECON 1A06 or 1B03 and registration in any four or five-level non-Commerce program  
*Enrolment is limited. (See Note 2 above.)*

**COMMERCE 2QA3 COMPUTER-AUGMENTED STATISTICAL ANALYSIS**

An introduction to the application of statistical analysis in managerial decision-making. The concepts of statistical analysis are applied to a variety of topics, including decision-making, estimation by sampling, hypothesis testing, analysis of variance, simple linear and multiple regression and forecasting.  
Prerequisite: Finite Math (or Mathematics of Data Management U or equivalent) or STATS 1L03; and registration in any Commerce, Engineering and Management or four or five-level non-Commerce program  
Antirequisite: ECON 2B03, STATS 1CC3, 2MB3, 3J04, 3N03, 3Y03  
*Enrolment is limited. (See Note 2 above.)*

**COMMERCE 2QB3 INFORMATION SYSTEMS IN MANAGEMENT**

This course emphasizes the strategic role of information systems in modern business. Topics include: the technical foundations of information systems, the impact of information systems on business operations and decision-making, and the processes that are required for successful implementation of business information systems.  
Prerequisite: One of COMP SCI 1BA3, 1MC3, 1SA3, 1TA3, 1ZA3, ENGINEER 1D04, MMEDIA 1A03; and registration in any Commerce or four or five-level non-Commerce program or non-Engineering and Management program  
Antirequisite: COMMERCE 3QB3  
*Enrolment is limited. (See Note 2 above.)*

**COMMERCE 2S03 COMMUNICATION, THINKING AND GROUP SKILLS**

Students will be introduced to the effective use of written and oral communication skills; thinking skills including convergent, divergent and creative thinking as well as logic and rhetoric; and group and interpersonal skills including leadership. Students practice these skills in exercises concerned with current business issues.  
Prerequisite: Registration in a Commerce program

**COMMERCE 2SB3 BUSINESS ETHICS**

An analysis of ethical issues arising in contemporary business life. Sample topics include: fair and unfair competition; responsibilities towards employees, society and the environment; honesty and integrity in business; the moral status of corporations.  
Prerequisite: Registration in Level II or above of any Commerce or Engineering and Management program  
Cross-list: PHILOS 2N03  
*This course is administered by the Department of Philosophy.*

**COMMERCE 3AB3 FINANCIAL ACCOUNTING II**

A first course in intermediate financial accounting dealing with the theory and practice of financial statement preparation and reporting. The emphasis will be on asset valuation and the related impact on income measurement.  
Prerequisite: COMMERCE 2AA3 and registration in any Commerce or Engineering and Management program. (B.Com. students - see Note 6 above.)

**COMMERCE 3AC3 FINANCIAL ACCOUNTING III**

A second course in intermediate financial accounting dealing with reporting issues that relate to liabilities and owners' equity. In particular, the concepts of recognition, measurement and disclosure of such items as bonds, taxes, leases and pensions as well as the phenomenon of off-balance sheet financing are examined.  
Prerequisite: COMMERCE 3AB3 and registration in any Commerce or Engineering and Management program. (B.Com. students - see Note 6 above.)  
Antirequisite: COMMERCE 4AB3

**COMMERCE 3BC3 HUMAN RESOURCE MANAGEMENT AND LABOUR RELATIONS**

This course builds on COMMERCE 2BA3, focusing on human resource management and labour relations issues and practices from a general management education perspective.  
Prerequisite: COMMERCE 2BA3 or KINESIOL 3L03; and registration in any Commerce, Labour Studies, Engineering and Management or four or five-level non-Commerce program  
Antirequisite: COMMERCE 3BA3, 3BB3  
*Enrolment is limited. (See Note 2 above.)*

**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 or ECON 2103; and registration in any Commerce, Engineering and Management or four or five-level non-Commerce program  
*Enrolment is limited. (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 2FA3 or ECON 2103; and registration in any Commerce or Engineering and Management program. (B.Com. students - see Note 6 above.)

**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 and registration in any Commerce or Engineering and Management program. (B.Com. students - see Note 6 above.)

**COMMERCE 3IN0 COMMERCE INTERNSHIP PROGRAM**

Career development; job strategies; skills assessment; resume/application form preparation; interview/presentation skills; orientation to the workplace. Successful completion of an eight, twelve or sixteen month Internship, employer evaluation and work term report.  
Lecture/workshop (six sessions); first term or second term  
Prerequisite: Successful completion of Level II Commerce. Transcript notation granted upon successful completion of an 8, 12 or 16 month approved internship.

**COMMERCE 3MA3 MARKETING RESEARCH**

This course covers the effective obtaining, communicating and using of competitive and market intelligence. Students work in groups with a company or public organization and receive training and experience in making business presentations.

Prerequisite: COMMERCE 2MA3, 2QA3 and registration in any Commerce or Engineering and Management program; or COMMERCE 2MA3 and one of STATS 2MB3, 3J04, 3N03 or 3Y03 and registration in any Engineering and Management program. (B.Com. students - see *Note 6* above.)

**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 and registration in any Commerce or Engineering and Management program. (B.Com. students - see *Note 6* above.)

**COMMERCE 3MC3 APPLIED MARKETING MANAGEMENT**

This course builds upon material in COMMERCE 2MA3 but is more applied in nature and covers the 4 P's in greater depth. It also has a heavier industrial and service sector component, and relies more on practical, real world cases. A major field project (student teams working with companies) is a critical part of the course.

Prerequisite: COMMERCE 2MA3 and registration in any Commerce, Engineering and Management or four or five-level non-Commerce program. *Enrolment is limited. (See Note 2 above.)*

**COMMERCE 3QA3 MANAGEMENT SCIENCE FOR BUSINESS**

This course is a study of analytical approaches that assist managerial decision-making; it provides coverage of decision theory and an introduction to optimization methods, computer simulation and the general approach of management science.

Prerequisite: COMMERCE 2QA3 and registration in any Commerce or Engineering and Management program; or one of STATS 2MB3, 3J04, 3N03 or 3Y03 and registration in any Engineering and Management program.

**COMMERCE 3QC3 PRODUCTION/OPERATIONS MANAGEMENT**

An introduction to the production/operations function with emphasis on the use of quantitative analysis to assist decision-making. Topics include: layout of facilities, aggregate planning, scheduling, inventory control and quality control.

Prerequisite: COMMERCE 3QA3 and registration in any Commerce program  
Antirequisite: COMMERCE 4QA3, MECH ENG 4C03

**COMMERCE 4AA3 MANAGERIAL ACCOUNTING II**

A consideration of advanced topics in management planning and control including cost behaviour determination, production planning, innovation in costing, cost allocations, variance analysis and performance evaluation for responsibility centres.

Prerequisite: COMMERCE 2AB3 or 3AA3; and registration in any Commerce or Engineering and Management program. (B.Com. students - see *Note 6* above.)

**COMMERCE 4AC3 FINANCIAL ACCOUNTING IV**

An advanced accounting course considering specific problems of accounting for the corporate entity, such as, business combinations, intercorporate investments, consolidated financial statements, accounting for foreign operations and foreign currency transactions, segment reporting.

Prerequisite: Credit or registration in COMMERCE 3AC3 or 4AB3; and registration in any Commerce or Engineering and Management program. (B.Com. students - see *Note 6* above.)

**COMMERCE 4AD3 INTRODUCTION TO AUDITING**

An examination of the attest function in accounting including ethical, legal, and statutory influences in the development of auditing standards. Control structure and audit evidence will be examined.

Prerequisite: COMMERCE 3AB3 and registration in any Commerce or Engineering and Management program. (B.Com. students - see *Note 6* above.)

**COMMERCE 4AE3 ACCOUNTING INFORMATION SYSTEMS**

This course emphasizes the understanding of the roles of accounting information and information technology in managerial decision-making, operational support, stewardship, and organizational competitiveness. Applications of concepts will be emphasized.

Prerequisite: COMMERCE 3AB3 and registration in any Commerce or Engineering and Management program. (B.Com. students - see *Note 6* above.)

**COMMERCE 4AF3 ACCOUNTING THEORY**

A review of accounting theory as a background for applying underlying concepts to current accounting problems. The course emphasizes current literature.

Prerequisite: Credit or registration in COMMERCE 3AC3 or 4AB3; and registration in any Commerce or Engineering and Management program. (B.Com. students - see *Note 6* above.)

**COMMERCE 4AX3 SPECIAL TOPICS IN ACCOUNTING**

Various topics in Accounting are considered. They will vary depending upon recent developments in the field and upon the research interests of the instructor. The topics to be included are announced at the time of the course offering.

Prerequisite: Announced at the time of offering

For information on course offerings, please refer to the School of Business web site at <http://www.degroote.mcmaster.ca/programs/commerce/courses.html> or contact the Academic Programs Office, MGD 104.

*COMMERCE 4AX3 may be repeated, if on a different topic, to a total of six units.*

**COMMERCE 4BA3 BEHAVIOURAL ISSUES IN MANAGEMENT**

Detailed analysis of employee motivation and reward systems; organizational structure; leadership and decision-making; group processes; and management of conflict and change.

Prerequisite: Registration in any Commerce or Engineering and Management program. (B.Com. students - see *Note 6* above.)

**COMMERCE 4BB3 PERSONNEL SELECTION**

This course exposes students to staffing issues in the Canadian context. Topics include job analysis, methods of recruitment and selection, human rights legislation and decision-making strategies.

Prerequisite: COMMERCE 3BB3 or 3BC3; and registration in any Commerce or Engineering and Management program. (B.Com. students - see *Note 6* above.)

**COMMERCE 4BC3 COLLECTIVE BARGAINING**

A survey of the nature, determinants, and impact of collective bargaining in Canada. Both the procedural and substantive aspects of collective bargaining will be studied.

Prerequisite: One of COMMERCE 3BC3, LABR ST 2A03 or 2A06; and registration in any Commerce, Engineering and Management or Labour Studies program. (B.Com. students - see *Note 6* above.)

**COMMERCE 4BD3 SETTLEMENT OF INDUSTRIAL DISPUTES**

The nature and the role of industrial conflict as well as the techniques which have been developed to control the incidence of conflict in union-management situations.

Prerequisite: One of COMMERCE 3BC3, LABR ST 2A03 or 2A06; and registration in any Commerce, Engineering and Management or Labour Studies program. COMMERCE 4BC3 is recommended. (B.Com. students - see *Note 6* above.)

**COMMERCE 4BE3 COMPENSATION/REWARD SYSTEMS**

Key issues in designing effective pay systems are discussed. Topics include: job evaluation, market pay surveys, pay structures, performance incentives, knowledge pay and employee benefits.

Prerequisite: COMMERCE 3BB3 or 3BC3; and registration in any Commerce or Engineering and Management program. (B.Com. students - see *Note 6* above.)

**COMMERCE 4BF3 LABOUR LAW AND POLICY**

An analysis of the concepts and fundamentals of Canadian labour law and analysis of Canadian labour policy.

Prerequisite: COMMERCE 3BC3; and registration in any Commerce or Engineering and Management program. Subject to space availability. (B.Com. students - see *Note 6* above.)

Cross-list: LABR ST 3C03

*This course is administered by Labour Studies.*

**COMMERCE 4BG3 PUBLIC SECTOR COLLECTIVE BARGAINING**

This course examines unionization and collective bargaining for employees in the public sector. Topics include: bargaining issues, bargaining outcomes and impasse resolution.

Prerequisite: COMMERCE 3BC3; and registration in any Commerce or Engineering and Management program. Subject to space availability. (B.Com. students - see *Note 6* above.)

Cross-list: LABR ST 4C03

**COMMERCE 4BI3 TRAINING AND DEVELOPMENT**

This course provides a framework for establishing, revising and examining training programs in organizations. Topics include: needs assessment, development of training objectives, planning and delivery of instruction, learning principles and evaluation of training.

Prerequisite: COMMERCE 3BB3 or 3BC3; and registration in any Commerce or Engineering and Management program. (B.Com. students - see *Note 6* above.)

**COMMERCE 4BJ3 GENDER ISSUES IN BUSINESS**

This course discusses the successes and challenges of women in business in an international context, across various professions and as entrepreneurs and business owners.

Prerequisite: Registration in any Commerce or Engineering and Management program. (B.Com. students - see *Note 6* above.)

*Not open to students with credit in COMMERCE 4SX3, SPECIAL TOPICS IN BUSINESS, if taken in January 1998.*

**COMMERCE 4BK3 THE MANAGEMENT OF TECHNOLOGY**

An introduction to the innovative management of technology including the integration of the firm and technology strategy, external sourcing of technology and the internationalization of technology management.

Prerequisite: COMMERCE 2BA3 registration in any Commerce or Engineering and Management program. (B.Com. students - see *Note 6* above.)

*Not open to students with credit in COMMERCE 4BX3, if taken in January 1998 or 1999.*

**COMMERCE 4BL3 OCCUPATIONAL HEALTH AND SAFETY MANAGEMENT**

This course enhances students' knowledge on managing occupational health and safety, teaches research skills, and assists students in developing strategies for creating healthy workplaces.

Prerequisite: COMMERCE 3BC3 and registration in any Commerce or Engineering and Management program. (B.Com. students - see *Note 6* above.)

*Not open to students with credit in COMMERCE 4BX3, if the topic was Occupational Health and Safety (2004-2005).*

**COMMERCE 4BM3 STRATEGIC HUMAN RESOURCE PLANNING**

This course provides an understanding of the essential elements of Human Resource Planning (HRP) processes in organizations. Students will acquire knowledge in analyzing, assessing and programming for human resource requirements of the organizational business plans and strategies.

Prerequisite: COMMERCE 3BC3 and registration in any Commerce or Engineering and Management program.

*Not open to students with credit in COMMERCE 4BX3, if the topic was Strategic Human Resource Planning (2004-2005 and 2005-2006).*

**COMMERCE 4BX3 SPECIAL TOPICS IN HUMAN RESOURCES/LABOUR RELATIONS**

Various topics in Human Resources/Labour Relations are considered. They will vary depending upon recent developments in the field and upon the research interests of the instructor. The topics to be included are announced at the time of the course offering.

Prerequisite: Announced at time of offering

For information on course offerings, please refer to the School of Business web site at <http://www.degroote.mcmaster.ca/programs/commerce/courses.html> or contact the Academic Programs Office, MGD 104. *COMMERCE 4BX3 may be repeated, if on a different topic, to a total of six units.*

**COMMERCE 4FA3 APPLIED CORPORATE FINANCE**

This course examines the application of financial theory to a variety of problems in corporate finance. The appropriate use of valuation principles and techniques, and the design of corporate strategies intended to create shareholder wealth, are considered.

Prerequisite: COMMERCE 3FA3 and registration in any Commerce or Engineering and Management program. (B.Com. students - see *Note 6* above.)

**COMMERCE 4FD3 FINANCIAL INSTITUTIONS**

This course examines, from a managerial perspective, the major types of financial institutions in Canada: chartered banks, trust companies, insurance companies, investment banks and other institutional investors.

Prerequisite: COMMERCE 3FA3 and registration in any Commerce or Engineering and Management program. (B.Com. students - see *Note 6* above.)

**COMMERCE 4FE3 OPTIONS AND FUTURES**

This course provides an integrated approach to understanding the relations between options, futures, and their underlying assets. The theory of pricing of options and futures and the application of the theory to instruments currently traded in financial markets are considered.

Prerequisite: COMMERCE 3FA3 and registration in any Commerce or Engineering and Management program. (B.Com. students - see *Note 6* above.)

**COMMERCE 4FF3 PORTFOLIO THEORY AND MANAGEMENT**

This course offers an advanced treatment of investment decision-making and the role of financial markets in pricing securities. Topics include: portfolio selection models, the institutional environment of investment decisions, and investment and asset pricing theory.

Prerequisite: COMMERCE 3FA3 and registration in any Commerce or Engineering and Management program. (B.Com. students - see *Note 6* above.)

Antirequisite: COMMERCE 4FC3

**COMMERCE 4FG3 FINANCIAL THEORY**

This course explores the theoretical foundations of finance and their applications to corporate finance policy. Topics covered include rational investment decisions, asset pricing, efficient markets, financial decisions and the role of information in financial decision-making.

Prerequisite: COMMERCE 3FA3 and registration in any Commerce or Engineering and Management program. (B.Com. students - see *Note 6* above.)

Antirequisite: COMMERCE 4FB3

**COMMERCE 4FH3 MERGERS, ACQUISITIONS AND CORPORATE CONTROL**

This course examines the process by which mergers and other types of corporate control transactions take place, and the role of restructuring shifts in resource allocation by corporations.

Prerequisite: COMMERCE 3FA3 and registration in any Commerce or Engineering and Management program. (B.Com. students - see *Note 6* above.)

**COMMERCE 4FI3 TRADING IN FINANCIAL MARKETS**

This course attempts to develop practical skills in trading financial securities -fixed income, equities, futures and options- focusing on trading strategies based on market analysis and risk measurement.

Prerequisite: COMMERCE 3FA3 with a grade of at least B+; and registration in Honours Commerce or any Engineering and Management program *Enrolment is limited.*

**COMMERCE 4FJ3 FIXED INCOME ANALYSIS**

This course provides an advanced treatment of investments in the field of fixed income analysis and focuses on fixed income securities, fixed income portfolio management and fixed income derivatives.

Prerequisite: COMMERCE 3FA3 and registration in any Commerce or Engineering and Management program. (B.Com. students - see *Note 6* above.)

**COMMERCE 4FK3 FINANCIAL STATEMENT ANALYSIS**

This course provides a comprehensive and up-to-date treatment of the analysis of financial statements as an aid to decision making. The relationship between financial markets and financial statements is studied using computerized data sets on personal computers.

Prerequisite: COMMERCE 3FA3 and registration any Commerce or Engineering and Management program. (B.Com. students - see *Note 6* above.)

**COMMERCE 4FL3 PERSONAL FINANCIAL MANAGEMENT**

The course covers various topics that are relevant to the financial decision making of individuals. These decisions include investment, retirement planning, debt and credit management, renting vs. buying a home, insurance and risk management and personal income tax planning and strategies.

Prerequisite: COMMERCE 3FA3 and registration any Commerce or Engineering and Management program. (B.Com. students - see *Note 6* above.)

*Not open to students with credit in COMMERCE 4FX3, if the topic was Personal Financial Management (2004-2005 and 2005-2006).*

**COMMERCE 4FX3 SPECIAL TOPICS IN FINANCE**

Various topics in Finance are considered. They will vary depending upon recent developments in the field and upon the research interests of the instructor. The topics to be included are announced at the time of the course offering.

Prerequisite: Announced at time of offering

For information on course offerings, please refer to the School of Business web site at <http://www.degroote.mcmaster.ca/programs/commerce/courses.html> or contact the Academic Programs Office, MGD 104. *COMMERCE 4FX3 may be repeated, if on a different topic, to a total of six units.*

**COMMERCE 4MC3 NEW PRODUCT MARKETING**

This course covers the management of new products from the idea stage through to product launch with a strong practical orientation. A field project is a major component of the course.

Prerequisite: COMMERCE 3MC3 and registration in any Commerce or Engineering and Management program. (B.Com. students - see *Note 6* above.)

**COMMERCE 4MD3 BUSINESS MARKETING**

An overview of business marketing including: derived demand, vendor analysis, the multiple buying unit, value analysis, competitive bidding, industrial design, key accounts, and trade shows.

Prerequisite: COMMERCE 3MC3 and registration in any Commerce or Engineering and Management program. (B.Com. students - see *Note 6* above.)

**COMMERCE 4ME3 SALES MANAGEMENT**

Cases, presentations, field work, library research, role playing and group exercises help to understand customers, the selling process, sales presentations, negotiation, legal and ethical responsibilities, self and team management.

Prerequisite: COMMERCE 3MC3 and registration in any Commerce or Engineering and Management program. (B.Com. students - see *Note 6* above.)

*Not open to students with credit or registration in COMMERCE 4MX3, if the topic was Sales Management.*

**COMMERCE 4MF3 RETAILING MANAGEMENT**

This course will familiarize students with key managerial and policy issues involved in the design, implementation and assessment of the retail mix. It will cover several areas relating to the institution of retailing, elements of the retail environment; and retail strategies.

Prerequisite: COMMERCE 3MC3 and registration in any Commerce or Engineering and Management program. (B.Com. students - see *Note 6* above.)

**COMMERCE 4PA3 BUSINESS POLICY: STRATEGIC MANAGEMENT**

As the capstone to the program, this case course is designed to unify the student's learning experience by exploring the formulation and implementation of corporate strategy.

Prerequisite: COMMERCE 3MC3; and registration in Level IV of a Commerce program or Level V of an Engineering and Management program

**COMMERCE 4QA3 OPERATIONS MODELLING AND ANALYSIS**

A course that looks at productions and operations management as practiced in engineering and manufacturing industries and the services sector.

Prerequisite: One of STATS 2MA3, 3J04, 3N03, 3Y03 or equivalent; and registration in any Engineering and Management or Mechanical Engineering program

Antirequisite: COMMERCE 3QC3

**COMMERCE 4QB3 ANALYSIS OF PRODUCTION/ OPERATIONS PROBLEMS**

An examination of analytical approaches to problems in the field of production/operations. The course will provide in-depth coverage of a limited number of topics. Enterprise resource planning system.SAP may be used to highlight some of the concepts covered in the course.

Prerequisite: One of COMMERCE 3QC3, 4QA3 or MECH ENG 4C03; and registration in any Commerce or Engineering and Management program. (B.Com. students - see *Note 6* above.)

**COMMERCE 4QC3 MANAGERIAL DECISION MODELLING WITH SPREADSHEETS**

This application-oriented course will cover several optimization modeling techniques that can be used to support managers and engineers in a wide variety of decision making situations in finance, marketing and production.

Prerequisite: COMMERCE 3QA3 and registration in any Commerce or Engineering and Management program. (B.Com. students - see *Note 6* above.)

**COMMERCE 4QD3 DATABASE DESIGN AND IMPLEMENTATION**

This course is designed to introduce the basic concepts of database design, implementation, and management. Students will gain hands on experience through assignments and team project.

Prerequisite: COMMERCE 2QB3 and registration in any Commerce or Engineering and Management program. (B.Com. students - see *Note 6* above.)

**COMMERCE 4QE3 TELECOMMUNICATION AND ELECTRONIC BUSINESS**

The new trends and issues on telecommunication networks and their business applications including: wireless telecommunication, Web technology, Electronic business, Network security, Smart cards, Intelligent agents and the use of Intranet and Extranet.

Prerequisite: COMMERCE 2QB3 and registration in any Commerce or Engineering and Management program. (B.Com. students - see *Note 6* above.)

*Not open to students with credit in COMMERCE 4QX3, if the topic was Specific Topics in Business Data Communication (if taken in September 1997).*

**COMMERCE 4QF3 PROJECT MANAGEMENT**

Topics include: project selection, project organization structures, life cycles, planning, estimation, budgeting, resource allocation, contracting, project management software, reporting and controlling issues and conflict management.

Prerequisite: COMMERCE 2BA3, 3QA3 and registration in a Commerce program; or registration in an Engineering and Management program; (B.Com. students - see *Note 6* above.)

**COMMERCE 4QH3 MANAGEMENT ISSUES IN ELECTRONIC BUSINESS**

This course will cover the issues that the modern business manager must deal with in making strategic decisions concerning the choice, implementation, and execution of electronic business solutions.

Prerequisite: COMMERCE 2QB3 and registration in any Commerce program; or registration in any Engineering and Management program. (B.Com. students - see *Note 6* above.)

**COMMERCE 4QX3 SPECIAL TOPICS IN MANAGEMENT SCIENCE AND INFORMATION SYSTEMS**

Various topics in Management Science and Information Systems are considered. They will vary depending upon recent developments in the field and upon the research interests of the instructor. The topics to be included are announced at the time of the course offering.

Prerequisite: Announced at time of offering

For information on course offerings, please refer to the School of Business web site at <http://www.degroote.mcmaster.ca/programs/commerce/courses.html> or contact the Academic Programs Office, MGD 104. *COMMERCE 4QX3 may be repeated, if on a different topic, to a total of six units.*

**COMMERCE 4SA3 INTERNATIONAL BUSINESS**

The key features of, and trends in, the global business environment. The implications of cultural and political differences. Comparative operational practices and multinational management.

Prerequisite: COMMERCE 3MC3; and registration in Level IV of a Commerce program or Level V of any Engineering and Management program  
Antirequisite: COMMERCE 4PE3

**COMMERCE 4SB3 INTRODUCTION TO CANADIAN TAXATION**

The principles of Canadian federal income taxation are examined in detail, emphasizing the application of both statute and common law to individuals' and businesses' situations.

Prerequisite: Credit or registration in COMMERCE 3AB3 and registration in any Commerce or Engineering and Management program. (B.Com. students - see *Note 6* above.)

Antirequisite: COMMERCE 4PB3

**COMMERCE 4SC3 ADVANCED CANADIAN TAXATION**

This course continues the study of Canadian federal income taxation with an in-depth coverage of selected provisions of the Income Tax Act pertaining to business activities, particularly the activities of corporations.

Prerequisite: COMMERCE 4SB3 or 4PB3; and registration in any Commerce or Engineering and Management program. (B.Com. students - see *Note 6* above.)

Antirequisite: COMMERCE 4PC3

**COMMERCE 4SD3 COMMERCIAL LAW**

This course emphasizes those areas of law which are most relevant to business activity. Particular attention is given to the law relating to contracts and business organizations. Other areas of study include: sources of law, the judicial process, real and personal property, torts, agency, credit and negotiable instruments.

Prerequisite: Registration in any Commerce or Engineering and Management program. (B.Com. students - see *Note 6* above.)

Antirequisite: COMMERCE 4PD3

**COMMERCE 4SE3 ENTREPRENEURSHIP**

The problems and experiences encountered in starting and developing new enterprises will be studied. A cornerstone of the course is the development of a detailed business plan for a local entrepreneur.

Prerequisite: COMMERCE 3FA3; and COMMERCE 3MA3 or 3MC3; and registration in any Commerce or Engineering and Management program. (B.Com. students - see *Note 6* above.)

**COMMERCE 4SF3 JAPANESE BUSINESS**

An introduction to Japan's business system. The approach is integrative, as the course examines Japan's economic history, culture, politics, industrial policy, management practices, advertising and doing business with Japan.

Prerequisite: Registration in any Commerce, Japanese Studies or Engineering and Management program. (B.Com. students - see *Note 6* above.)

Cross-list: JAPAN ST 4S03

**COMMERCE 4SY3 INDEPENDENT STUDY IN BUSINESS**

Faculty supervised project. A supervising faculty member must be arranged, and authorization of the Associate Dean secured, in the term preceding the term of study.  
Prerequisite: To be determined by the supervising faculty member and registration in any Commerce or Engineering and Management program. Project forms are available from MGD-104. (B.Com. students - see Note 6 above.)

**COURSES FOR PROFESSIONAL DESIGNATION ...**

**COMMERCE 4AG3 ADVANCED ACCOUNTING TOPICS**

This course extends the knowledge base of earlier accounting courses and deals with specific advanced accounting topics, such as the conceptual framework, standard setting, not-for-profit accounting and fiduciary accounting.  
Prerequisite: COMMERCE 4AC3, 4AF3; and registration in any Commerce or Engineering and Management program or graduation from a Commerce program  
Available Summers subject to sufficient enrolments and availability of qualified instructors.

**COMMERCE 4AH3 ADVANCED AUDITING**

This course considers a number of advanced topics concerning both the auditor and the audit profession. It builds on the knowledge of the audit task derived in earlier courses as well as on the technical skills and breadth of knowledge obtained in earlier accounting courses.  
Prerequisite: COMMERCE 4AC3, 4AD3; and registration in any Commerce or Engineering and Management program or graduation from a Commerce program  
Available Summers subject to sufficient enrolments and availability of qualified instructors.

**COMMERCE 4AI3 COMPUTER CONTROL AND AUDITING**

This course introduces the student to the field of EDP auditing through lectures, readings and hands-on experience with EDP audit software.  
Prerequisite: COMMERCE 4AC3, 4AD3; and registration in any Commerce or an Engineering and Management program or graduation from a Commerce program  
Available Summers subject to sufficient enrolments and availability of qualified instructors.

**COMMUNICATION STUDIES AND MULTIMEDIA**

WEB ADDRESS: <http://www.humanities.mcmaster.ca/~cmst>

Togo Salmon Hall, Room 512

Ext. 23488

**Faculty as of January 15, 2006**

**Acting Director**

Geoffrey Rockwell

**Professor**

Henry Giroux/B.S. (Maine), M.A. (Appalachian State), D. Arts (Carnegie-Mellon)/Global Television Network Chair in Communications

**Associate Professors**

Robert S. Hamilton/ M.F.A. (S.A.I.C.), M.F.A. (Jan van Eyck Academie)  
Liss Platt/B.F.A. (Connecticut), M.F.A. California-San Diego  
Geoffrey Rockwell/ B.A. (Haverford College), M.A. Ph.D. (Toronto)

**Assistant Professors**

Christina Baade/(Communication Studies and Multimedia; School of the Arts) B.Mus. (Northwestern), M.Mus., Ph.D. (Wisconsin-Madison)  
Catherine Frost/(Communication Studies and Multimedia; Political Science) B.A. (Lakehead), M.A., Ph.D. (Toronto)  
Violetta Igheski/(Communication Studies and Multimedia; Philosophy) B.A., M.A. (Western Ontario), Ph.D. (Toronto)  
Andrew Mactavish/B.A. (Mount Saint Vincent), M.A. (Dalhousie), Ph.D. (Alberta)  
Alexandre Sévigny/(Communication Studies and Multimedia; French) B.A. (York), M.A., Ph.D. (Toronto)  
Stéfan Sinclair/ B.A. (British Columbia), M.A. (Victoria), Ph.D. (Queen's)  
Jeremy Stollow/(Communication Studies and Multimedia; Sociology) B.A. (Toronto), M.A., Ph.D. (York)

**Adjunct Lecturer**

Rocco Piro

**COMMUNICATION STUDIES ...**

**COURSES** *If no prerequisite is listed, the course is open.*

**CMST 1A03 INTRODUCTION TO COMMUNICATION**

Students will examine both practical and fundamental concepts in communication studies and the effects of language, mass communications, performative acts and the Internet on social, cultural and cognitive processes in the context of the four streams of the Communication Studies program. Three hours (lectures and tutorials); one term

**CMST 1B03 DEVELOPMENTS IN HUMAN COMMUNICATION: PAST AND PRESENT**

A survey of human communication throughout history and across cultures. This course will include discussion of orality and literacy; manuscript, print and electronic media; and human communication through visual and pictorial arts. Three hours (lectures and tutorials); one term

**CMST 2A03 QUANTITATIVE METHODS IN COMMUNICATION RESEARCH**

An introduction to the basic approaches and principles for gathering and analyzing quantitative data in communication studies. Topics include sampling techniques, interviewing, questionnaire construction, focus groups, content analysis, and the fundamentals of statistical analysis and inference. Three hours (lectures and tutorials); one term

Prerequisite: Registration in a program in Communication Studies  
Antirequisite: ANTHROP.2Z03, GEO.2HR3, GERONTOL.2C03, HEALTHST.2B03, SOCIOL.2Z03

**CMST 2AA3 JAPANESE COMMUNICATION**

The Japanese language is examined from sociolinguistic and pragmatic viewpoints identifying the unique characteristics of the target culture that lie behind its use. Such knowledge is invaluable in solving problems of intercultural communication. Three lectures; one term

Prerequisite: Registration in Level II or above  
Cross-list: JAPAN ST.2A03  
*Offered in alternate years.*  
*This course is administered by the Department of Linguistics and Languages.*

**CMST 2B03 QUALITATIVE METHODS IN COMMUNICATIONS RESEARCH**

An introduction to the qualitative research in communication studies. Topics may include research ethics, discourse analysis, textual analysis, ethnography, structuralist and poststructuralist approaches to the study of communication. Three hours (lectures and tutorials); one term

**CMST 2BB3 INTRODUCTION TO CULTURE AND COMMUNICATION**

An introduction to theoretical and methodological approaches to cultural studies focusing on communicative practice. Students will analyse relationships between cultural identity, producers, consumers, institutions, technologies and practices of mediated communication. Three hours; one term

**CMST 2C03 COMMUNICATION THEORY I: FUNDAMENTAL PERSPECTIVES**

An introduction to various theories on the organization, use and manipulation of language, such as semiotics, sociolinguistics, interpersonal communication, group communication and performance. Three hours (lectures and tutorials); one term

Prerequisite: Registration in Level II or above of a program in Communication Studies

**CMST 2D03 COMMUNICATION THEORY II: THE INFORMATION SOCIETY AND ITS IMPLICATIONS**

An introduction to various theories on the organization, use and manipulation of information in a global context, and its impact on the corporate economy and the development of the individual and society. Three hours (lectures and tutorials); one term

**CMST 2E03 THE NATURE OF TEXTS: FROM SLANG TO FORMAL DISCOURSE**

The course will investigate a variety of styles and registers from the conversational to the literary and academic. Three hours; one term

Prerequisite: Registration in Level II or above  
Cross-list: LINGUIST.2E03  
*This course is administered by the Department of Linguistics and Languages.*

**CMST 2F03 PROFESSIONAL WRITING**

This course offers instruction on a variety of professional communication forms such as résumés, letters of inquiry, proposals, press releases, and the evaluation of web page design. Students will also read and evaluate arguments covering timely media topics such as television violence and internet spam.

Three hours (lectures, discussion and workshops); one term

Prerequisite: Registration in Level II or above of a program in Communication Studies

*Enrolment is limited.*

**CMST 2G03 PERFORMANCE AND PERFORMATIVITY**

An introduction to the study of performative modes of communication such as storytelling, gesture, movement, dress. Students will learn to analyze the relationship between cultural performances, such as games, garage bands, group facilitation, or live theatre and social structures.

Three hours (lectures and discussion); one term

Prerequisite: Three units of Communication Studies and registration in Level II or above

Cross-list: SOTA 2G03

*This course is administered by the School of the Arts.*

**CMST 2H03 GENDER AND PERFORMANCE**

An examination of gender as identities performed or constructed in complex social, historical and cultural processes and conditions, including how gender gives meaning to different performance texts, as well as to a range of performance practices in daily life.

Three hours (lectures and discussion); one term

Prerequisite: Registration in Level II or above of a program in Communication Studies or Women's Studies

Cross-list: WOMEN ST 2J03

**CMST 2I03 VISUAL LITERACY**

A course of lectures and discussions that explores the concept of visual literacy and examines the ways in which fine and popular arts structure our understanding through images.

One lecture (two hours), one tutorial/discussion; one term

Prerequisite: Registration in Level II or above of a program in Communication Studies

Cross-list: ART HIST 2A03

*This course is administered by the School of the Arts.*

**CMST 2K03 POLITICAL ECONOMY OF THE MEDIA**

A comparative examination of changing patterns of ownership and control of the mass media in light of globalization, technological change, government policy, market re-structuring, and corporate consolidation.

Three lectures; one term

Prerequisite: Registration in Level II or above of a program in Communication Studies

**CMST 2L03 MEDIA INSTITUTIONS**

An examination of the institutional structure and production processes of the press, television, and radio. Topics include news gathering, television and radio program production and the relationship between media production and management.

Three hours (lectures and tutorials); one term

Prerequisite: Registration in a program in Communication Studies or Sociology

Cross-list: SOCIOL 2L03

*This course is administered by the Department of Sociology.*

*Enrolment is limited.*

**CMST 2M03 CONCEPTS OF CULTURE**

An analysis of the development of the concept of culture from the Enlightenment to the present. Theoretical readings combined with the analysis of specific cultural texts, objects, forms, and practices will allow students to trace historical and contemporary debates concerning culture.

Three hours; one term

Prerequisite: Registration in a program in Communication Studies, Comparative Literature, Cultural Studies and Critical Theory or English

Cross-list: COMP LIT 2E03, CSCT 2M03, ENGLISH 2M03

*This course is administered by the Department of English and Cultural Studies.*

**CMST 2MM3 MODERN COUNTERCULTURES**

An exploration of a variety of cultural forms (e.g., literature, art, photography, film, music) produced by avant-gardes counter-cultural groups from the mid-19th century to the present. Areas of investigation may include surrealism, futurism, the beats, the sixties, situationism, and punk.

Three hours; one term

Prerequisite: Registration in a program in Communication Studies, Comparative Literature, Cultural Studies and Critical Theory or English

Cross-list: COMP LIT 2EE3, CSCT 2MM3, ENGLISH 2MM3

*This course is administered by the Department of English and Cultural Studies.*

**CMST 2N03 THE HISTORY OF GRAPHIC DESIGN**

An introduction to the history of graphic, two-dimensional design. The course demonstrates the admixture of high and popular culture that informs advertising, posters, book design and illustration, etc.

Three lectures; one term

Prerequisite: Registration in Level II or above. Prior completion of ART HIST 1A03 and 1AA3 is recommended.

Cross-list: ART HIST 2F03, MMEDIA 2F03

**CMST 2O03 AESTHETICS**

An introduction to some main theories of the nature of art, criticism, and the place of art in life and society.

Three lectures; one term

Prerequisite: Registration in Level II or above

Cross-list: ART HIST 2H03, PHILOS 2H03

*This course is administered by the Department of Philosophy.*

*Offered in alternate years.*

**CMST 2P03 DRAMATIC FORMS**

Different performance techniques and conventions demand particular forms of dramatic narrative. By comparing the way similar stories are told in different media and genres, students identify the structuring elements of dramatic texts written for live performance, film television and music theatre.

Three hours (lectures and group presentations); one term

Prerequisite: DRAMA 1A03, 1AA3 (or 1A06); or THTR&FLM 1A03, 1B03

Cross-list: COMP LIT 2D03, THTR&FLM 2C03

Antirequisite: DRAMA 2D03

*This course is administered by the School of the Arts.*

**CMST 2Q03 MUSIC OF THE WORLD'S CULTURES**

A survey of music traditions of non-European cultures, e.g., far Eastern, Indian, African.

Three lectures; one term

Prerequisite: Registration in Level II or above

Cross-list: MUSIC 2A03

*Offered in alternate years.*

*This course is administered by the School of the Arts.*

**CMST 2R03 POPULAR MUSIC IN NORTH AMERICA AND THE UNITED KINGDOM: POST-WORLD WAR II**

Popular music, its social meanings, and media and technology interactions, from rock-and-roll to now. Topics include rhythm and blues (Chuck Berry), pop (Madonna), metal (Led Zeppelin).

Three lectures; one term

Prerequisite: Registration in Level II or above

Cross-list: MUSIC 2I3

Antirequisite: MUSIC 2AA3

*This course is administered by the School of the Arts.*

**CMST 2RR3 POPULAR MUSIC IN NORTH AMERICA AND THE UNITED KINGDOM: PRE-WORLD WAR II**

Two centuries of popular music, its social meanings, and media and technology interactions, emphasizing the early twentieth century. Topics include minstrelsy, early blues and musical theatre.

Three lectures; one term

Prerequisite: Registration in Level II or above

Cross-list: MUSIC 2I03

*This course is administered by the School of the Arts.*

**CMST 2S03 NEW MEDIA AND PERFORMANCE**

This course will explore critical issues in new media and examine the ways in which new media shape the creation, reception and interpretation of forms of performance.

Three hours (lectures and discussion); one term

Prerequisite: Registration in Level II or above of a program in Theatre and Film Studies or Communication Studies (Cultural Studies or Performance Studies -Streams)

Cross-list: THTR&FLM 2E03

Antirequisite: DRAMA 2B03

*This course is administered by the School of the Arts.*

*Enrolment is limited to 50 students.*

**CMST 2T03 MUSIC FOR FILM AND TELEVISION**

An examination of how music functions to help create meanings in film and television programs. Examples will be drawn from throughout the history of film and television.

Three lectures; one term

Prerequisite: Registration in Level II or above

Cross-list: MUSIC 2F03, THTR&FLM 2T03

*This course is administered by the School of the Arts.*

**CMST 2U03 THE MAKING OF THE EUROPEAN LINGUISTIC LANDSCAPE**

The history of language use in Europe from antiquity to the present day. The course will illustrate the different functions of language in social life and the growth of national, standardized idioms. It will also serve as an introduction to the history of linguistics as a discipline.

Three lectures; one term

Prerequisite: Registration in Level II or above

Cross-list: LINGUIST 2A03

Antirequisite: ANTHROP 2AL3

*This course is administered by the Department of Linguistics and Languages.*

**CMST 2V03 CONFLICT TRANSFORMATION: THEORY AND PRACTICE**

An examination of ways of preventing, resolving and transforming conflicts in everyday life, in our own culture and others, and in the arenas of family, business, the law, schools and large-scale political conflicts.

Three hours (lectures and discussion); one term

Prerequisite: Registration in Level II or above or permission of the Director of Peace Studies

Cross-list: PEACE ST 2A03

*This course is administered by Peace Studies.*

**CMST 2W03 CRITICAL THINKING**

This course aims to improve skills in analyzing and evaluating arguments and presentations found in everyday life and academic contexts, and to improve critical judgement.

Two lectures, one tutorial; one term

Prerequisite: Registration in Level II or above

Cross-list: HUMAN 2C03

Antirequisite: ARTS&SCI 1B06

*This course is administered by the Department of Philosophy.*

**CMST 2X03 FILM HISTORY TO THE SECOND WORLD WAR**

An introduction to the history of narrative film from its beginnings to the Second World War. It focuses on narrative cinema's development from aesthetic, social, technological and economic perspectives while also touching on a selected number of issues in film theory.

Two lectures, plus one weekly film screening; one term

Prerequisite: Registration in Level II or above of a program in Theatre and Film Studies or Communication Studies (Cultural Studies Stream)

Cross-list: ART HIST 2G03, THTR&FLM 2F03

Antirequisite: CMST 2X06

*This course is administered by the Theatre & Film program.*

*Enrolment is limited to 150 students.*

**CMST 2Y03 THE ANCIENT WORLD IN FILM**

The emphasis is on myth (Amazons, Hercules) and history (slave revolts, banquets, decadent emperors) studied via Greek and Latin accounts (in translation) and cinematic versions (e.g. Electra, Medea, Mighty Aphrodite, Apocalypse Now, Spartacus, I Claudius).

Three lectures; one term

Prerequisite: Registration in Level II or above

Cross-list: CLASSICS 2E03, THTR&FLM 2G03

*This course is administered by the Department of Classics.*

**CMST 2Z03 POLITICS AND THE MEDIA**

Theories and practices of the reciprocal relationship between the communications media and the political system.

Three hours (lectures and tutorials); one term

Prerequisite: CMST 1A03 and 1B03; or POL SCI 1G06

Cross-list: POL SCI 2Z03

*This course is administered by the Department of Political Science.*

**CMST 3B03 PRACTICAL ASPECTS OF MEDIA PRODUCTION**

In consultation with a faculty member, students will complete an independent project or an applied placement on an approved topic involving the application of communication skills, theories and methodologies. It is the student's responsibility to obtain the agreement of the instructor and to complete a proposal form (available in the Communication Studies Office). Independent Study proposals must be approved by the Committee of Instruction during the term before the project is to be done.

Prerequisite: Registration in Level III or IV of a program in Communication Studies with a Cumulative Average of at least 8.5 and permission of the Committee of Instruction.

**CMST 3BB3 WOMEN AND VISUAL CULTURE**

Students will explore ideas about representation, spectatorship and production in relation to issues of social difference, such as gender, race and class. Emphasis is on visual modalities such as film, video, television, advertising, et cetera.

Two hour lecture and discussion, plus one weekly film screening; one term

Prerequisite: Registration in Level III or above and one of ART HIST 2A03,

CMST 2F03, 2I03, THTR&FLM 1B03 or WOMEN ST 1A06 (or 1A03 and 1AA3)

Cross-list: THTR&FLM 3P03, WOMEN ST 3BB3

*Not open to students with credit or registration in WOMEN ST 3B03 if taken in 2001-2002.*

*This course is administered by Women's Studies.*

**CMST 3C03 MEDIA AND SOCIAL ISSUES**

An analysis of relationships between mass media and modern society. Topics may include ideology and agenda-setting in the media, representations of social problems (e.g., homelessness, violence), moral panics, media scandals, or public ceremonies.

Three lectures; one term

Prerequisite: Registration in Level III or above of a Communication Studies program; or SOCIOL 2L03 and registration in a Sociology program

Cross-list: SOCIOL 3C03

*Enrolment is limited.*

*This course is administered by the Department of Sociology.*

**CMST 3CC3 READING FILM**

A critical examination of selected films and film genres as cultural texts, using methods drawn from film theory and cultural studies.

Three hours; plus one weekly film screening; one term

Prerequisite: Registration in Level II or above of a program in Art History, Communication Studies, Comparative Literature, Cultural Studies and Critical Theory, or Theatre and Film Studies. It is recommended that students should already have taken CMST 2X03 or 2X06.

Cross-list: COMP LIT 3L03, CSCT 3CC3, ENGLISH 3CC3, THTR&FLM 3R03

*This course is administered by the Department of English and Cultural Studies.*

**CMST 3D03 POLITICAL COMMUNICATION**

The relationship between politics and the media is analyzed in terms of issues such as political news coverage, electioneering, political marketing, policy formation and publicity, and agenda-setting and public opinion.

Three lectures; one term

Prerequisite: Registration in a Communication Studies or Political Science program

Cross-list: POL SCI 3BB3

*This course is administered by the Department of Political Science.*

**CMST 3E03 ARGUMENTATION THEORY**

A study of some theoretical issues concerning the identification, analysis and evaluation of arguments.

Three hours (lectures and discussion); one term

Prerequisite: One of ARTS&SCI 1B06, CMST 2W03, HUMAN 2C03 or PHILOS 2B03; and registration in Level II or above

Cross-list: PHILOS 3M03

*This course is administered by the Department of Philosophy.*

**CMST 3F03 TOPICS IN VISUAL CULTURE**

This course will examine a variety of topics in the critical study of visual culture, including gender and spectatorship, consumerism and the arts, and visual literacy in the 21st century.

Three hours (lectures and discussion); one term

Prerequisite: Registration in Level II or above

Cross-list: SOTA 3C03

*This course is administered by the School of the Arts.*

**CMST 3G03 INTRODUCTION TO SOCIOLINGUISTICS**

An introduction to sociolinguistics with particular emphasis on the social situation of the major European languages. Topics covered include linguistic variation (regional, social, situational), language and gender, language and disadvantage/power, language choice, language change, pidgin and creole languages.

Three lectures; one term

Prerequisite: Registration in Level III or IV of a program in Communication Studies (Language and Social Life Stream) or Linguistics; or permission of the Department of Linguistics and Languages

Cross-list: LINGUIST 3X03

Antirequisite: ANTHROP 3X03

*This course is administered by the Department of Linguistics and Languages.*

**CMST 3H03 CREATING CEREMONIES**

An examination of the performative aspects of ceremonies and rituals such as weddings, funerals, political inaugurations, parades, mass, festivities around such religious celebrations as Christmas and Hanukkah, and the rituals associated with theatre and concert going.

Three hours (lectures and discussion); one term

Prerequisite: Registration in Level III or above of a program in Communication Studies.

**CMST 3I03 COMMUNICATION POLICY AND LAW**

An examination of the role of government policy, regulation, and law on the structure and functioning of the mass media. Topics include cultural policy, communication technology policy, free speech, and privacy rights. Three lectures; one term

Prerequisite: Registration in Level III or above of a program in Communication Studies

**CMST 3K03 MEDIA AUDIENCES AND EFFECTS**

An examination of the media/audience relationship in light of different theories of media effects including social learning, agenda-setting, uses and gratifications, active audiences and cultivation analysis.

Three lectures; one term

Prerequisite: CMST 2A03 and registration in Level III or above of a program in Communication Studies

**CMST 3L03 THEORIZING CULTURE THROUGH PERFORMANCE**

Students will explore artists' practises in making performances and will analyse how artists work with theories, texts, spaces, bodies, audiences and produce challenges to artistic, social and political norms.

Three hours; one term

Prerequisite: One of ART HIST 2D03, 3AA3, CMST 2G03, 2P03, 2S03, THTR&FLM 2C03, 2D03, 2E03

Cross-list: ART HIST 3L03, THTR&FLM 3I03

*Not open to students with credit in DRAMA 2B03, NEW MEDIA AND PERFORMANCE, if taken in 2001-2002, or credit in THTR&FLM 2E03 if taken in 2002-2003.*

*Offered in alternate years.*

*This course is administered by Theatre & Film.*

**CMST 3M03 THEATRE AND COMMUNITY DEVELOPMENT**

Students will explore the different approaches to community-based theatre generated in a range of social and cultural milieus and will analyze the sense of community implicit in a variety of popular and community-based theatre projects.

Three hours (lectures and discussion); one term

Prerequisite: Registration in Level II or above

Cross-list: THTR&FLM 3G03

*Offered in alternate years.*

*This course is administered by the School of the Arts.*

**CMST 3MM3 THE INTERNET AND PUBLIC LIFE**

This course examines how the internet and other digital media may be reshaping political and personal relationships and altering the nature of the public sphere.

Three hours; one term

Prerequisite: CMST 2Z03 or POL SCI 2Z03; and registration in Level III or above

Cross-list: POL SCI 3MM3

*Not open to students with credit in CMST 3A03, TOPICS IN COMMUNICATION, if the topic was Public Life in a Digital Age.*

*This course is administered by the Department of Political Science.*

**CMST 3N03 ETHICAL ISSUES IN COMMUNICATION**

This course will examine ethical issues as they arise in interpersonal communication and mass communication. The dominant moral theories and approaches to moral decision-making will be analysed and put to use to help students understand and evaluate concrete examples.

Three hours (lectures and discussion groups); one term

Prerequisite: CMST 2C03; and one of CMST 2A03 or 2B03; and registration in Level III or above of a program in Communication Studies or Peace Studies

Cross-list: PEACE ST 3N03

*Not open to students with credit in CMST 3A03, TOPICS IN COMMUNICATION, if the topic was Ethical Issues in Communication.*

**CMST 3P03 HISTORY OF PHOTOGRAPHY**

This course examines historical and contemporary photographic images in the visual arts and considers the connections and distinctions between artistic and media uses of the medium.

Three hours (lectures and discussion); one term

Prerequisite: Registration in Level II or above

Cross-list: ART HIST 3PP3

*This course is administered by the School of the Arts.*

**CMST 3Q03 TOPICS IN ORGANIZATIONAL COMMUNICATION**

This course focuses on communication as an effective management tool for issues including consensus-building, corporate culture, leadership and motivation, decision-making, cultural diversity and communicating change.

Three hours (lectures and discussion groups); one term

Prerequisite: CMST 2C03; and one of CMST 2A03 or 2B03; and registration in Level III or above of a program in Communication Studies.

**CMST 3SS3 FILM, VIDEO AND ENTERTAINMENT CULTURE**

Critical approaches to forms of entertainment culture which permeate our everyday lives (e.g., popular films, video culture, television). Topics may include the cultural meanings of popular imagery, star-gazing, and commercialization.

Two hour lecture and discussion, plus one weekly film screening; one term

Prerequisite: CMST 2X03

Cross-list: THTR&FLM 3M03

*Offered in alternate years.*

*This course is administered by the School of the Arts.*

**CMST 3T03 TOPICS IN NATIONAL CINEMAS I**

This course examines film in relation to nations and national contexts. Areas of investigation may include filmic production of a particular country, national belonging and transnational identities.

Two hour lecture and discussion, plus one weekly film screening; one term

Prerequisite: One of CMST 2S03, 2X03

Cross-list: COMP LIT 3V03, THTR&FLM 3Q03

*Offered on an irregular rotation basis.*

*This course is administered by the School of the Arts.*

**CMST 3TT3 TOPICS IN NATIONAL CINEMAS II**

This course examines film in relation to nations and national contexts. Areas of investigation include filmic production of global/local characteristics.

Two hour lecture and discussion, plus one weekly film screening; one term

Prerequisite: One of DRAMA 2B03, 2X06, THTR&FLM 1B03, 2E03, 2F03

Cross-list: COMP LIT 3VV3, THTR&FLM 3QQ3

*Offered on an irregular rotation basis.*

*This course is administered by the School of the Arts.*

**CMST 3U03 PERFORMANCE ART**

This course will examine historical and contemporary concerns related to performance art including the relevance of traditional categories of artistic production, the roles of the audience, the institution and market, and the body as artistic medium.

Three hours (lectures and discussion); one term

Prerequisite: Registration in Level II or above

Cross-list: SOTA 3B03

*This course is administered by the School of the Arts.*

**CMST 3UU3 INDEPENDENT FILM AND VIDEO**

An exploration of artists' film and video produced outside of dominant institutions, including such practises as documentary, autobiography, community projects, experimental film, short film, and video art.

Two hour lecture and discussion, plus one weekly film screening; one term

Prerequisite: CMST 2S03 or 2X03

Cross-list: THTR&FLM 3N03

*Offered in alternate years.*

*This course is administered by the School of the Arts.*

**CMST 3V03 PRAGMATICS**

A discussion of the problems confronting the linguist in the study of text and discourse at the level beyond the sentence. The course will deal with the interaction between grammar and situational factors.

Three lectures; one term

Prerequisite: LINGUIST 1A03 and 1AA3 (or 1A06); or FRENCH 2H03; or permission of the Department of Linguistics and Languages

Cross-list: LINGUIST 3P03

Antirequisite: ANTHROP 3PL3

*Offered in alternate years.*

*This course is administered by the Department of Linguistics and Languages.*

**CMST 3WW3 WOMEN IN A MULTICULTURAL SOCIETY**

An interdisciplinary exploration of the experiences of women in different sub-cultures within a multicultural society, through an examination of social and historical conditions, policies, and personal narratives. Topics may include immigration, voice, mobility, identity, hybridity.

Three hours (seminar and discussion); one term

Prerequisite: Registration in Level II or above. WOMEN ST 1A06 (or 1A03 and 1AA3) is recommended.

Cross-list: WOMEN ST 3DD3

*This course is administered by Women's Studies.*



**CMST 3XX3 FILM HISTORY: 1941 TO THE PRESENT**

An exploration of narrative film from 1941 to the present day, incorporating a study of a variety of narrative cinema styles. Theoretical issues will include questions of cinema's relationship to other art forms, narrative, genre and authorship.

Two lectures, plus one weekly screening; one term

Prerequisite: CMST 2X03

Cross-list: ART HIST 3XX3, THTR&FLM 3L03

Antirequisite: CMST-2X06

*Offered in alternate years.*

*This course is administered by the School of the Arts.*

**CMST 3Y03 PHILOSOPHY OF LANGUAGE**

A survey of philosophical problems concerning language. Topics to be considered include reference, synonymy, truth, and linguistic knowledge. Three lectures; one term

Prerequisite: At least six units of Philosophy, and registration in Level III or IV of any program

Cross-list: PHILOS 3E03

*Offered in alternate years.*

*This course is administered by the Department of Philosophy.*

**CMST 4A03 THESIS PROJECT**

Students will develop and execute their own research project, in consultation with a faculty advisor. Involves regular meetings with the advisor and a final public presentation of research endeavours.

Prerequisite: Registration in Level IV of a program in Communication Studies with a Cumulative Average of at least 9.0 and permission of the Committee of Instruction

*Enrolment is limited.*

**CMST 4B03 INDEPENDENT STUDY IN ADVANCED APPLIED COMMUNICATION**

Students will apply communication skills, theories and methodologies to complete an advanced independent project in the field of communications. This will be undertaken following successful completion of relevant courses in the appropriate Stream. Entry is by application to the Committee of Instruction during the term before the course is to be taken. Prerequisite: Registration in Level IV of a program in Communication Studies with a Cumulative Average of at least 8.5 and permission of the Committee of Instruction

*Enrolment is limited.*

**CMST 4C03 ISSUES IN PERFORMANCE STUDIES**

This course serves to synthesize and expand students' engagement with issues studied in performance studies courses through the examination of writings that draw on anthropology, phenomenology, materialist analysis, psychoanalysis, gender theory, postmodernism, postcolonialism and intercultural reception.

Three hours (lectures and discussion); one term

Prerequisite: Registration in Level IV of a program in Communication Studies (Performance Studies or Cultural Studies Stream)

*Enrolment is limited.*

**CMST 4CC3 MEDIA STUDIES, CULTURAL POLITICS AND PUBLIC PEDAGOGY**

A critical examination of global media in its diverse forms, focusing on the public role of media, the connection between pedagogy and politics, and the crucial role of culture as a primary element of politics.

Three hours (lectures and discussion); one term

Prerequisite: Registration in Level IV of a program in Communication Studies  
*Students may take only one of CMST 4CC3, 4N03, or 4Q03.*

*Enrolment is limited.*

**CMST 4D03 INTERNATIONAL COMMUNICATION**

The relationship between globalization and the media is examined in light of the debates over cultural imperialism, information and technology flow, cultural hybridization, and the media's impact on socio-economic development.

Three hours (lectures and discussion); one term

Prerequisite: Registration in Level IV of a program in Communication Studies  
*Enrolment is limited.*

**CMST 4E03 MEDIA AND PROMOTIONALISM**

An examination of the media's role in the promotion of different interests, values, and patterns of behaviour. Topics include advertising, public relations, social activism, and public information campaigns.

Three hours (lectures and discussion); one term

Prerequisite: Registration in Level IV of a program in Communication Studies (Mass Communication Stream)

*Enrolment is limited.*

**CMST 4FF3 STUDIES IN FILM**

Senior seminar: An examination of selected films.

Seminar (two hours); one term

Prerequisite: CMST 2S03 and registration in Level III or IV of a program in Communication Studies. CMST 2X03 is recommended.

Cross-list: THTR&FLM 4E03

*Enrolment is limited. Priority will be given first to students registered in Level IV of any Theatre & Film Studies program, and then to students registered in Level IV of the Communication Studies program.*

*This course is administered by the School of the Arts.*

**CMST 4G03 APPLIED LINGUISTICS**

The course acquaints the student with the contributions that the linguist, psycholinguist, sociolinguist can make to second language learning and teaching.

Three lectures; one term

Prerequisite: LINGUIST 1A03, 1AA3 and six units of Linguistics courses above Level I; or permission of the Department of Linguistics and Languages

Cross-list: LINGUIST 4B03

Antirequisite: ANTHROP 4BL3

*This course is administered by the Department of Linguistics and Languages.*

**CMST 4I03 COMPUTERS AND LINGUISTIC ANALYSIS**

This course studies the linguistic applications of computer technology in general, and language processing in particular, including parsers and machine translation.

Two lectures, one lab; one term

Prerequisite: LINGUIST 1A03, 1AA3 and six units of Linguistics courses above Level I; or permission of the Department of Linguistics and Languages

Cross-list: LINGUIST 4D03

*Offered in alternate years.*

*This course is administered by the Department of Linguistics and Languages.*

**CMST 4L03 APPROACHES TO DISCOURSE**

This course offers an overview of different approaches to the analysis of discourse, including speech act theory, interactional sociolinguistics, ethnography of communication, pragmatics, conversation analysis, and critical discourse analysis.

Three hours (lectures and discussion); one term

Prerequisite: Registration in Level III or IV of a program in Communication Studies or Linguistics, or permission of the Program Counsellor for Communication Studies

Cross-list: LINGUIST 4ZZ3

*Enrolment is limited.*

**CMST 4M03 COMMUNICATION, CULTURE AND TECHNOLOGY, 1844-1927**

This course surveys social patterns of reception and adaptation of communication technologies and their interaction with cultural constructions of (gendered) bodies, everyday life, organization of space and time, and other cultural distinctions.

Three hours (lectures and discussion); one term

Prerequisite: CMST 2BB3 and registration in Level IV of a program in Communication Studies (Cultural Studies Stream)

*Enrolment is limited.*

**CMST 4N03 PRODUCING AND VIEWING THE NEWS**

This course will examine how the mode of production of the news influences audiences' perceptions and values of social and political life. Specific emphasis will be put on gate-keeping, agenda-setting and headline transformation.

Three hours (lectures and discussion); one term

Prerequisite: Registration in Level IV of a program in Communication Studies

Antirequisite: CMST 4K03

*Students may take only one of CMST 4CC3, 4N03 or 4Q03.*

*Enrolment is limited.*

**CMST 4Q03 ADVANCED TOPICS IN COMMUNICATION**

Students will learn about specific areas or aspects of research in communication studies, such as critical media discourse, culture and consumption, media and globalization, etc.

Three hours (lectures and discussion); one term

Prerequisite: Registration in Level IV of a program in Communication Studies

Antirequisite: CMST 4K03

*Students may take only one of CMST 4CC3, 4N03 or 4Q03.*

*Enrolment is limited.*

**CMST 4R03 CROSS-CULTURAL COMMUNICATION**

Students explore the links between language and culture and learn skills necessary to be intermediaries between cultures. Topics include: communication between genders, the cognitive role of metaphor, language and perception, emotions across cultures, culture and advertising, body language and cultural stereotyping.

Seminar (two hours); one term

Prerequisite: LINGUIST 1A03, 1AA3 and six units of Linguistics courses above Level I; or permission of the Department

Cross-list: LINGUIST 4R03

*Not open to students with credit in CMST 4H03, TOPICS IN THE APPLICATION OF LINGUISTICS, if the topic was Cross-Cultural Communication. Offered on an irregular rotation basis.*

*This course is administered by the Department of Linguistics and Languages.*

**CMST 4S03 INTERPERSONAL COMMUNICATION**

This course offers an introduction to contemporary interpersonal communication theories and research. Topics include: small group communication, persuasive communication, argumentation strategies, conflict resolution, as well as computer mediated, intercultural, international and political communication.

Seminar (two hours); one term

Prerequisite: LINGUIST 1A03, 1AA3 and six units of Linguistics courses above Level I; or permission of the Department

Cross-list: LINGUIST 4S03

*Not open to students with credit in CMST 4H03, TOPICS IN THE APPLICATION OF LINGUISTICS, if the topic was Interpersonal Communication. Offered on an irregular rotation basis.*

*This course is administered by the Department of Linguistics and Languages.*

**CMST 4T03 FORENSIC LINGUISTICS**

This course examines issues arising from the language-law interface, including: speaker/author identification; interpretation and transcription of police interrogations, witness statements, trial discourse; written legal language.

Seminar (two hours); one term

Prerequisite: LINGUIST 3X03

Cross-list: LINGUIST 4T03

*Not open to students with credit in CMST 4H03, TOPICS IN THE APPLICATION OF LINGUISTICS, if the topic was Forensic Linguistics.*

*Offered on an irregular rotation basis.*

*This course is administered by the Department of Linguistics and Languages.*

**MULTIMEDIA ...**

WEB ADDRESS: <http://www.humanities.mcmaster.ca/~macmedia/>

Togo Salmon Hall, Room 512

Ext. 23488

**Courses If no prerequisite is listed, the course is open.****MMEDIA 1A03 INTRODUCTION TO DIGITAL MEDIA IN THE HUMANITIES**

Students will be introduced to the history, theory and design of digital media in the context of the arts and humanities. Students will learn to use Internet research resources to create digital media.

One lecture (two hours), one tutorial; one term

Antirequisite: COMP SCI 1BA3, 1SA3, 1TA3

*Enrolment is limited.*

**MMEDIA 1B03 THE DIGITAL IMAGE**

An introduction to the critique and creation of digital images. Readings will explore issues concerning the digital image and graphic design for the Internet. Students will be expected to use graphics software and create web pages in order to complete design assignments.

One lecture (two hours), one tutorial; one term

Antirequisite: MMEDIA 1BE3

*Enrolment is limited.*

**MMEDIA 1BE3 THE DIGITAL IMAGE FOR SOFTWARE ENGINEERING**

An introduction to the critique and creation of digital images. Readings will explore issues concerning the digital image and graphic design for the Internet. Students will be expected to use graphics software and create web pages in order to complete design assignments.

One lecture (two hours), one tutorial; one term

Prerequisite: Registration in the Software Engineering and Game Design program

Antirequisite: MMEDIA 1B03

*Enrolment is limited.*

**MMEDIA 2A03 INTRODUCTION TO MULTIMEDIA**

This course presents arts students with the fundamentals of computer-based multimedia. Students will read about and discuss how to critique multimedia works, create such works, and consider the application of multimedia technology.

One lecture (two hours), one tutorial; one term

Prerequisite: Registration in the Combined Honours in Multimedia program. *Enrolment is limited.*

**MMEDIA 2B03 DIGITAL MEDIA (AUDIO AND VIDEO)**

A study of digital media where students will create and critique digital audio and video. Readings will explore the evolution of digital media and the technical and social aspects of digital audio and video.

One lecture (two hours), one tutorial; one term

Prerequisite: Registration in the Combined Honours in Multimedia program

Antirequisite: MMEDIA 2BE3

*Enrolment is limited.*

**MMEDIA 2BE3 DIGITAL MEDIA (AUDIO AND VIDEO) FOR SOFTWARE ENGINEERING**

A study of digital media where students will create and critique digital audio and video. Readings will explore the evolution of digital media and the technical and social aspects of digital audio and video.

One lecture (two hours), one tutorial; one term

Prerequisite: MMEDIA 1BE3 and registration in the Software Engineering and Game Design program

Antirequisite: MMEDIA 2B03

*Enrolment is limited.*

**MMEDIA 2C03 COMPUTER ARCHITECTURE FOR MULTIMEDIA**

This course covers fundamentals of microcomputers, operating systems, and multimedia peripherals with emphasis on: diagnostic knowledge of hardware; operating systems for multimedia development; media acquisition hardware; standards for connecting media devices; computing history.

One lecture (two hours), one tutorial; one term

Prerequisite: Registration in the Combined Honours in Multimedia program

*Enrolment is limited.*

**MMEDIA 2D03 ELECTRONIC TEXTUALITY AND PROGRAMMING**

An introduction to the fundamentals of markup languages for multimedia and programming information applications. Students will develop a markup model, create an electronic text database, and write stylesheets and programs to transform the data within the context of an original project.

One lecture (two hours), one tutorial; one term

Prerequisite: One of MMEDIA 1A03, 1B03, 1C03, 2I03, 2J03 or registration in the Honours Linguistic Cognitive Science program

*Enrolment is limited.*

**MMEDIA 2E03 COMPUTER GRAPHICS**

This course develops both technical and conceptual aspects of computer drawing using standard computer graphics tools. Students will concentrate on developing drawing abilities through the computer and will be expected to present their work and discuss that of others.

One lecture (one hour), one tutorial (one hour), one hour of independent study; one term

Prerequisite: MMEDIA 1A03 or 1B03

*Enrolment is limited.*

**MMEDIA 2F03 THE HISTORY OF GRAPHIC DESIGN**

An introduction to the history of graphic, two-dimensional design. The course demonstrates the admixture of high and popular culture that informs advertising, posters, book design and illustration, etc. Students will be introduced to desktop publishing.

Three lectures; one term

Prerequisite: Registration in Level II or above of a program in Art History, Communication Studies or Multimedia. Prior completion of ART HIST 1A03 and 1AA3 is recommended.

Cross-list: ART HIST 2F03, CMST 2N03

**MMEDIA 2G03 INTRODUCTION TO MIDI AND COMPUTER MUSIC**

Basic electroacoustic theory; introduction to digital music composition techniques, MIDI applications; computer music notation; aesthetics of music composition. Students produce at least one original work. Experience with computers/music composition not required.

Two lectures, one tutorial; one term

Prerequisite: Registration in the Combined Honours in Multimedia program or registration in Level II or above of a Music program

Cross-list: MUSIC 2Z03

*Enrolment is limited.*

**MMEDIA 2H03 INTRODUCTION TO ANIMATION**

An introduction to the history and basic principles of animation. Students will create a significant work of computer animation displaying a variety of techniques. Readings and discussions will cover theatre, film studies and narrative. Students will be expected to attend screenings.

One lecture (two hours), one tutorial/screening; one term

Prerequisite: Registration in the Combined Honours in Multimedia program

Antirequisite: MMEDIA 2HE3

*Enrolment is limited.*

**MMEDIA 2HE3 INTRODUCTION TO ANIMATION FOR SOFTWARE ENGINEERING**

An introduction to the history and basic principles of animation. Students will create a significant work of computer animation displaying a variety of techniques. Readings and discussions will cover theatre, film studies and narrative. Students will be expected to attend screenings.

One lecture (two hours), one tutorial/screening; one term

Prerequisite: MMEDIA 2BE3 and registration in the Software Engineering and Game Design program

Antirequisite: MMEDIA 2H03

*Enrolment is limited*

**MMEDIA 2I03 DIGITAL RHETORIC AND COMMUNICATION**

An introduction to the history of rhetoric, the study of classical and electronic examples of oral discourse. Students analyze the persuasive technique of oral communication and deliver an expository speech with multimedia support.

Two lectures, one tutorial; one term

Prerequisite: Registration in Level II or above

*Enrolment is limited.*

**MMEDIA 2J03 WRITING IN THE ELECTRONIC AGE**

An introduction to grammar and essay composition in the context of new writing technologies. Students will use supplementary writing software, WWW materials, email discussion lists and readings to explore the effects of information technology on communication.

One lecture, one tutorial, one lab; one term

Prerequisite: Registration in Level II or above

Antirequisite: MMEDIA 1C03

*Enrolment is limited.*

**MMEDIA 3A03 ADVANCED MULTIMEDIA**

A study of multimedia programming, expanding upon the issues and techniques introduced in MMEDIA 2A03. Students will design and develop multimedia applications that combine text, images, sound, video, and animation. Critical readings and discussion will cover theories of interactivity, hypertext, and instructional technology.

One lecture (two hours), one tutorial; one term

Prerequisite: MMEDIA 2A03 and registration in the Combined Honours in Multimedia program

*Enrolment is limited.*

**MMEDIA 3B03 TOPICS IN THE PHILOSOPHY AND HISTORY OF COMPUTING**

The history and philosophy of computing and communications technology; topics may include: Computers and Culture, The History of Computers and Communications Technology, Computers and Education, and Privacy and the Freedom of Speech in the Electronic Age.

Three hours; one term

Prerequisite: Registration in Level III or IV of the Combined Honours in Multimedia program

**MMEDIA 3C03 ADVANCED MIDI AND DIGITAL AUDIO FOR MULTIMEDIA**

The creation of digital music and audio. Students work individually and in teams to develop skills for multimedia audio production. Topics include: advanced MIDI, mixing, audio processing, and frequency equalization.

Two lectures, one tutorial; one term

Prerequisite: MMEDIA 2G03 or MUSIC 2Z03

Cross-list: MUSIC 3Z03

*Enrolment is limited.*

**MMEDIA 3E03 INTERACTIVE DIGITAL CULTURE**

Covers works, forms, theories of digitally interactive culture. Works may include hypertext fiction, computer games, interactive digital art, video, music; theories may cover hypertext, interactivity, immersion, simulation, reception, participatory culture.

One lecture (two hours), one tutorial; one term

Prerequisite: Registration in Level III of the Combined Honours in Multimedia program

Antirequisite: MMEDIA 3EE3

*Alternates with MMEDIA 3K03.*

**MMEDIA 3EE3 INTERACTIVE DIGITAL CULTURE FOR SOFTWARE ENGINEERING**

Covers works, forms, theories of digitally interactive culture. Works may include hypertext fiction, computer games, interactive digital art, video, music; theories may cover hypertext, interactivity, immersion, simulation, reception, participatory culture.

One lecture (two hours), one tutorial; one term

Prerequisite: MMEDIA 2HE3 and registration in the Software Engineering and Game Design program

Antirequisite: MMEDIA 3E03

*Enrolment is limited.*

**MMEDIA 3F03 HUMAN COMPUTER INTERFACE DESIGN**

Explores history and design of computer interfaces, focusing on the relationship between computers and people. Topics include computer interface usability/evaluation; drama, narrative, and interface; interface and representation; the politics of interface design.

One lecture (two hours), one tutorial; one term

Prerequisite: Six units of MMEDIA courses beyond Level I; and registration in the Combined Honours in Multimedia program or the Honours Linguistic Cognitive Science program

*Enrolment is limited.*

**MMEDIA 3G03 NETWORK SERVICES FOR MULTIMEDIA**

This course covers network systems/services for multimedia, emphasizing diagnostic knowledge of networked systems and services used for multimedia deployment. Focus on Web servers; also history of networking, the Internet, and the WWW.

One lecture (two hours), one tutorial; one term

Prerequisite: Registration in the Combined Honours in Multimedia program

*Enrolment is limited.*

**MMEDIA 3H03 ADVANCED COMPUTER ANIMATION**

An advanced study of computer animation with a focus on 3D animation. Students will create a significant work of 3D animation and critique current examples. Readings may cover theories and techniques of animation, performance, film and narrative. Students will attend screenings.

One lecture (two hours), one lab (one hour every week); one term

Prerequisite: MMEDIA 2H03 and registration in the Combined Honours in Multimedia program

*Enrolment is limited.*

**MMEDIA 3I03 ADVANCED DIGITAL VIDEO**

This course covers advanced techniques in digital video production, post production and delivery (i.e. interactive video, streaming media, video in multimedia.) Readings explore video art, digital and visual culture. Students create/critique digital video projects.

One lecture (two hours), one lab (one hour every week); one term

Prerequisite: MMEDIA 2B03 and registration in the Combined Honours in Multimedia program

*Enrolment is limited.*

**MMEDIA 3J03 PROGRAMMING FOR THE WEB**

Students build dynamic web sites driven by databases and programmed with server-side and client-side scripting languages; examine operational database driven sites, interface design and documentation; create database-driven sites.

One lecture (two hours), one lab (one hour every week); one term

Prerequisite: MMEDIA 2D03 or 3A03; and registration in the Combined Honours in Multimedia program or the Honours Linguistic Cognitive Science program

*Enrolment is limited.*

**MMEDIA 3K03 DIGITAL GAMES**

A study of the form, content, and playing of digital games. Topics include: form, genre, and technology; time and space; representation and narrative; and participatory play.

One lecture (two hours), one tutorial; one term

Prerequisite: Registration in Level III or above of the Combined Honours in Multimedia program

*Alternates with MMEDIA 3E03.*

*Enrolment is limited.*

**MMEDIA 4A03 THE MANAGEMENT OF MULTIMEDIA**

Students build and manage content collections; lead and participate in team based multimedia production; study case histories. Readings cover the design of large media collections, management theory, copyright and intellectual property.

One lecture (two hours), one tutorial; one term

Prerequisite: Registration in Level IV of the Combined Honours in Multimedia program. (See Program Note under the heading Multimedia in the Faculty of Humanities section of the Calendar.)

**MMEDIA 4B03 SENIOR THESIS PROJECT**

This course provides an opportunity to pursue individual advanced multimedia projects under the supervision of a Thesis Committee. Students will propose a multimedia project, have it approved by the Multimedia Program Committee and present their completed project publicly. One term

Prerequisite: MMEDIA 4A03 and registration in Level IV of the Combined Honours in Multimedia program. (See Program Note under the heading Multimedia in the Faculty of Humanities section of the Calendar.)

**MMEDIA 4C03 COMPUTERS AND EDUCATION**

A survey of the history of instructional technology and uses of computers in education. Students review instructional materials; create, evaluate, and present an instructional application; and study effects of technology on education.

One lecture (two hours); one tutorial; one term

Prerequisite: MMEDIA 3A03

**MMEDIA 4D03 THE VISUALIZATION OF SPACE**

This course will introduce students to the design and theory of the visualization of space. Projects may include the digital design of fictional spaces, sculptural objects, dramatic settings, or archaeological re-creations.

One lecture (two hours); one lab; one term

Prerequisite: Registration in Level III or above of the Combined Honours in Multimedia program

Enrolment is limited.

**COMPARATIVE LITERATURE**

WEB ADDRESS: <http://www.humanities.mcmaster.ca/~camplit>

Togo Salmon Hall, Room 726

Ext. 24265

Courses and programs in Comparative Literature are administered within the Office of Interdisciplinary Studies of the Faculty of Humanities. For information and counselling, please contact the Director of Comparative Literature (Ext. 24091).

**Faculty as of January 15, 2006****Director**

John C. Stout

**Professors**

Joseph Adamson/B.A. (Trent), M.A., Ph.D. (Toronto)

Nasrin Rahimieh/B.A., M.A. (Dalhousie), Ph.D. (Alberta)

**Associate Professor**

Jean Wilson/B.A. (McMaster), B.Ed., M.A., Ph.D. (Toronto)

**Committee of Instruction**

Joseph Adamson (English and Cultural Studies; Comparative Literature)

Iris Bruce (Linguistics and Languages)

Nina Kolesnikoff (Linguistics and Languages)

John C. Stout (French)

Jean Wilson (Comparative Literature; Linguistics and Languages)

**Notes:**

1. No language other than English is required for courses listed under Comparative Literature.
2. Not all courses are offered on an annual basis. Students should consult the timetable for available courses.

**Courses If no prerequisite is listed, the course is open.****COMP LIT 1A03 INTRODUCTION TO COMPARATIVE LITERATURE I**

Students engage in the close study of selected literary works from texts of antiquity to the beginnings of modern literature. Considerable attention is given to the development of critical skills in reading and writing.

Two lectures; one tutorial; one term

**COMP LIT 1AA3 INTRODUCTION TO COMPARATIVE LITERATURE II**

An introduction to comparative literary studies, through the exploration of selected works from the eighteenth century on. Considerable attention is given to the development of critical skills on reading and writing.

Two lectures, one tutorial; one term

**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: Registration in Level II or above

**COMP LIT 2AA3 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: Registration in Level II or above

**COMP LIT 2BB3 NORTH AND SOUTH AMERICAN LITERATURES**

A comparative study of key motifs in selected North and South American literary traditions which may include magic realism, the Gothic, poetry, fantasy and metafiction.

Three lectures; one term

Prerequisite: Registration in Level II or above

**COMP LIT 2CC3 WORLD LITERATURE**

An introduction to recent debates on what constitutes "world literature," focusing on a broad range of key works from several different continents, languages and cultures.

Three lectures; one term

Prerequisite: Registration in Level II or above

**COMP LIT 2D03 DRAMATIC FORMS**

Different performance techniques and conventions demand particular forms of dramatic narrative. By comparing the way similar stories are told in different media and genres, students identify the structuring elements of dramatic texts written for live performance, film television and music theatre.

Lectures and group presentations (three hours); one term

Prerequisite: Three units of Level I Theatre & Film or Drama and registration in Level II or above of a Comparative Literature program

Cross-list: CMST 2P03, THTR&FLM 2C03

Antirequisite: DRAMA 2D03, 2D06

*This course is administered by the School of the Arts.*

**COMP LIT 2E03 CONCEPTS OF CULTURE**

An analysis of the development of the concept of culture from the Enlightenment to the present. Theoretical readings combined with the analysis of specific cultural texts, objects, forms and practices will allow students to trace historical and contemporary debates concerning culture.

Three hours; one term

Prerequisite: Registration in a program in Communication Studies, Comparative Literature, Cultural Studies and Critical Theory or English

Cross-list: CMST 2M03, CSCT 2M03, ENGLISH 2M03

*This course is administered by the Department of English and Cultural Studies.*

**COMP LIT 2EE3 MODERN COUNTERCULTURES**

An exploration of a variety of cultural forms (e.g. literature, art, photography, film, music) produced by avant-gardes and counter-cultural groups from the mid-19th century to the present. Areas of investigation may include surrealism, futurism, the beats, the sixties; situationism and punk.

Three hours; one term

Prerequisite: Registration in a program in Communication Studies, Comparative Literature, Cultural Studies and Critical Theory or English

Cross-list: CMST 2MM3, CSCT 2MM3, ENGLISH 2MM3

*This course is administered by the Department of English and Cultural Studies.*

**COMP LIT 2F03 CONTEMPORARY CRITICAL APPROACHES TO LITERATURE**

The course will offer a grounding in reading literary texts from a range of contemporary critical approaches.

Three hours; one term

Prerequisite: Registration in a program in English, Comparative Literature or permission of the Departmental Counsellor for English and Cultural Studies

Cross-list: ENGLISH 2A03

*This course is administered by the Department of English and Cultural Studies.*

**COMP LIT 2G03 THE BIBLE AS LITERATURE**

An examination of narratives from the Hebrew Bible, Intertestamental literature, and New Testament, from a literary perspective. Attention is paid to narrative features such as character, plot, irony and symbolism, as well as to the dynamics of the reading experience.

Two lectures, one tutorial; one term

Prerequisite: Registration in Level II or above

Cross-list: RELIG ST 2VV3

*This course is administered by the Department of Religious Studies.*

**COMP LIT 2H03 GREEK AND ROMAN DRAMA**

Selected Greek and Roman Tragedies and Comedies will be read in translation. The course will concentrate on characterization and the philosophical and religious aspects of ancient drama.

Three lectures; one term

Prerequisite: Registration in Level II or above

Cross-list: CLASSICS 2H03

*This course is administered by the Department of Classics.*

**COMP LIT 2J03 TWENTIETH-CENTURY GERMAN FILM AND FICTION**

A study of literary and cinematic representations and appropriations of German culture from the Weimar Republic to the present.

Three lectures; one term

Prerequisite: Registration in Level II or above

**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 or above

Cross-list: CLASSICS 2D03

*This course is administered by the Department of Classics.*

**COMP LIT 3AA3 THEORIES OF GENDER AND SEXUALITY**

This course explores a range of theories of gender and sexuality by working through readings from the intersecting fields of feminist, queer and masculinity studies.

Three hours; one term

Prerequisite: Registration in a program in Comparative Literature, Cultural Studies and Critical Theory, English or Women's Studies

Cross-list: CSCT 3AA3, ENGLISH 3AA3, WOMEN ST 3HH3

*This course is administered by the Department of English and Cultural Studies.*

**COMP LIT 3BB3 NORTHROP FRYE AND GENRE**

This course focuses on the poetics of literary structures and genres as outlined in the seminal work of Northrop Frye.

Seminar (two hours); one term

Prerequisite: Registration in Level II or above of a Comparative Literature program

*Not open to students with credit in COMP LIT 3DD3, TOPICS IN LITERARY GENRES II, if the topic was Northrop Frye and Genre.*

**COMP LIT 3C03 TWENTIETH-CENTURY THEATRE**

An exploration of important formal and social experiments that marked twentieth-century theatre and paved the way for contemporary theatre forms.

Lecture and discussion (three hours); one term

Prerequisite: Three units of Theatre & Film or Drama and registration in Level III or IV of a Comparative Literature program

Cross-list: THTR&FLM 3E03

*Offered in alternate years.*

*This course is administered by the School of the Arts.*

**COMP LIT 3EE3 KAFKA AFTER KAFKA**

This course examines the influence of Franz Kafka's fiction on writers, critics, and film makers of the twentieth century.

Three hours; one term

Prerequisite: Registration in Level II or above

*Not open to students with credit in COMP LIT 3U03, TOPICS IN MODERN LITERATURE if the topic was Kafka after Kafka.*

**COMP LIT 3G03 EUROPEAN DRAMA**

A study of representative plays by major European dramatists from the 18th century to the present.

Two hours; one term

Prerequisite: Registration in Level II or above

**COMP LIT 3GG3 COMPARATIVE THEATRE**

A comparison of two or more theatrical traditions.

Three lectures; one term

Prerequisite: Three units of Theatre & Film or Drama and registration in Level III or IV of a Comparative Literature program

Cross-list: THTR&FLM 3H03

*Offered in alternate years.*

*This course is administered by the School of the Arts.*

**COMP LIT 3H03 BIBLICAL TRADITIONS IN LITERATURE**

A study of the influence of the Bible on Western literature, especially English. Approaches may include the examination of symbolism, imagery, typology, doctrinal themes and narrative structures.

Three hours; one term

Prerequisite: Registration in Level II or above

Cross-list: ENGLISH 3S03

*This course is administered by the Department of English and Cultural Studies.*

**COMP LIT 3HH3 WORLD POETRY**

Using a wide range of poetry from different cultures and historical periods as examples, this course explores the numerous characteristic features that constitute the diversity of the lyric.

Seminar (two hours); one term

Prerequisite: Registration in Level II or above of a Comparative Literature program

*Not open to students with credit in COMP LIT 3D03, TOPICS IN LITERARY GENRES I, if the topic was The Lyric.*

**COMP LIT 3I03 TOPICS IN GREEK AND ROMAN LITERATURE**

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 program

Cross-list: CLASSICS 3I03

*COMP LIT 3I03 may be repeated, if on a different topic, to a total of six units.*

*This course is administered by the Department of Classics.*

**COMP LIT 3J06 THE AGE OF ELIZABETH I**

A consideration of this tumultuous age, galvanized by revolutions in exploration, religion, and selfhood, and ruled by a female monarch. Authors include Spenser, Sidney and women writers.

Three hours; two terms

Prerequisite: Registration in a program in Comparative Literature

Cross-list: ENGLISH 3I06

*This course is administered by the Department of English and Cultural Studies.*

**COMP LIT 3JJ3 THE FAIRY TALE**

An examination of fairy tales from a variety of cultures and historical periods. Students will also explore theories of the folktale and their implications for our understanding of other literary genres.

Seminar (two hours); one term

Prerequisite: Registration in Level II or above of a Comparative Literature program

*Not open to students with credit in COMP LIT 3DD3, TOPICS IN LITERARY GENRES II, if the topic was The Fairy Tale.*

**COMP LIT 3K03 20TH-CENTURY RUSSIAN LITERATURE**

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 or above

**COMP LIT 3L03 READING FILM**

A critical examination of selected films and film genres as cultural texts, using methods drawn from film theory and cultural studies.

Three hours, plus one weekly film screening; one term

Prerequisite: Registration in Level II or above of a program in Art History, Communication Studies, Comparative Literature, Cultural Studies and Critical Theory, English or Theatre & Film Studies. It is recommended that students should already have completed one of CMST 2X03, 2X06,

DRAMA 2X06, THTR&FLM 2F03

Cross-list: CMST 3CC3, CSCT 3CC3, ENGLISH 3CC3, THTR&FLM 3R03

*This course is administered by the Department of English and Cultural Studies.*

**COMP LIT 3M03 ASIAN LITERATURES**

A study of representative texts from Asian Literatures. The course will focus, in particular, on the literatures of India, China and Japan.

Three lectures; one term

Prerequisite: Registration in Level II or above

*Offered in alternate years.*

**COMP LIT 3MM3 THE LITERATURE OF ISRAEL AND PALESTINE**

Through the study of relevant literature and film, with a focus on contemporary Israeli and Arab texts, students gain a context for the exploration of conflicts in the Middle East.

Three hours; one term

Prerequisite: Registration in Level II or above

Cross-list: PEACE ST 3MM3

**COMP LIT 3N03 ARABIC AND PERSIAN LITERATURES**

A study of representative texts from Arabic and Persian literatures, read in English translation. May include a segment on film.

Three lectures; one term

Prerequisite: Registration in Level II or above

Offered in alternate years.

**COMP LIT 3NN3 WOMEN IN GERMAN LITERATURE AND CULTURE**

This course explores the rich literary and cultural history of women writers, filmmakers and artists from the early Middle Ages to the present in German-speaking Europe.

Three hours; one term

Prerequisite: Registration in Level II or above

Cross-list: GERMAN 3NN3, WOMEN ST 3NN3

Offered in alternate years.

*This course is administered by the Department of Linguistics and Languages.*

**COMP LIT 3Q03 THE HISTORY OF CRITICAL THEORY**

A survey of the main developments in critical theory from Plato to the end of the 19th century. Areas of investigation may include: art, aesthetics, civil society, representation, ethics and knowledge.

Three hours; one term

Prerequisite: Registration in Level III or IV of a Comparative Literature program

Cross-list: CSCT 3Q03, ENGLISH 3Q03

*This course is administered by the Department of English and Cultural Studies.*

**COMP LIT 3QQ3 CONTEMPORARY CRITICAL THEORY**

This course examines selected issues in contemporary critical theory. Areas of investigation may include: representation, power/knowledge, discourse, subjectivity, and the body.

Three hours; one term

Prerequisite: Registration in a program in Comparative Literature, Cultural Studies and Critical Theory or English. COMP LIT 3Q03, CSCT 3Q03 or ENGLISH 3Q03 is recommended.

Cross-list: CSCT 3QQ3, ENGLISH 3QQ3

*This course is administered by the Department of English and Cultural Studies.*

**COMP LIT 3R06 POSTCOLONIAL CULTURES: THEORY AND PRACTICE**

A study of contemporary texts including literature, film, art and other forms of popular culture that engage the implications of living in a postcolonial world. Close consideration will be given to issues of imperialism, globalization, race, gender, ethnicity, nation, language and representation.

Three hours; two terms

Prerequisite: Registration in Level III or IV of a Comparative Literature program

Cross-list: CSCT 3R06, ENGLISH 3R06, PEACE ST 3E06

*This course is administered by the Department of English and Cultural Studies.*

**COMP LIT 3RR3 CRITICAL RACE STUDIES**

This course examines contemporary debates in critical race theory in an attempt to critically decode the operations of race in literary and cultural texts.

Three hours; one term

Prerequisite: Registration in a program in Comparative Literature, Cultural Studies and Critical Theory, English, Peace Studies or Women's Studies

Cross-list: CSCT 3A03, ENGLISH 3A03, PEACE ST 3A03, WOMEN ST 3H03

*This course is administered by the Department of English and Cultural Studies.*

**COMP LIT 3SS3 19TH-CENTURY RUSSIAN LITERATURE**

A study of the major novels by Dostoevsky and Tolstoy.

Three lectures; one term

Prerequisite: Registration in Level II or above

**COMP LIT 3T03 ANCIENT THEATRE IN CONTEXT**

The history of theatres and theatrical production in Greece and Rome with consideration of the social significance of drama in antiquity. The course will also include archaeological material.

Three lectures; one term

Prerequisite: COMP LIT 2H03 or six units of Classics

Cross-list: CLASSICS 3T03

*This course is administered by the Department of Classics.*

**COMP LIT 3V03 TOPICS IN NATIONAL CINEMAS I**

This course examines film in relation to nations and national contexts. Areas of investigation may include filmic production of a particular country, national belonging and transnational identities.

Two hour lecture and discussion, plus one weekly film screening; one term

Prerequisite: One of DRAMA 2B03, 2X06, THTR&FLM 1B03, 2E03, 2F03; and registration in Level III or IV of a Comparative Literature program

Cross-list: CMST 3T03, THTR&FLM 3Q03 (formerly DRAMA 3T03)

Offered on an irregular rotation basis.

*This course is administered by the School of the Arts.*

**COMP LIT 3VV3 TOPICS IN NATIONAL CINEMAS II**

This course examines film in relation to nations and national contexts. Areas of investigation include filmic production of global/local characteristics.

Two hour lecture and discussion, plus one weekly film screening; one term

Prerequisite: One of DRAMA 2B03, 2X06, THTR&FLM 1B03, 2E03, 2F03

Cross-list: CMST 3TT3, THTR&FLM 3QQ3

Antirequisite: DRAMA 3TT3

Offered on an irregular rotation basis.

*This course is administered by the School of the Arts.*

**COMP LIT 3WW3 INTERNATIONAL WOMEN WRITERS**

A critical analysis of a selection of literary works by women authors from across the globe, with an emphasis on theories of gender and sexuality.

Two hours; one term

Prerequisite: Registration in Level II or above

Cross-list: WOMEN ST 3WW3

**COMP LIT 3Y03 CLASSICAL LITERATURE AND BEYOND**

A study of representative texts from the Greek and Roman literary traditions as well as their influence and afterlife in one or more later literary traditions.

Two hours; one term

Prerequisite: Registration in Level II or above of a program in Classics or Comparative Literature, or permission of the Director of Comparative Literature or the Chair of Classics

Cross-list: CLASSICS 3Y03

*This course is administered by the Department of Classics.*

**COMP LIT 4A03 EUROPEAN ROMANTICISM**

A study of selected literary texts of European Romanticism, including women's writing of the period. Attention is also given to Romantic aesthetic theory. Seminar (two hours); one term

Prerequisite: Registration in Level III or IV of a Comparative Literature program

Antirequisite: COMP LIT 4AA3

**COMP LIT 4D03 LITERATURE AS PEACE RESEARCH**

An exploration of new ways of thinking about war, peace, human security and conflict transformation, with emphasis on a close study of selected literary texts.

Two hours; one term

Prerequisite: Registration in Level III or IV of a program in Comparative Literature or Peace Studies

Cross-list: PEACE ST 4D03

**COMP LIT 4E03 TOPICS IN COMPARATIVE LITERATURE**

Previous topics include: Twentieth-Century Women Writers, Literature and Ideology. Consult the Office of Interdisciplinary Studies concerning topic to be offered.

Seminar (two hours); one term

Prerequisite: Registration in Level III or IV of a Comparative Literature program

*COMP LIT 4E03 may be repeated, if on a different topic, to a total of six units.*

**COMP LIT 4F03 PSYCHE AND CULTURE**

This course explores the psychoanalytic understanding of culture with reference to three main areas: ideology, gender polarity and imaginative culture (the arts and literature).

Seminar (two hours); one term

Prerequisite: Registration in Level III or IV of a Comparative Literature program

Antirequisite: CSCT 4PC3, ENGLISH 4PC3

*Not open to students with credit in COMP LIT 4C03, LITERATURE AND OTHER DISCIPLINES, if the topic was Psyche and Culture.*

**COMP LIT 4G03 BERLIN/VIENNA:  
THE CULTURAL LIFE OF A CITY**

Students will embark on an interdisciplinary journey into the cultural history of a city from the 19th century to the present. Through literary texts, songs, films, works of art and architecture varied presentations of the city in high and popular culture will be examined.

Three hours; one term

Prerequisite: Registration in Level III or IV

Cross-list: GERMAN 4G03

Offered on an irregular rotation basis.

This course is administered by the Department of Linguistics and Languages.

**COMP LIT 4I13 INDEPENDENT STUDY**

The student will prepare, under the supervision of a faculty member, a research paper involving independent study of an approved topic.

Prerequisite: Registration in Level IV of a Comparative Literature program and permission of the Director of Comparative Literature

**COMP LIT 4J03 THE SPLIT SCREEN - RECONSTRUCTING  
NATIONAL IDENTITIES IN WEST  
AND EAST GERMAN CINEMA**

This course examines German film texts of the post-war period and their representation of West and East German identities. Films will be discussed within the context of important political, social and cultural developments at the time of the films' production.

Two hours plus one film screening per week; one term

Prerequisite: Registration in Level III or IV

Cross-list: GERMAN 4J03, THTR&FLM 4J03

Offered on an irregular rotation basis.

This course is administered by the Department of Linguistics and Languages.

**COMP LIT 4T03 SPECIAL TOPICS**

Previous topics include: Lesbian and Gay Literature, Postmodern Fiction. Consult the Office of Interdisciplinary Studies concerning topic to be offered. Seminar (two hours); one term

Prerequisite: Registration in Level III or IV of a Comparative Literature program  
COMP LIT 4T03 may be repeated, if on a different topic, to a total of six units.

**COMPUTER ENGINEERING**

(SEE ELECTRICAL AND COMPUTER ENGINEERING)

**COMPUTER SCIENCE**

(SEE COMPUTING AND SOFTWARE)

**COMPUTING AND SOFTWARE**

WEB ADDRESS: <http://www.cas.mcmaster.ca>  
Information Technology Building, Room 202

Ext. 24614

**Faculty as of January 15, 2006****Acting Chair**

Martin von Mohrenschildt

**Professors**

Ivan Bruha/Dipl. Ing. (CVUT, Prague), RNDr (Charles, Prague), Ph.D. (CVUT, Prague)

William M. Farmer/B.A. (Notre Dame), M.A., M.S., Ph.D. (Wisconsin-Madison)

Frantisek Franek/M.Sc., R.N.Dr. (Charles, Prague), Ph.D. (Toronto)

Ryszard Janicki/M.Sc. (Warsaw), Ph.D., D.Hab. (Polish Acad. Sci.)

Thomas S.E. Malbaum/B.Sc. (Toronto), Ph.D. (London), F.I.E.E., F.R.S.A., C.Eng.

David L. Parnas/B.S., M.S., Ph.D. (Carnegie), Dr.h.c. (ETH Zürich), Dr.h.c. (Louvain), F.R.S.C., F.A.C.M., P.Eng.

Sanzheng Qiao/B.S., M.S. (Shanghai Teacher's College) M.S., Ph.D. (Cornell)

Paul A. Taylor/B.Sc.; Ph.D. (Univ. of Wales), P.Eng.

Tamás Terlaky/M.Sc., Ph.D. (Loránd Eötvös)

Jeffery I. Zucker/B.Sc. (Witwatersrand), Ph.D. (Stanford)

**Associate Professors**

Antoine Deza/M.Eng. (Ecole Nationale des Ponts et Chaussées, Paris), Ph.D. (Tokyo Institute of Technology)

Douglas G. Down/B.A.Sc., M.A.Sc. (Toronto), Ph.D. (Illinois-Urbana)

Wolfram Kahl/M.Sc. (Oxford), Dr.rer.nat. (University of the German Armed Forces, Munich)

Ridha Khedri/B.Eng. (Tunis), M.Sc., Ph.D. (Laval)

Mark S. Lawford/B.Sc. (Queen's), M.A.Sc., Ph.D. (Toronto), P.Eng.

Ned Nedialkov/B.Sc. (Sophia, Bulgaria), M.Sc., Ph.D. (Toronto)

W.F. Skipper Pehlman/B.S. (Niagara), B.Sc. (Brock), M.Sc., Ph.D. (McMaster), P.Eng.

Martin von Mohrenschildt/Dipl.Math., Dr.Sc.Math. (ETH-Zürich)

Emil Sekerinski/Dipl.Inf., Dr.rer.nat. (Karlsruhe)

Alan Wasssyng/B.Sc., B.Sc., M.Sc., Ph.D. (Witwatersrand)

**Assistant Professors**

Christopher Anand/B.Math. (Waterloo), M.Sc., Ph.D. (McGill)

Jacques Carrette/B. Math. (Waterloo), M.Sc. (Montreal), Ph.D. (Paris-Sud)

George Karakostas/Dipl. Eng. (Patras), M.S.A., Ph.D. (Princeton)

Ryan Leduc/B.Eng. (Victoria), M.A.Sc., Ph.D. (Toronto), P.Eng.

Jiming Peng/B.Sc. (Xiang Tan University), M.Sc. (Chinese Academy of Sciences), Ph.D. (Delft University of Technology)

Kamran Santipi/B.Sc., M.Sc. (Tehran), Ph.D. (Waterloo)

Spencer Smith/B.Eng., M.Eng., Ph.D. (McMaster)

Michael Soltys/B.Sc., M.Sc., Ph.D. (Toronto)

**COMPUTER SCIENCE ...****Department Notes:**

1. While the Faculty of Engineering is responsible for all Computer Science courses, Computer Science Programs are administered by the Faculty of Science.
2. Students wishing to pursue a Computer Science Minor are referred to the Department of Computing and Software in the Faculty of Science section of this Calendar.
3. MATH 1N03 and 1NN3 or ARTS&SCI 1D06 or ARTS&SCI 1D06 can serve as an equivalent prerequisite for upper level Computer Science courses in which MATH 1A03, 1AA3 or 1C03 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 and introduction to computer communications; introduction to operating systems; basics of word processing/desktop publishing and information exchange using the Internet; problem solving using electronic spreadsheets; elementary database concepts. Three lectures, one tutorial; one term

Prerequisite: Registration in the School of Business and one Grade 12 U or M Mathematics credit; or one of MATH 1K03, 1M03, STATS 1L03

Antirequisite: COMP SCI 1TA3, MMEDIA 1A03

**COMP SCI 1FC3 MATHEMATICS FOR COMPUTING**

Introduction to logic and proof techniques; functions, relations, and sets; counting; trees and graphs; concepts are illustrated using computational tools. Three lectures, one tutorial (two hours); second term

Prerequisite: Credit or registration in one of MATH 1A03, 1M03, 1N03, 1X03, ARTS&SCI 1D06. COMP SCI 1MA3 is recommended

**COMP SCI 1MA3 COMPUTER BASED PROBLEM SOLVING**

A first course in computer science, focusing on the practice of problem solving, in the context of interesting software applications. Problem formulation, problem decomposition, procedural formulation of problem solution.

Three lectures, one tutorial, one lab; one term

Prerequisite: MATH 1K03 or Grade 12 Advanced Functions and Introductory Calculus U

**COMP SCI 1MD3 INTRODUCTION TO PROGRAMMING**

Introduction to disciplined programming; programming environments; debugging; imperative programming constructs; values and types; libraries; file input-output. Computer Science concepts are illustrated.

Three lectures, one tutorial; second term

Prerequisite: Credit or registration in one of MATH 1A03, 1M03, 1N03, 1X03, ARTS&SCI 1D06. COMP SCI 1MA3 is recommended

**COMP SCI 1SA3 COMPUTING FUNDAMENTALS**

Overview of the computer as a tool for problem solving with emphasis on design of sequential programs for problem solving. Topics covered include: organization of microcomputers (hardware and operating systems); data representation; communications and networks; the Internet and Web pages; application packages.

Three lectures, one tutorial; one term

Prerequisite: MATH 1K03 or Grade 12 Advanced Functions and Introductory Calculus U

Not open to students with credit or registration in COMP SCI 1BA3, 1MA3, 1MC3, 1TA3.

**COMP SCI 1TA3 ELEMENTARY COMPUTING AND COMPUTER USE**

Organization of microcomputers (hardware and operating systems) and overview of computer communications; introduction to information exchange using word processing/presentation software, the Internet and Web pages; problem solving using electronic spreadsheets and database applications.

Three lectures, one tutorial; one term

Antirequisite: COMP SCI 1BA3, MMEDIA 1A03

*Not open to students with credit or registration in Business I, COMP SCI 1MA3, 1MC3, 1SA3 or HUMAN 2E03.*

**COMP SCI 2CA3 COMPUTER ARCHITECTURE AND ORGANIZATION**

Computer design: RISC/CISC, instruction sets, memory hierarchy; parallelism: instruction level, software level, multi-threading; storage systems: RAID levels, errors/failures, networks, clusters.

Three lectures; second term

Prerequisite: COMP SCI 2MF3

Antirequisite: COMP SCI 3MG3, SFWR ENG 3GA3

**COMP SCI 2CS3 COMMUNICATION SKILLS**

Oral and written presentation skills; document types and structure; software documentation for the user; formulating and presenting proposals.

Three lectures; first term

Prerequisite: Registration in Level II or above

Antirequisite: SFWR ENG 3I03

**COMP SCI 2ME3 SOFTWARE DESIGN FUNDAMENTALS**

Software development models; modularization; information hiding; specification and abstraction; software requirements; software maintenance; metrics; testing theory and strategies; documentation.

Three lectures; second term

Prerequisite: COMP SCI 2SC3

Antirequisite: SFWR ENG 2AA4

**COMP SCI 2MF3 DIGITAL SYSTEMS AND SYSTEMS PROGRAMMING**

Basic computer technology: gates, registers, memory; machine programming; arithmetic: representations, arithmetic/logic unit, floating point systems; system component details: CPU, memory, I/O devices; pipelining.

Three lectures, one tutorial; first term

Prerequisite: COMP SCI 1MD3

Antirequisite: COMP ENG 2DI4, ELEC ENG 2DI4, SFWR ENG 2DA3, SFWR ENG 3F03

**COMP SCI 2MJ3 THEORY OF COMPUTATION**

Finite state machines, regular languages, regular expressions, applications of regular languages, grammars, context-free languages, models of computation, introduction to complexity theory.

Three lectures, one tutorial (two hours); first term

Prerequisite: COMP SCI 1FC3

**COMP SCI 2003 OBJECT ORIENTED PROGRAMMING**

The object oriented approach to software: classes, objects, fields, methods; modelling and problem decomposition techniques using classes; concurrency, threads, synchronization, communication; inheritance; interface documentation; design documentation.

Three lectures, one tutorial; second term

Prerequisite: COMP SCI 2SC3

**COMP SCI 2SC3 IMPERATIVE PROGRAMMING AND BASIC DATA STRUCTURES**

Disciplined programming in the C language; problem decomposition; iteration and recursion; dynamic memory allocation; design, use and implementation of elementary fixed-size and dynamic data structures.

Three lectures, one tutorial; first term

Prerequisite: COMP SCI 1MD3

Antirequisite: COMP ENG 2SI4, ELEC ENG 2SI4, SFWR ENG 2S03

**COMP SCI 3CB3 SYSTEM ARCHITECTURE FOR INTERACTIVE APPLICATIONS**

A second course in computer architecture with special emphasis on the implementation of virtual-machine language processors (e.g. Forth, Java) and their use for implementing server-client software architecture.

Three lectures; one term

Prerequisite: COMP SCI 2MF3; and registration in Level III or above of a Computer Science program or in Level III of B.Sc. Mathematical Science

*Last offered in 2006-2007.*

**COMP SCI 3CN3 COMPUTER NETWORKS AND SECURITY**

Networked computer systems: physical media, TCP/IP protocols, switching methods; net layering and components: data link; network, transport; application; wireless, ubiquitous; secure systems: protocols, perimeter defences, access control issues, retrofitting.

Three lectures, one lab; second term

Prerequisite: COMP SCI 3IS3, 3MH3

Antirequisite: SFWR ENG 4C03

*First offered in 2007-2008.*

**COMP SCI 3DA3 DATA STRUCTURES AND ALGORITHMS**

Abstract data structures; implementation of dense and sparse structures; hashing; sorting; dynamic programming; greedy algorithms; graph algorithms; complexity; organization of libraries.

Three lectures; first term

Prerequisite: Credit or registration in COMP SCI 2SC3

Antirequisite: COMP ENG 2SI4, COMP SCI 2MD3, ELEC ENG 2SI4, SFWR ENG 2C03

*First offered in 2007-2008.*

**COMP SCI 3DB3 DATA BASES**

Data models, relational databases; SQL; integrity; security; object-oriented and other databases; data storage; query processing; transactions; concurrency control; recovery; distributed and parallel database architectures.

Three lectures; second term

Prerequisite: Credit or registration in COMP SCI 2CA3 or 3MH3

Antirequisite: SFWR ENG 3H03, 4M03

*First offered in 2007-2008.*

**COMP SCI 3EA3 SOFTWARE DESIGN II (2006-2007 ONLY)**

Object-oriented modelling, design and implementation, fault tolerance and reliability, embedded software, configuration management.

Three lectures; one term

Prerequisite: COMP SCI 2ME3

Antirequisite: SFWR ENG 2B03, 2B04, 3K04

**COMP SCI 3EA3 SOFTWARE SPECIFICATIONS AND CORRECTNESS (EFFECTIVE 2007-2008)**

Formal specifications in software development; logical formalisms; functional and relational specifications; completeness and consistency of specifications; verification; validation; presentation of information; tool supported verification.

Three lectures; first term

Prerequisite: COMP SCI 2ME3

Antirequisite: SFWR ENG 3A04

**COMP SCI 3IA3 SYMBOLIC PROCESSING AND LOGIC PROGRAMMING**

Methodologies, data and control structures for symbolic processing; symbolic expressions, lists, list processing functions, backtracking, matching procedures; resolution principle; elements of logic programming (Prolog).

Three lectures; one term

Prerequisite: COMP SCI 2MD3

*Last offered in 2006-2007.*

**COMP SCI 3IS3 INFORMATION SECURITY**

Basic principles of information security; threats and defences; cryptography; introduction to network security and security management.

Three lectures; first term

Prerequisite: Credit or registration in COMP SCI 2MJ3

*First offered in 2007-2008.*

**COMP SCI 3MG3 COMPUTER SYSTEM ARCHITECTURE**

Major components of a computer and their design issues; instruction set, data path, control, memory, and I/O. Principles of computer arithmetic, pipelining, memory hierarchy, and virtual memory.

Three lectures; one term

Prerequisite: COMP SCI 2MD3, 2MF3

Antirequisite: COMP SCI 2CA3, SFWR ENG 3G03, 3GA3

*Last offered in 2006-2007.*

**COMP SCI 3MH3 PRINCIPLES OF OPERATING SYSTEMS (2006-2007 ONLY)**

Concepts of operating systems; process coordination, memory management, file systems; introduction to distributed systems and computer networks. Involves group projects.

Three lectures; one term

Prerequisite: COMP SCI 3MG3

Antirequisite: COMP SCI 3SH3, 4SH3



**COMP SCI 3MH3 OPERATING SYSTEMS (EFFECTIVE 2007-2008)**

Processes and threads, synchronization and communication; scheduling, memory management; file systems; resource protection; structure of operating systems; distributed file systems; networking.  
Three lectures; first term

Prerequisite: COMP SCI 2CA3

Antirequisite: COMP SCI 3SH3, 4SH3, SFWR ENG 3BB4, 3SH3

**COMP SCI 3MI3 ORGANIZATION OF PROGRAMMING LANGUAGES (2006-2007 ONLY)**

A comparative study of programming languages, emphasizing functional languages. Introduction to formal methods of language definition.

Three lectures; one term

Prerequisite: COMP SCI 2MD3, 2MJ3

**COMP SCI 3MI3 PRINCIPLES OF PROGRAMMING LANGUAGES (EFFECTIVE 2007-2008)**

Design space of programming languages; abstraction and modularization concepts and mechanisms; programming in non-procedural (functional and logic) paradigms; introduction to programming language semantics.

Three lectures; second term

Prerequisite: COMP SCI 2O03, 2SC3

Antirequisite: SFWR ENG 3E03

**COMP SCI 3SE3 DESIGN OF VISUAL PROGRAMMING ENVIRONMENTS**

A study of visual programming environments: events, procedures, objects and attributes; paradigms: event-driven, object-oriented, www, markup languages; applications: graphical user interfaces, human factors, cognitive engineering and visualization techniques.

Three lectures; one term

Prerequisite: COMP SCI 2SC3

Corequisite: COMP SCI 2MD3

Not offered in 2006-2007.

**COMP SCI 3SH3 OPERATING SYSTEM CONCEPTS**

Design principles of major components of an operating system: Management of processes, threads, memory, files, and I/O systems; network communication protocols, security, and command interpreter systems.

Three lectures and small projects; one term

Prerequisite: COMP ENG 2DI4 or ELEC ENG 2DI4; and one of COMP ENG 3SL4, SFWR ENG 3K04, 3L04, 3M04

Cross-list: SFWR ENG 3SH3

Antirequisite: COMP ENG 4SN4, COMP SCI 3MH3, 4SH3

Not offered in 2006-2007.

**COMP SCI 3SR3 SOFTWARE REQUIREMENTS**

Requirements models; requirements gathering techniques; functional and non-functional requirements; requirements validation; requirements management; legal and ethical issues.

Three lectures; first term

Prerequisite: COMP SCI 3EA3

Antirequisite: SFWR ENG 3R03

First offered in 2007-2008.

**COMP SCI 3TA3 AUTOMATA, COMPUTATION AND LANGUAGES**

Automata, transition systems and machines. Grammars and rewriting systems. Languages, their classification and properties. The bound of computability. Computational complexity. Elements of recursion theory.

Three lectures; one term

Prerequisite: COMP SCI 2MD3, 2MJ3; or permission of the instructor

Antirequisite: SFWR ENG 4I03

Last offered in 2006-2007.

**COMP SCI 4AR3 SOFTWARE ARCHITECTURE**

Software architecture concepts; architectural styles; design patterns, components, libraries, configurations; modelling languages; software re-engineering.

Three lectures; second term

Prerequisite: Credit or registration in COMP SCI 3SR3

First offered in 2008-2009.

**COMP SCI 4CC3 ADVANCED OPERATING SYSTEMS**

Modern operating systems: large-scale distributed to small real-time operating systems; microcomputer/mainframe interconnections; message passing techniques; networks; distributed deadlocks and shared memory models; extended file systems and shared resources.

Two lectures; one lab; one term

Prerequisite: COMP SCI 3MH3 or SFWR ENG 3BB4

Not offered in 2006-2007.

**COMP SCI 4CD3 DISTRIBUTED SYSTEM ARCHITECTURES (2006-2008 ONLY)**

Distributed systems: real-time, agent-oriented, heterogeneous, multi-computer, multi-processor; coupling schemes: loose, tight; networking, ATM, frame relay, clustering, software protocols; communication strategies, client/server approaches.

Two lectures; one lab; one term

Prerequisite: COMP SCI 3MG3 or SFWR ENG 3G03; or credit or registration in either PHYSICS 4D06 or both PHYSICS 4DA3 and 4DB3

**COMP SCI 4CD3 DISTRIBUTED COMPUTER SYSTEMS (EFFECTIVE 2008-2009)**

Distributed operating systems: deadlock, casual/concurrent events, multithreading, group communications; distributed computers: multi-processors, multi-computers, middleware, reliability; distributed services: n-tier architecture, WWW systems; special systems: real time, multimedia aware, grid-computing.

Three lectures, one lab (three hours); first term

Prerequisite: Credit or registration in COMP SCI 3MH3. Completion of COMP SCI 3CN3 is recommended.

**COMP SCI 4EB3 DATABASE MANAGEMENT SYSTEM DESIGN**

Concepts and structures for the design of database management systems. Topics include: data models, data normalization, data-description languages, query facilities, file organization and security.

Three lectures; one term

Prerequisite: COMP SCI 2MD3

Antirequisite: SFWR ENG 3H03, 4MQ3

Last offered in 2007-2008.

**COMP SCI 4HC3 HUMAN COMPUTER INTERACTION**

Computer-human interface designs: principles, types, models; human factors: ergonomics, physiological issues, cognitive engineering, task analysis, hardware; GUI evaluations: usability, surveys, ethnographic; practical examples; data visualization.

Three lectures; first term

Prerequisite: Credit or registration in COMP SCI 3MH3 or SFWR ENG 3BB4

Antirequisite: SFWR ENG 4D03

First offered in 2008-2009.

**COMP SCI 4IB3 ARTIFICIAL INTELLIGENCE AND KNOWLEDGE-BASED SYSTEMS**

AI disciplines: perception, pattern recognition, machine learning, neural nets, image processing, scene analysis, speech processing; problem solving, production systems; backtracking, graph search techniques, planners; PROLOG. Architectures and applications of expert systems.

Three lectures; one term

Prerequisite: One of COMP SCI 2MD3, SFWR ENG 2C03, 2C04

**COMP SCI 4MN3 INTRODUCTION TO SCIENTIFIC COMPUTING (2006-2008 ONLY)**

Principles of floating point computing; Computer number systems, floating-point arithmetics, and computational errors. Computer methods and software for scientific and engineering applications: Solving linear and nonlinear systems, data fitting, solving differential equations, and continuous optimization.

Three lectures; one term

Prerequisite: COMP SCI 3MG3, MATH 2A03, 2R03

Antirequisite: SFWR ENG 3X03

**COMP SCI 4MN3 SCIENTIFIC COMPUTATION (EFFECTIVE 2008-2009)**

Number representations and computer arithmetic; linear systems; linear least square; regression; root finding; Minima-Maxima; Interpolation; Integration.

Three lectures; second term

Prerequisite: COMP SCI 2CA3 or 3MG3; and MATH 2A03, 2R03

Antirequisite: SFWR ENG 3X03

**COMP SCI 4TB3 SYNTAX-BASED TOOLS AND COMPILERS**

Lexical analysis, syntax analysis, type checking; syntax-directed translation, attribute grammars; compiler structure; implications of computer architecture; mapping of programming language concepts; code generation and optimization.

Three lectures; second term

Prerequisite: COMP SCI 3MI3 or SFWR ENG 3E03

**COMP SCI 4TC3 RECURSIVE FUNCTION THEORY AND COMPUTABILITY**

Recursive and primitive recursive functions, computability, decidability and undecidability, Church-Turing Thesis.

Three lectures; one term

Prerequisite: COMP SCI 3MI3 or permission of the instructor

Antirequisite: MATH 4S03

**COMP SCI 4TD3 DESIGN AND ANALYSIS OF ALGORITHMS**

Techniques for the design and analysis of algorithms, especially divide-and-conquer, greedy, and dynamic programming algorithms. An introduction to computational complexity. Analysis of particular algorithms of practical or theoretical importance in computer science.

Three lectures; one term

Prerequisite: COMP SCI 2MD3, 2MJ3; and MATH 2Q04 or 2R03

Not offered in 2006-2007.

**COMP SCI 4TE3 CONTINUOUS OPTIMIZATION ALGORITHMS**

Fundamental algorithms and duality concepts of continuous optimization. Motivation, applicability, information requirements and computational cost of the algorithms is discussed. Practical problems will illustrate the power of continuous optimization techniques.

Three lectures; one term

Prerequisite: MATH 2R03; and one of MATH 2A03, 2M06 or 2Q04

Cross-list: SFWR ENG 4TE3

**COMP SCI 4TF3 DATA MINING: CONCEPTS AND ALGORITHMS**

Introduction to Data Mining. Fundamental concepts and main tasks: classification, association, prediction and clustering. Algorithms based on decision trees, Bayes' model, instance-based learning and numeric classifiers. Pre-processing and postprocessing.

Three lectures; one term

Prerequisite: SFWR ENG 3H03; or COMP SCI 4EB3 and one of COMMERCE 2QA3, ECON 2B03, STATS 1CC3; or permission of the instructor.

**COMP SCI 4WW3 WEB SYSTEMS AND WEB COMPUTING**

World wide web as networks: protocols, clients/servers and social issues; programming systems: markups, scripts, styles; platform technologies; WWW services: standard systems, browser-based, security issues, examples.

Three lectures; first term

Prerequisite: Credit or registration in COMP SCI 3MH3. Completion of COMP SCI 3CN3 is recommended.

First offered in 2008-2009.

**COMP SCI 4Z03 DIRECTED READINGS**

Directed readings in an area of computer science of interest to the student and the instructor.

Prerequisite: Permission of the Chair of the Department and registration in Level IV of an Honours program in Computer Science. Application for permission must be received by March 31st of the academic year prior to registration.

Enrolment is limited. See the heading *Limited Enrolment Courses* in the *Faculty of Science* section of the Calendar.

**COMP SCI 4ZP6 CAPSTONE PROJECT**

Students, in teams of two to four students, undertake a substantial project in an area of computer science by performing each step of the software life cycle. The lecture component presents an introduction to software management and project management.

Lecture component in Term 1, weekly tutorials; two terms

Prerequisite: Registration in Level IV of Honours Computer Science

**SOFTWARE ENGINEERING ...****Department Note:**

All software engineering courses are open to students registered in a software engineering program, subject to prerequisite requirements. Prior permission of the Department is necessary for other students.

Since the Software Engineering program is a CEAB accredited program, Software Engineering students are not allowed to substitute any of the required courses with Engineering Science or Engineering Design content by any courses offered by a non-CEAB accredited Engineering program.

**Courses****SFWR ENG 2AA4 SOFTWARE DESIGN I - SOFTWARE COMPONENT DESIGN**

Development of small software units. Precise specifications expressed using logic and discrete mathematics. Design methods and design patterns. Implementation and testing.

Three lectures, one tutorial (two hours); second term

Prerequisite: SFWR ENG 2DM3, 2S03

Corequisite: SFWR ENG 2FA3

Antirequisite: COMP SCI 2ME3, SFWR ENG 2A04

**SFWR ENG 2C03 DATA STRUCTURES AND ALGORITHMS**

Data structures: queues, stacks, lists, heaps, trees, balanced trees, sorting, searching, graph algorithms; general techniques of design and analysis of algorithms.

Three lectures, one tutorial (one hour); second term

Prerequisite: SFWR ENG 2DM3, 2S03

Antirequisite: COMP ENG 2SI4, COMP SCI 2MD3, 3DA3, ELEC ENG 2SI4, SFWR ENG 2C04

**SFWR ENG 2DA3 DIGITAL SYSTEM PRINCIPLES AND LOGIC CO-DESIGN FOR SOFTWARE ENGINEERING**

Systematic design procedures; combinatorial circuit design; design of sequential machines; redundancy, binary number representations and arithmetic, organization of large logic circuits. Introduction to logic simulators. Software/hardware co-design.

Three lectures, one lab (three hours every other week); first term

Prerequisite: Registration in a program in Software Engineering

Corequisite: SFWR ENG 2DM3

Antirequisite: COMP ENG 2DI4, COMP SCI 2MF3, ELEC ENG 2DI4, SFWR ENG 2D03

**SFWR ENG 2DM3 DISCRETE MATHEMATICS AND LOGIC I**

Syntax and semantics of formal languages; propositional logic; proof systems; sets, functions, relations, and algebras; graphs and trees; finite state machines; software engineering applications.

Three lectures, one tutorial (one hour); first term

Prerequisite: MATH 1H03

Antirequisite: SFWR ENG 2E03, 2F03

**SFWR ENG 2FA3 DISCRETE MATHEMATICS AND LOGIC II**

First-order logic; proof by induction; definition by recursion; models of computation; computational limits and complexity; higher-order logic; software engineering applications.

Three lectures, one tutorial (one hour); second term

Prerequisite: SFWR ENG 2DM3

Antirequisite: SFWR ENG 2E03, 2F03

**SFWR ENG 2MX3 INTRODUCTION TO MATHEMATICAL MODELLING OF SYSTEMS**

Linear systems, signals, filters; sampling theorem; state and frequency domain; simple input-output systems; the relation of discrete and continuous space; introduction to mathematical models of systems.

Three lectures, one tutorial (one hour); second term

Prerequisite: MATH 1H03, 1NN3; and registration in MATH 2M06 or credit in MATH 2P04

**SFWR ENG 2S03 PRINCIPLES OF PROGRAMMING**

Fundamental concepts of imperative programming languages; (Assertion, Assignment, Control flow, Iteration, recursion, exceptions); Data representations; Basic concepts of operating systems; Composing and analyzing small programs.

Three lectures, one tutorial (one hour); first term

Prerequisite: ENGINEER 1D04

Antirequisite: COMP ENG 2SH4, COMP SCI 2SC3

**SFWR ENG 3A04 SOFTWARE DESIGN II - LARGE SYSTEM DESIGN**

Software design process, design and architecture of large systems, design for change and expansion; Documentation, inspection; Incremental design; Classes and objects, structured and object oriented analysis and design; Revision and version control; Project organization.

Three lectures, one tutorial (two hours); first term

Prerequisite: SFWR ENG 2AA4, 2C03

Antirequisite: COMP SCI 3EA3 (Effective 2007-2008)

**SFWR ENG 3BB4 SOFTWARE DESIGN III - CONCURRENT SYSTEM DESIGN**

Processes, threads, concurrency; Synchronization mechanisms, resource management and sharing; Objects and concurrency; Design, architecture and testing of concurrent systems.

Three lectures, one tutorial (two hours); second term

Prerequisite: SFWR ENG 3A04, 3E03

Antirequisite: COMP SCI 3MH3 (Effective 2007-2008)

**SFWR ENG 3DX3 DYNAMIC MODELS AND CONTROL OF PHYSICAL SYSTEMS**

Modelling of dynamic continuous physical phenomena in both continuous and discrete time. Control theory, stability analysis and feedback controller design. Application of computer control to continuous processes. Data analysis, empirical modelling.

Three lectures, one tutorial (one hour); second term

Prerequisite: SFWR ENG 3X03

Antirequisite: ENGINEER 3L03

**SFWR ENG 3E03****DESIGN AND SELECTION OF PROGRAMMING LANGUAGES**

Fundamental structure of programming languages, language design and implementation, promote student awareness of the range of available languages and their uses. Acquire programming skills in selected programming languages.

Three lectures, one tutorial (one hour); first term

Prerequisite: SFWR ENG 2AA4, 2C03

Antirequisite: COMP SCI 3M13 (Effective 2007-2008)

**SFWR ENG 3F03****MACHINE-LEVEL COMPUTER PROGRAMMING**

Use of assembler language. I/O and storage devices. Highly optimized code. Low level representation of control and data structures. Device drivers.

Three lectures, one tutorial (one hour); second term

Prerequisite: SFWR ENG 2DA3, 3A04, 3GA3

Antirequisite: COMP ENG 3DJ4, COMP SCI 2MF3

**SFWR ENG 3GA3****COMPUTER ARCHITECTURE AND GRAPHICS PROCESSORS**

Measures of performance, instruction set architecture, computer arithmetic, datapath and control, pipelining, the memory hierarchy, I/O systems, basics of multiprocessor systems, multimedia extensions and graphic processors.

Three lectures, one tutorial (two hours every other week); first term

Prerequisite: SFWR ENG 2D03 or 2DA3

Antirequisite: COMP ENG 4DM4, COMP SCI 2CA3, 3MG3, SFWR ENG 3G03

**SFWR ENG 3GB3****4D MODELLING FOR VIRTUAL REALITY**

Design of time-evolution of/in three dimensional spaces. Dynamical systems (discrete and continuous). Physical and artificial systems. Design patterns of 4D modelling.

Three lectures, one tutorial (two hours every other week); first term

Prerequisite: MMEDIA 2BE3 and registration in Software Engineering and Game Design

**SFWR ENG 3GC3****REAL-TIME ANIMATION FOR COMPUTER GAMES**

Introduction to graphical languages. Reactive systems. Rendering of meshes. Rigid and soft skeletons, hard and soft skinning. Real-time forward and inverse kinematics.

Three lectures, one tutorial (two hours every other week); second term

Prerequisite: MMEDIA 2HE3, SFWR ENG 3GB3 and registration in Software Engineering and Game Design

**SFWR ENG 3I03****COMMUNICATION SKILLS**

Writing technical (reference) documentation and user (introductory) software documentation; document structure, scientific writing. The language of legal contracts. Oral presentation methodologies.

Three hours (lectures, discussion, group project, seminars); first term

Prerequisite: ENGINEER 1C03 or 1C04

Antirequisite: COMP SCI 2CS3

**SFWR ENG 3K04****SOFTWARE DEVELOPMENT FOR COMPUTER ENGINEERING**

Software design process. Professional responsibility. Using specifications. Documentation. Module Specification. Module interfaces. Module internal documentation. Coding styles. Portability. Software inspection. Software testing.

Three lectures, one lab (three hours); first term

Prerequisite: One of COMP ENG 2S14, ELEC ENG 2S14, SFWR ENG 2S03

Antirequisite: COMP SCI 3EA3

**SFWR ENG 3M04****SOFTWARE DEVELOPMENT FOR ELECTRICAL ENGINEERING**

Software design process. Professional responsibility. Specification. Documentation. Modular design. Module interfaces. Coding style. Inspection. Testing.

Three lectures, one lab (three hours); first term

Prerequisite: COMP ENG 2S14 or ELEC ENG 2S14

**SFWR ENG 3RA3****SOFTWARE REQUIREMENTS AND SECURITY CONSIDERATIONS**

Deriving software requirements from System Goals. Software requirements gathering. Critical systems requirements gathering. Security requirements. Traceability of requirements. Verification, validation, and documentation techniques. Requirements models. Software requirements quality attributes. System and acceptance testing.

Three lectures, one tutorial (one hour); second term

Prerequisite: SFWR ENG 3A04

Antirequisite: COMP SCI 4EF3, SFWR ENG 3R03, 4EF3

**SFWR ENG 3S03****SOFTWARE TESTING AND MANAGEMENT**

Measurement, unit testing, slicing and debugging, inspection, integration testing, regression testing, testing strategies, software metrics, software project management.

Three lectures, one tutorial (two hours every other week); second term

Prerequisite: SFWR ENG 3A04

**SFWR ENG 3SH3****OPERATING SYSTEM CONCEPTS**

Design principles of major components of an operating system: Management of processes, threads, memory, files, and I/O systems: network communication protocols, security and command interpreter systems.

Three lectures and small projects; second term

Prerequisite: COMP ENG 2D14 or ELEC ENG 2D14; and one of COMP ENG 3SL4, SFWR ENG 3K04, 3L04, 3M04

Cross-list: COMP SCI 3SH3

Antirequisite: COMP ENG 4SN4, COMP SCI 3MH3, 4SH3

**SFWR ENG 3X03****SCIENTIFIC COMPUTATION AND MATHEMATICAL SIMULATION**

Computer arithmetic, stability, sensitivity. Numerical methods for polynomial manipulation, interpolation, data fitting, integration, differentiation, solving linear and non-linear systems, ordinary differential equations and eigenvalue problems.

Three lectures, one tutorial (one hour); first term

Prerequisite: SFWR ENG 2MX3; and either MATH 2M06 or both MATH 2P04 and 2Q04

Antirequisite: COMP ENG 3SK4, COMP SCI 4MN3

**SFWR ENG 4AA3****REAL-TIME SYSTEMS AND CONTROL APPLICATIONS**

Hard and soft real-time systems. Safety classification. Fail-safe design, hazard analysis. Discrete event systems. Modes. Requirements and design specifications. Tasks and scheduling. Clock synchronization. Data acquisition. Applications in real-time control.

Three lectures, one lab (three hours every other week); first term

Prerequisite: SFWR ENG 3BB4, 3DX3

Antirequisite: SFWR ENG 4A03, 4GA3

**SFWR ENG 4C03****COMPUTER NETWORKS AND COMPUTER SECURITY**

Physical networks, internets, the TCP/IP protocol suite, common network services. Principles of information security, computer and network security threats, defense mechanisms, encryption.

Three lectures, one lab (three hours every other week); second term

Prerequisite: SFWR ENG 3BB4

Antirequisite: COMP SCI 3CN3

**SFWR ENG 4D03****DESIGN OF HUMAN COMPUTER INTERFACES**

Design of user interfaces. Principles of good interface design. Human input. Displaying complex data using graphics and virtual reality. Modes and *mode awareness* problem. Health issues, information overload. Special purpose graphics hardware. Interface design tools; on-line help systems.

Three lectures, one tutorial (one hour); first term

Prerequisite: SFWR ENG 3BB4

Antirequisite: COMP SCI 4HC3

**SFWR ENG 4E03****PERFORMANCE ANALYSIS OF COMPUTER SYSTEMS**

Use of queuing models and simulation to predict computer system performance and find bottlenecks in a system. Types of models, distributions. Markov models. Modelling storage and network behaviour, locks, critical sections, concurrency. Introduction to analytical system reliability.

Three lectures, one tutorial (one hour); first term

Prerequisite: SFWR ENG 3BB4. STATS 3N03 or 3Y03 is recommended.

**SFWR ENG 4F03****DESIGN OF PARALLEL/DISTRIBUTED COMPUTER SYSTEMS AND COMPUTATIONS**

Design of multi-computer systems for computation-intensive applications and high-reliability applications, array processing systems. Application of multi-computer systems to finite element methods, simulators, optimization problems.

Three lectures, one tutorial (one hour); second term

Prerequisite: SFWR ENG 3G03 or 3GA3; and SFWR ENG 3BB4

**SFWR ENG 4G06****SOFTWARE DESIGN IV - CAPSTONE DESIGN PROJECT**

Student teams prepare the requirements, design, documentation, and implementation of a software system taking economic, health, safety, legal, marketing factors into account. Students must demonstrate a working system and convincing test results. Software project management.

Three hours (lectures, discussion, group project, seminars); two terms

Prerequisite: Registration in final level of a Software Engineering program

Antirequisite: SFWR ENG 4G03, 4GP6, 4H03

**SFWR ENG 4GA3 REAL-TIME SYSTEMS AND COMPUTER GAME APPLICATIONS**

Hard and soft real-time systems. Safety classification. Fail-safe design, hazard analysis. Discrete event systems. Modes. Requirements and design specifications. Tasks and scheduling. Clock synchronization. Data acquisition. Applications in real-time networking, quality of service and multimedia.

Three lectures, one lab (three hours every other week); first term  
Prerequisite: SFWR ENG 3BB4, 3GC3, 3DX3 and registration in Software Engineering and Game Design

Antirequisite: SFWR ENG 4A03, 4AA3

First offered in 2007-2008.

**SFWR ENG 4GC3 SENSORY PERCEPTION, COGNITION AND HUMAN/COMPUTER INTERFACES FOR GAME DESIGN**

Human sensory perception, learning and cognition. Game aesthetics. Precise control and feedback mechanisms. Use of music and sounds. Critical analysis of existing interfaces. Alternate input devices.

Three lectures, one tutorial (three hours every other week); second term  
Prerequisite: SFWR ENG 4D03 and registration in Software Engineering and Game Design

First offered in 2007-2008.

**SFWR ENG 4GP6 SOFTWARE DESIGN IV - CAPSTONE COMPUTER GAME DESIGN PROJECT**

Student teams prepare the requirements, design, documentation and implementation of a computer game taking economic, health, safety, cultural, legal and marketing factors into account. Students must demonstrate a working system and convincing test results. Software project management.

Three hours (lectures, discussion, group project, seminar); two terms  
Prerequisite: Registration in Level IV of Software Engineering and Game Design

Antirequisite: SFWR ENG 4G03, 4G06, 4H03

First offered in 2007-2008.

**SFWR ENG 4J03 COMMUNICATIONS SYSTEMS**

Fundamental communications concepts: information, entropy, channel capacity, codes, data compression, adaptive channel equalizers, modulation/demodulation of signals, tracking, Kalman filtering, use of specialized signal processing hardware. Software in communication systems.

Three lectures one tutorial (one hour); second term  
Prerequisite: SFWR ENG 2MX3. STATS 3N03 or 3Y03 is recommended.

**SFWR ENG 4M03 DATABASES**

Physical organization of data, file structures, need for database management systems, entity-relationship design, the relational data model, concurrent access, mechanisms for data recovery. Assorted applications.

Three lectures, one tutorial (one hour); second term

Prerequisite: SFWR ENG 2E03 or 2DM3

Antirequisite: COMP SCI 3DB3, 4EB3, SFWR ENG 3H03.

**SFWR ENG 4003 OPERATIONS RESEARCH**

Linear programming; Integer programming, decision trees, network flow problems, graph algorithms, route planning, applications to engineering problems.

Three lectures, one tutorial (one hour); second term

Prerequisite: SFWR ENG 3X03

**SFWR ENG 4TE3 CONTINUOUS OPTIMIZATION ALGORITHMS**

Fundamental algorithms and general duality concepts of continuous optimization. Special attention will be paid to the applicability of the algorithms, their information requirements and computational costs. Practical engineering problems will illustrate the power of continuous optimization techniques.

Three lectures, one tutorial (one hour); first term

Prerequisite: MATH 2M06 or 2Q04

Cross-list: COMP SCI 4TE3

**CULTURAL STUDIES AND CRITICAL THEORY**

Courses in Cultural Studies and Critical Theory are administered within the Department of English and Cultural Studies of the Faculty of Humanities. For information and counselling, please contact the Department of English and Cultural Studies in Chester New Hall, Room 321.

**Courses** *If no prerequisite is listed, the course is open.***CSCT 1B03 CULTURAL STUDIES AND VISUAL CULTURE**

An introduction to cultural studies focusing on the critical and conceptual tools for the analysis of various forms of visual culture (e.g. photography, film, television, advertising, new media technologies). Considerable emphasis is placed on the development of effective writing skills.

Two lectures, one tutorial; one term

Cross-list: ENGLISH 1B03

**CSCT 1BB3 CULTURAL STUDIES AND CONSUMER CULTURE**

An overview of the development of cultural studies as an interdisciplinary field of academic inquiry through an exploration of the history of mass and consumer culture. Considerable emphasis will be placed on the development of critical skills in reading and writing.

Two lectures, one tutorial; one term

Cross-list: ENGLISH 1BB3

**CSCT 2J03 CONTEMPORARY POPULAR CULTURE**

This course explores the concept of popular culture through an examination of specific cultural forms, with emphasis on analytic skills informed by cultural and critical theory.

Three hours; one term

Prerequisite: Registration in Level II or above

Cross-list: ENGLISH 2J03

**CSCT 2K06 STUDIES IN WOMEN WRITERS**

A closely focused course on women's writing in English. The topic for the course varies, sometimes concentrating on specific issues, sometimes on an historical period or national literature. Relevant feminist theory will be a component of the course.

Three hours; two terms

Prerequisite: Registration in a program in Cultural Studies and Critical Theory or Women's Studies

Cross-list: ENGLISH 2K06, WOMEN ST 2K06

**CSCT 2M03 CONCEPTS OF CULTURE**

An analysis of the development of the concept of culture from the Enlightenment to the present. Theoretical readings combined with the analysis of specific cultural texts, objects, forms and practices will allow students to trace historical and contemporary debates concerning culture.

Three hours; one term

Prerequisite: Registration in a program in Communication Studies, Comparative Literature or Cultural Studies and Critical Theory

Cross-list: CMST 2M03, COMP LIT 2E03, ENGLISH 2M03

**CSCT 2MM3 MODERN COUNTERCULTURES**

An exploration of a variety of cultural forms (e.g., literature, art, photography, film, music) produced by avant-gardes and counter-cultural groups from the mid-19th century to the present. Areas of investigation may include surrealism, futurism, the beats, the sixties, situationism and punk.

Three hours; one term

Prerequisite: Registration in a program in Communication Studies, Comparative Literature or Cultural Studies and Critical Theory

Cross-list: CMST 2MM3, COMP LIT 2EE3, ENGLISH 2MM3

**CSCT 2P03 MODERNITY/POSTMODERNITY/VISUALITY**

This course will examine modernity and postmodernity through an exploration of a variety of theoretical discourses and representational practices, with specific reference to visual culture.

Three hours; one term

Prerequisite: Registration in a program in Cultural Studies and Critical Theory

Cross-list: ENGLISH 2P03

**CSCT 2S03 SPECTACULAR BODIES**

This course examines the representations and constructions of the racialized, gendered, ethnic, or othered human body in and through contemporary cultural texts.

Three hours; one term

Prerequisite: Registration in Level II or above

Cross-list: ENGLISH 2S03

**CSCT 3A03 CRITICAL RACE STUDIES**

This course examines contemporary debates in critical race theory in an attempt critically to decode the operations of race in literary and cultural texts.

Three hours; one term

Prerequisite: Registration in a program in Comparative Literature, Cultural Studies and Critical Theory, Peace Studies or Women's Studies

Cross-list: COMP LIT 3RR3, ENGLISH 3A03, PEACE ST 3A03, WOMEN ST 3H03

**CSCT 3AA3 THEORIES OF GENDER AND SEXUALITY**

This course explores a range of theories of gender and sexuality by working through readings from the intersecting fields of feminist, queer and masculinity studies.

Three hours; one term

Prerequisite: Registration in a program in Comparative Literature, Cultural Studies and Critical Theory or Women's Studies

Cross-list: COMP LIT 3AA3, ENGLISH 3AA3, WOMEN ST 3HH3

**CSCT 3BB3 THE CYBORG IN FICTION AND CRITICAL THEORY**  
 A study of selected works of speculative fiction and critical theory exploring a crucial site of the intersection of culture, science and technology. Three hours; one term  
 Prerequisite: Registration in Level II or above  
 Cross-list: ENGLISH 3BB3  
*Not open to students with credit in ENGLISH 3I13; TOPICS IN PROSE, if the topic was The Cyborg in Fiction and Critical Theory.*

**CSCT 3CC3 READING FILM**  
 A critical examination of selected films and film genres as cultural texts, using methods drawn from film theory and cultural studies. Three hours, plus one weekly film screening; one term  
 Prerequisite: Registration in Level II or above of a program in Art History, Communication Studies, Comparative Literature, Cultural Studies and Critical Theory or Theatre & Film Studies. It is recommended that students should already have completed THTR&FLM 2F03.  
 Cross-list: CMST 3CC3, COMP LIT 3L03, ENGLISH 3CC3, THTR&FLM 3R03

**CSCT 3D03 SCIENCE FICTION**  
 An examination of a number of standard science fiction tropes such as time travel, lost worlds, utopia/dystopia, totalitarian societies, alien races and post holocaust societies. Three lectures; one term  
 Prerequisite: Registration in Level II or above  
 Cross-list: ENGLISH 3D03  
*Not open to students with credit in ENGLISH 3I13, TOPICS IN PROSE, if the topic was Science Fiction.*

**CSCT 3EE3 AFRICAN AMERICAN FICTION**  
 A study of selected fiction by African American writers published since 1900, considered in the context of African American history and literary tradition. Three lectures; one term.  
 Prerequisite: Registration in Level II or above  
 Cross-list: ENGLISH 3EE3  
*Not open to students with credit in ENGLISH 3I13, TOPICS IN PROSE, if the topic was African American Fiction.*

**CSCT 3Q03 THE HISTORY OF CRITICAL THEORY**  
 A survey of the main developments in critical theory from Plato to the end of the 19th century. Areas of investigation may include: art, aesthetics, civil society, representation, ethics and knowledge. Three hours; one term  
 Prerequisite: Registration in a program in Comparative Literature or Cultural Studies and Critical Theory  
 Cross-list: COMP LIT 3Q03, ENGLISH 3Q03

**CSCT 3QQ3 CONTEMPORARY CRITICAL THEORY**  
 This course examines selected issues in contemporary critical theory. Areas of investigation may include: representation, power/knowledge, discourse, subjectivity and the body. Three hours; one term  
 Prerequisite: Registration in a program in Comparative Literature or Cultural Studies and Critical Theory. COMP LIT 3Q03, CSCT 3Q03 or ENGLISH 3Q03 is recommended.  
 Cross-list: COMP LIT 3QQ3, ENGLISH 3QQ3

**CSCT 3R06 POSTCOLONIAL CULTURES: THEORY AND PRACTICE**  
 A study of contemporary texts including literature, film, art and other forms of popular culture that engage the implications of living in a postcolonial world. Close consideration will be given to issues of imperialism, globalization, race, gender, ethnicity, nation, language and representation. Three hours; two terms  
 Prerequisite: Registration in a program in Comparative Literature, Cultural Studies and Critical Theory or Peace Studies  
 Cross-list: COMP LIT 3R06, ENGLISH 3R06, PEACE ST 3E06

**CSCT 3W03 CONTEMPORARY NATIVE LITERATURE IN CANADA**  
 A study of significant works by Native writers who give voice to their experience in Canada. Issues examined include appropriation of voice, native identity, women in indigenous societies and stereotyping. Three hours (lectures and seminars); one term  
 Prerequisite: Six units of Level II Indigenous Studies or six units of Level II English or permission of the instructor  
 Cross-list: ENGLISH 3W03, INDIG ST 3D03, PEACE ST 3W03  
*This course is administered by Indigenous Studies.*

**CSCT 3X03 CONTEMPORARY NATIVE LITERATURE IN THE UNITED STATES**  
 A study of contemporary works by Native writers in the United States within the context of American society and Post-Modern and Post-Colonial Literary Theory. Three hours (lectures and seminars); one term  
 Prerequisite: Six units of Level II Indigenous Studies or six units of Level II English or permission of the instructor  
 Cross-list: ENGLISH 3X03, INDIG ST 3E03, PEACE ST 3X03  
*This course is administered by Indigenous Studies.*

**CSCT 3Y03 CHILDREN'S LITERATURE**  
 A critical evaluation of literary works from approximately 1700 to the present, written primarily for children. Three lectures; one term  
 Prerequisite: Registration in Level II or above  
 Cross-list: ENGLISH 3Y03  
*Not open to students with credit in ENGLISH 3I13, TOPICS IN PROSE, if the topic was Children's Literature.*

**CSCT 3YY3 CONTEMPORARY YOUTH CULTURE**  
 An examination of contemporary youth culture through dominant representations of identity. Themes include: violence, sex/sexuality, age, gender, technology, music and dance, countercultures, subcultures, private/public space. Three hours; one term  
 Prerequisite: Registration in Level II or above  
 Cross-list: ENGLISH 3YY3

**CSCT 4X03 HONOURS ESSAY**  
 In consultation with members of the Cultural Studies and Critical Theory program and the English and Cultural Studies Department, students will prepare an essay on an approved topic. This course is normally substituted for three units of Level IV seminar work in the second term. Students who are interested in taking CSCT 4X03 should contact the faculty member chairing the CSCT 4X03 committee early in first term.  
 Prerequisite: Registration in Level IV of a Combined Honours program in Cultural Studies and Critical Theory  
*Enrolment is limited. Departmental permission required.*

**Note:**  
 Level IV Seminars are open only to Honours students registered in Level IV of a Cultural Studies and Critical Theory or English program. Enrolment will be limited to 15 students per seminar when possible. The Department of English and Cultural Studies is able to offer only a selection of the seminars listed below every year. A list of seminars to be offered will be available prior to registration, which takes place through the Department in March.

**CSCT 4AA3 AFRICAN-AMERICAN WOMEN WRITERS**  
 A study of a selection of African-American women writers, including Hurston, Walker, Morrison and Naylor, with a consideration of gender and race in literary theory. Seminar (two hours); one term  
 Prerequisite: Registration in Level IV of a Combined Honours program in Cultural Studies and Critical Theory  
 Cross-list: ENGLISH 4AA3  
*Enrolment is limited. Departmental permission required.*

**CSCT 4AR3 RHETORIC, CULTURE, CATASTROPHE: AIDS AND ITS REPRESENTATIONS**  
 An examination of selected novels, films, autobiographical writings and theoretical texts about AIDS, with an emphasis on the cultural discourses surrounding the AIDS crisis. Seminar (two hours); one term  
 Prerequisite: Registration in Level IV of a Combined Honours program in Cultural Studies and Critical Theory  
 Cross-list: ENGLISH 4AR3  
*Enrolment is limited. Departmental permission required.*

**CSCT 4AS3 THE AESTHETICS OF SEX IN THE 1890s**  
 This course will focus on the ideologically related struggles of 1890s men and women to express radical forms of sexuality in literature and on the aesthetics and politics that enforced divisions along gender lines. Seminar (two hours); one term  
 Prerequisite: Registration in Level IV of a Combined Honours program in Cultural Studies and Critical Theory  
 Cross-list: ENGLISH 4AS3  
*Enrolment is limited. Departmental permission required.*

**CSCT 4AW3 ASIAN AMERICAN WRITING**

A study of selected texts by Americans and/or Canadians of Asian origin with a focus on race, ethnicity, gender, sexuality, class, immigration, multiculturalism, transnationalism and diaspora.

Seminar (two hours); one term

Prerequisite: Registration in Level IV of a Combined Honours program in Cultural Studies and Critical Theory

Cross-list: ENGLISH 4AW3

Enrolment is limited. Departmental permission required.

**CSCT 4BB3 BLACK POPULAR CULTURE**

This course focuses on the production and reception of black popular culture (particularly the entertainment industry and professional sports) in ways that problematize the racialization of cultural forms of expression.

Seminar (two hours); one term

Prerequisite: Registration in Level IV of a Combined Honours program in Cultural Studies and Critical Theory

Cross-list: ENGLISH 4BB3

Enrolment is limited. Departmental permission required.

**CSCT 4CB3 READING THE BESTSELLER: CONTEMPORARY BRITISH FICTION**

An examination of possible critical vocabularies for the analysis of recent British fiction in light of how bestseller lists, prizes, publicity and media adaptability now shape the writing, marketing and reading of fiction.

Seminar (two hours); one term

Prerequisite: Registration in Level IV of a Combined Honours program in Cultural Studies and Critical Theory

Cross-list: ENGLISH 4CB3

Enrolment is limited. Departmental permission required.

**CSCT 4CF3 CONTEMPORARY FICTION**

A study of recent English and American fiction, with emphasis on metafiction as well as the relationship between contemporary literary theory and fiction.

Seminar (two hours); one term

Prerequisite: Registration in Level IV of a Combined Honours program in Cultural Studies and Critical Theory

Cross-list: ENGLISH 4CF3

Enrolment is limited. Departmental permission required.

**CSCT 4EM3 MODERNISM AND EMPIRE**

An examination of the formalistic, ideological and political relationship between British modernism and postcolonial studies through reading literary texts and cultural-historical contexts of modernism.

Seminar (two hours); one term

Prerequisite: Registration in Level IV of a Combined Honours program in Cultural Studies and Critical Theory

Cross-list: ENGLISH 4EM3

Enrolment is limited. Departmental permission required.

**CSCT 4FR3 FANTASIES OF THE ORIENT IN EIGHTEENTH-CENTURY BRITAIN**

This course explores how eighteenth-century England registered and imagined "the other" through "the Orient", as well as how the Orient shaped emerging literary genres and modes.

Seminar (two hours); one term

Prerequisite: Registration in Level IV of a Combined Honours program in Cultural Studies and Critical Theory

Cross-list: ENGLISH 4FR3

Antirequisite: ENGLISH 4F03

Enrolment is limited. Departmental permission required.

**CSCT 4FT3 THE FAIRY TALE**

A study of the fairy tale from the structuralist, psychoanalytic and sociological points of view, concentrating on the tales of the Brothers Grimm in translation and considering the importance of fairy tales in acculturation and their symbolic significance.

Seminar (two hours); one term

Prerequisite: Registration in Level IV of a Combined Honours program in Cultural Studies and Critical Theory

Cross-list: ENGLISH 4FT3

Enrolment is limited. Departmental permission required.

**CSCT 4HC3 THE HISTORY OF CULTURAL STUDIES**

A study of the history of cultural studies from its origins in the Frankfurt School, through the Birmingham Centre for Contemporary Cultural Studies, to its dispersal into distinct modes of academic practice.

Seminar (two hours); one term

Prerequisite: Registration in Level IV of a Combined Honours program in Cultural Studies and Critical Theory

Cross-list: ENGLISH 4HC3

Enrolment is limited. Departmental permission required.

**CSCT 4ID3****DISLOCATION AND BELONGING: CANADIAN WRITINGS OF IMMIGRATION AND DIASPORA**

This course examines works by and about people who have moved between cultural locations to consider questions of cultural and cross-cultural identity.

Seminar (two hours); one term

Prerequisite: Registration in Level IV of a Combined Honours program in Cultural Studies and Critical Theory

Cross-list: ENGLISH 4ID3

Enrolment is limited. Departmental permission required.

**CSCT 4J03****CROSSING BORDERS: GLOBAL FEMINISMS**

This course examines how women's lives are being transformed in a changing global society and the implications of women's changing places in society for feminist theory and practice.

Seminar (two hours); one term

Prerequisite: Registration in Level IV of a Combined Honours program in Cultural Studies and Critical Theory

Cross-list: ENGLISH 4J03, WOMEN ST 4J03

Enrolment is limited. Departmental permission required.

This course is administered by Women's Studies.

**CSCT 4LM3****EIGHTEENTH-CENTURY MACHINE LIFE**

This seminar will explore how metaphors and constructions of the machine pushed the boundaries of what it meant to be human during the eighteenth century.

Seminar (two hours); one term

Prerequisite: Registration in Level IV of a Combined Honours program in Cultural Studies and Critical Theory

Cross-list: ENGLISH 4LM3

Enrolment is limited. Departmental permission required.

**CSCT 4MO3****MODERNISM AND THE POLITICS OF FORM**

Reading of modernist texts in the light of the contested relationship of formal/technical experimentation with the politics of race, gender, colonialism and other modes of power relations.

Seminar (two hours); one term

Prerequisite: Registration in Level IV of a Combined Honours program in Cultural Studies and Critical Theory

Cross-list: ENGLISH 4MO3

Enrolment is limited. Departmental permission required.

**CSCT 4ON3****MICHAEL ONDAATJE**

This course explores various approaches to Michael Ondaatje's poetry and prose; gender, postcoloniality and interdisciplinarity. Ondaatje's engagement with film, photography, painting and music are topics of particular interest.

Seminar (two hours); one term

Prerequisite: Registration in Level IV of a Combined Honours program in Cultural Studies and Critical Theory

Cross-list: ENGLISH 4ON3

Enrolment is limited. Departmental permission required.

**CSCT 4OP3****THE "OPRAH EFFECT"**

This seminar considers the influence of Oprah Winfrey at various sites of cultural contestation: television, magazine publication, women's body images, entrepreneurship, celebrity activism, race, "self-help."

Seminar (two hours); one term

Prerequisite: Registration in Level IV of a Combined Honours program in Cultural Studies and Critical Theory

Cross-list: ENGLISH 4OP3

Enrolment is limited. Departmental permission required.

**CSCT 4PA3****THE "OPTICAL UNCONSCIOUS": AESTHETICS IN THE AGE OF PHOTOGRAPHY**

This seminar engages a series of contemporary debates in aesthetic theory, organized around the question of photography and the problems of visual representation.

Seminar (two hours); one term

Prerequisite: Registration in Level IV of a Combined Honours program in Cultural Studies and Critical Theory

Cross-list: ENGLISH 4PA3

Enrolment is limited. Departmental permission required.

**CSCT 4PC3****PSYCHE AND CULTURE**

This course explores the psychoanalytic understanding of culture with reference to three main areas: ideology, gender polarity and imaginative culture (the arts and literature).

Seminar (two hours); one term

Prerequisite: Registration in Level IV of a Combined Honours program in Cultural Studies and Critical Theory

Cross-list: ENGLISH 4PC3

Antirequisite: COMP LIT 4C03, 4F03

Enrolment is limited. Departmental permission required.

**CSCT 4RR3 THE ROMANCE OF ROMANCE**

Pairs of medieval and modern romances will be studied in the light of critical theories of romance, gender and reading.

Seminar (two hours); one term

Prerequisite: Registration in Level IV of a Combined Honours program in Cultural Studies and Critical Theory

Cross-list: ENGLISH 4RR3

*Enrolment is limited. Departmental permission required.*

**CSCT 4RT3 TELEVISION AND CONTEMPORARY CULTURE**

This seminar studies the cultural artefact called *television*, providing a comprehensive overview of various approaches to its study and the requisite theoretical tools to read this important element of contemporary culture.

Seminar (two hours); one term

Prerequisite: Registration in Level IV of a Combined Honours program in Cultural Studies and Critical Theory

Cross-list: ENGLISH 4RT3

*Enrolment is limited. Departmental permission required.*

**CSCT 4SF3 SCIENCE FICTION TOMORROW OR THE DAY AFTER**

This seminar will examine science fiction based in the present or near future in the context of artificial intelligence theory, economic possibilities and biology.

Seminar (two hours); one term

Prerequisite: Registration in Level IV of a Combined Honours program in Cultural Studies and Critical Theory

Cross-list: ENGLISH 4SF3

*Enrolment is limited. Departmental permission required.*

**CSCT 4SS3 SHAKESPEARE AND SHAKESPEARE'S SISTERS**

By examining works from different genres, this course explores the ways gender expectations shaped women's and men's contributions to popular and elite culture in early modern England.

Seminar (two hours); one term

Prerequisite: Registration in Level IV of a Combined Honours program in Cultural Studies and Critical Theory

Cross-list: ENGLISH 4SS3

*Enrolment is limited. Departmental permission required.*

**CSCT 4TS3 TORTURED SUBJECTS OF ROMANTICISM**

This course explores what the Romantics meant when they spoke of the "self," and how they began to rethink it as both a glowing ideal and a source of cultural antagonism and resentment.

Seminar (two hours); one term

Prerequisite: Registration in Level IV of a Combined Honours program in Cultural Studies and Critical Theory

Cross-list: ENGLISH 4TS3

*Enrolment is limited. Departmental permission required.*

**CSCT 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 a Combined Honours program in Cultural Studies and Critical Theory

Cross-list: ENGLISH 4UT3

*Enrolment is limited. Departmental permission required.*

**CSCT 4WI3 WOMAN AND THE NATION IN INDIAN POPULAR CINEMA**

An examination of Indian popular cinema (Bollywood) and its construction of the nation through representations of women. Themes may include: partition, religion, sexuality, minority, caste, diaspora.

Seminar (two hours); one term

Prerequisite: Registration in Level IV of a Combined Honours program in Cultural Studies and Critical Theory

Cross-list: ENGLISH 4WI3

*Enrolment is limited. Departmental permission required.*

**CSCT 4WL3 GLOBALIZATION AND POSTCOLONIAL FICTION**

This course examines fictional representations of the ideology and processes of globalization, while also considering how globalization shapes the production and consumption of postcolonial culture.

Seminar (two hours); one term

Prerequisite: Registration in Level IV of a Combined Honours program in Cultural Studies and Critical Theory

Cross-list: ENGLISH 4WL3

*Enrolment is limited. Departmental permission required.*

**DRAMA**

Former Drama courses are now listed as Theatre & Film (THTR&FLM) courses. Students having credit in Drama courses may not take the corresponding course under the Theatre & Film designation. To determine the Theatre & Film designation of a former Drama course, please see below.

Former Course	New Course	Course Title
DRAMA 1A03	No longer offered	Introduction to Drama: Cultural History in Contemporary Performance
DRAMA 1AA3	No longer offered	Introduction to Drama: Performance As Social Critique
DRAMA 2B03	THTR&FLM 2E03	New Media and Performance
DRAMA 2D03	THTR&FLM 2C03	Dramatic Forms
DRAMA 2L03	THTR&FLM 2D03	History of Western Theatre Performance to the Eighteenth Century
DRAMA 2X06	No longer offered	The Art of the Film
DRAMA 3B03	THTR&FLM 3T03	Independent Study in Theatre & Film I
DRAMA 3C03	No longer offered	Modern European Drama from Ibsen to Pirandello
DRAMA 3CC3	No longer offered	Modern European Drama from Brecht to the Present
DRAMA 3E03	THTR&FLM 3F03	Development of Canadian Theatre
DRAMA 3GG3	THTR&FLM 3H03	Comparative Theatre
DRAMA 3H03	THTR&FLM 3R03	Reading Film
DRAMA 3J03	No longer offered	Topics in Film
DRAMA 3L03	No longer offered	Modern European Theatre History
DRAMA 3M03	THTR&FLM 3G03	Theatre and Community Development
DRAMA 3P06	No longer offered	Plays in Performance
DRAMA 3R03	No longer offered	The American Cinema I
DRAMA 3RR3	No longer offered	The American Cinema II
DRAMA 3T03	THTR&FLM 3Q03	Topics in National Cinemas I
DRAMA 3TT3	No longer offered	Topics in National Cinemas II
DRAMA 3Z03	THTR&FLM 3S03	Independent Study in Practical Theatre
DRAMA 4A06	THTR&FLM 4A06	Honours Performance Project
DRAMA 4B03	THTR&FLM 4F03	Independent Study in Theatre & Film Studies II
DRAMA 4C03	THTR&FLM 4D03	Studies in Theatre and Film
DRAMA 4CC3	THTR&FLM 4B03	Studies in the Theory and Practice of Drama
DRAMA 4E03	THTR&FLM 4C03	Studies in the Theory of Dramatic Performance
DRAMA 4EE3	No longer offered	Studies in Contemporary Drama
DRAMA 4FF3	THTR&FLM 4E03	Studies in Film

**ECONOMICS**

WEB ADDRESS: <http://socserv.mcmaster.ca/econ/>

Kenneth Taylor Hall, Room 426

Ext. 22765

**Faculty as of January 15, 2006****Chair**

Michael R. Veall

**Associate Chair**

Stephen R. G. Jones

**Professors**

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/C.M., B.A., M.A., Ph.D. (Toronto), D.U. (Ottawa), D. Hon.

C. (Lviv), D Litt. (Nipissing), LL.D. (Toronto)

Jeremiah E. Hurley/B.A. (John Carroll), M.A., Ph.D. (Wisconsin-Madison)

Stephen R.G. Jones/B.A. (Cambridge), Ph.D. (California-Berkeley)

Atif A. Kubursi/B.A., (American University, Beirut), M.S., Ph.D. (Purdue)

John E. Leach/B.A. (Alberta), M.A., Ph.D. (Queen's)  
 Wayne Lewchuk/Labour Studies M.A. (Toronto), Ph.D. (Cambridge)  
 Lonnie J. Magee/B. Math. (Waterloo), M.A., Ph.D. (Western Ontario)  
 Stuart Mestelman/B.A. (Pittsburgh), M.S., Ph.D. (Purdue)  
 R. Andrew Muller/B.A. (McGill), M.A., Ph.D. (Toronto)  
 Kenneth H. Norrie/B.A. (Saskatchewan), M.Phil., Ph.D. (Yale)  
 Jeffrey S. Racine/B.A., M.A. (McMaster), Ph.D. (Western Ontario)/Senator  
 William McMaster Chair in Econometrics  
 William M. Scarth/B.A. (Queen's), M.A. (Essex), Ph.D. (Toronto)  
 Byron G. Spencer/B.A. (Queen's), Ph.D. (Rice)  
 Michael R. Veall/B.A. (McMaster), M.A. (Western Ontario), Ph.D. (M.I.T.)

#### Associate Professors

Thomas F. Crossley/B.Sc. (Queen's), M.A., Ph.D. (McMaster)  
 Alok Johri/B.A. (Delhi), M.A. (Delhi School of Economics), Ph.D. (Boston)  
 Marc-André Letendre/B.A.A. (HEC Montréal), M.A., Ph.D. (Queen's)  
 A. Abigail Payne/B.A. (Denison), J.D. (Cornell), Ph.D. (Princeton)/Canada  
 Research Chair in Public Economics

#### Adjunct Associate Professor

Paul Grootendorst/Clinical Epidemiology and Biostatistics B.A. (Victoria),  
 M.A. (Queen's), Ph.D. (McMaster)

#### Assistant Professors

David Bjerk/B.A. (Carleton College), M.S., Ph.D. (Wisconsin-Madison)  
 Paul Contoyannis/B.Sc., M.Sc., Ph.D. (University of York)  
 Katherine Cuff/M.A. (York), B.A., Ph.D. (Queen's)  
 Philip DeCiocca/B.A. (Cornell), M.P.A. (Syracuse), Ph.D. (Michigan)  
 Michel Grignon/M.A. (ENSAE), Ph.D. (EHESS)  
 Seungjin Han/B.Econ. (Korea University), M.A., (McGill University), Ph.D.  
 (Toronto)  
 Peter J. McCabe/A.B. (Boston College), Ph.D. (Northwestern)

#### Adjunct Assistant Professor

Emile Tompa/B.A. (York), M.B.A. (British Columbia), M.A. (Toronto),  
 Ph.D. (McMaster)

#### Associate Members

Dean C. Mountain/Business B.A. (McMaster), M.A., Ph.D. (Western Ontario)  
 Gregory L. Stoddart/Clinical Epidemiology and Biostatistics B.A.  
 (Western Ontario), Ph.D. (British Columbia)

### Department Notes:

- Not all the Economics courses listed in this Calendar are taught every year. Students are advised to consult the timetable published by the Office of the Registrar, or the Department handbook for information on current offerings.
- Students with strong academic records, particularly those from other departments, may be permitted to enrol in courses for which they have not completed all prerequisites. In cases where prerequisites are incomplete, consultation with a departmental counsellor is required. If approval is granted, the counsellor will arrange for permission from the Department Chair.
- Students with credit in ECON 2X03 who transfer into Economics from other programs may substitute ECON 2X03 for ECON 2G03.
- Students who complete ECON 2I03 are well placed to enrol in the Canadian Securities Course (a correspondence course operated by the Canadian Securities Institute which represents the licensing requirement for individuals training to become investment advisors).
- ECON 2CC3 and 2L03 may not be used to satisfy Economics unit requirements by students in Economics programs or a minor in Economics, but may be used as an elective by students in Economics programs.
- Many graduate programs in Economics require ECON 3G03, 4T03 and 4TT3. Students interested in an M.A. in Economics are advised to consult a departmental advisor for more detailed information.

### Courses *If no prerequisite is listed, the course is open.*

#### ECON 1B03 INTRODUCTORY MICROECONOMICS

An introduction to the method and theory of microeconomics, and their application to the analysis of contemporary economic problems.  
 Three lectures; one term  
 Antirequisite: ECON 1A06

#### ECON 1BB3 INTRODUCTORY MACROECONOMICS

An introduction to the method and theory of macroeconomics, and their application to the analysis of contemporary economic problems.  
 Three lectures; one term  
 Antirequisite: ECON 1A06

#### ECON 2A03 ECONOMICS OF LABOUR-MARKET ISSUES

This course applies economic analysis to issues of importance in the labour market. Topics vary and may include: women in the Canadian labour market; discrimination in hiring and promotion; unemployment; job loss and workplace closing; work sharing.  
 Three lectures; one term  
 Prerequisite: ECON 1A06; or ECON 1B03 and 1BB3  
 Cross-list: LABR ST 3A03

#### ECON 2B03 ANALYSIS OF ECONOMIC DATA

Application of statistical concepts to the analysis of economic data, with attention to Canadian sources. Regression analysis and the use of spreadsheets are included. Topics may also include index numbers.  
 Three lectures; one term  
 Prerequisite: ECON 1A06 or both ECON 1B03 and 1BB3; and MATH 1K03 or Grade 12 Advanced Functions and Introductory Calculus U; and one of STATS 1L03 or Grade 12 Mathematics of Data Management U  
 Antirequisite: COMMERCE 2QA3, ECON 3O06, GEO 2S03, HTH SCI 1F03, POL SCI 3N06, PSYCH 2G03, 2R03, 2RR3, SOC SCI 2J03, SOCIOL 2Y03, STATS 1A03  
*Not open to students with credit or registration in ARTS&SCI 2R06, CHEM ENG 4C03, HTH SCI 2A03, SOCIOL 3H06, STATS 1CC3, 2D03, 2MA3, 2MB3, 2R06, 3N03, 3Y03, or if COMMERCE 2QA3 is a program requirement.*

Three lectures; one term  
 Prerequisite: ECON 1A06 or both ECON 1B03 and 1BB3; and MATH 1K03 or Grade 12 Advanced Functions and Introductory Calculus U; and one of STATS 1L03 or Grade 12 Mathematics of Data Management U  
 Antirequisite: COMMERCE 2QA3, ECON 3O06, GEO 2S03, HTH SCI 1F03, POL SCI 3N06, PSYCH 2G03, 2R03, 2RR3, SOC SCI 2J03, SOCIOL 2Y03, STATS 1A03

#### ECON 2C03 ASIAN-PACIFIC ECONOMIES

Economic conditions and factors influencing economic growth in selected countries in the Asian-Pacific region. Topics include government policies related to exchange rates and trade and development, as well as the Japanese style of management, the bonus system and job tenure.  
 Three lectures; one term  
 Prerequisite: ECON 1A06; or ECON 1B03 and 1BB3  
 Cross-list: JAPAN ST 2C03

#### ECON 2CC3 HEALTH ECONOMICS AND ITS APPLICATION TO HEALTH POLICY

Economic analysis of health and health care, with a special emphasis on policy issues in the Canadian health care system.  
 Three hours (lectures and discussion); one term  
 Prerequisite: Registration in Level II or above  
 Cross-list: HEALTHST 2C03  
*Not open to students registered in an Economics program or with credit or registration in ECON 2G03, 2X03 or 3Z03 (See Note 5 above.) Students excluded from ECON 2CC3 or those wishing to do further work in Health Economics are referred to ECON 3Z03.*

#### ECON 2D03 ECONOMIC ISSUES

Applications of economics to important public issues, from a general interest perspective. Since topics vary from year to year, interested students should consult the Economics Department for further details.  
 Three lectures; one term  
 Prerequisite: ECON 1A06; or ECON 1B03 and 1BB3

#### ECON 2F03 THE POLITICAL ECONOMY OF DEVELOPMENT

Topics include trade and economic protection, financial development and investment, income distribution, and the role of globalization and international political competition.  
 Three lectures; one term  
 Prerequisite: ECON 1A06; or ECON 1B03 and 1BB3

#### ECON 2G03 INTERMEDIATE MICROECONOMICS I

Elements of production and cost; price and output determination under competitive and non-competitive market structures; the role of taxes and subsidies.  
 Three lectures; one term  
 Prerequisite: ECON 1A06 or 1B03; and one of Grade 12 Advanced Functions and Introductory Calculus U, MATH 1K03 or equivalent; and credit or registration in MATH 1M03 or equivalent  
 Antirequisite: ECON 2L06, 2X03

#### ECON 2GG3 INTERMEDIATE MICROECONOMICS II

Theory of consumer choice and applications to intertemporal choice and labour supply decisions; theory of exchange, welfare economics and general equilibrium analysis.  
 Three lectures; one term  
 Prerequisite: ECON 2G03 or 2X03; and MATH 1M03 or equivalent  
 Antirequisite: ECON 2L06



**ECON 2H03****INTERMEDIATE INCOME AND EMPLOYMENT THEORY I**

Determinants of national income, employment, the rate of interest and the price level; introduction to the open economy.

Three lectures; one term

Prerequisite: ECON 1A06 or 1BB3; and one of Grade 12 Advanced Functions and Introductory Calculus U, MATH 1K03 or equivalent. Students without credit in MATH 1M03 or equivalent are strongly advised to take it concurrently with ECON 2H03.

Antirequisite: ECON 2M06

**ECON 2HH3****INTERMEDIATE INCOME AND EMPLOYMENT THEORY II**

Selected topics from macroeconomics policies, issues in unemployment and inflation in open and closed economies, components of aggregate demand and supply and economic growth.

Three lectures; one term

Prerequisite: ECON 2H03

Antirequisite: ECON 2M06

**ECON 2I03****FINANCIAL ECONOMICS**

Detailed investigation of the financial sector. Topics include the role of capital markets in facilitating investment and growth, bond markets, stock markets, financial statements and taxation.

Three lectures; one term

Prerequisite: ECON 1A06; or ECON 1B03 and 1BB3

*Not open to students with credit or registration in COMMERCE 2FA3.*

**ECON 2J03****ENVIRONMENTAL ECONOMICS**

Allocation of environmental services: efficiency and market failure; measuring environmental benefits; environmental regulation in Canada and elsewhere: taxes, tradable permits and other instruments; further topics.

Three lectures; one term

Prerequisite: ECON 1A06 or 1B03

**ECON 2K03****ECONOMIC HISTORY OF CANADA**

A survey of the changing structure of the Canadian economy from the colonial period to the present; early significance of primary production for export markets; emerging domestic markets and industrialization; government's role in promoting the development of the national economy.

Three lectures; one term

Prerequisite: ECON 1A06; or ECON 1B03 and 1BB3

**ECON 2L03****PEACE, HUMAN SECURITY AND ECONOMIC DEVELOPMENT**

The methods and concepts of economic analysis applied to economic development, human security, human rights and peace and conflict resolution.

Three lectures; one term

Prerequisite: Registration in Level II or above. (See Note 5 above.)

**ECON 2N03****PUBLIC POLICY TOWARD BUSINESS**

The economic effects of federal competition policy and the regulation of business by all levels of government.

Three lectures; one term

Prerequisite: ECON 1A06 or 1B03

Antirequisite: ECON 3N03

**ECON 2P03****ECONOMICS OF PROFESSIONAL SPORTS**

The application of economic principles to team and individual professional sports. Theory of sports leagues, demand for sports, the market for athletes, broadcasting rights, competition policy issues, the public finance aspects of stadium financing.

Three lectures; one term

Prerequisite: ECON 1A06 or 1B03

**ECON 2T03****ECONOMICS OF TRADE UNIONISM AND LABOUR**

Topics include the economics of the labour market, of trade unionism, of work, the impact of trade unions on the labour market, economic theories of strikes and trade unions and the state.

Three lectures; one term

Prerequisite: ECON 1A06; or ECON 1B03 and 1BB3

Cross-list: LABR ST 3B03

**ECON 2X03****APPLIED BUSINESS ECONOMICS**

The economic analysis of the strategy of managerial decision-making. The role of technology, costs, government intervention and market structure on output and pricing decisions.

Three lectures; one term

Prerequisite: ECON 1A06 or 1B03; and one of Grade 12 Advanced Functions and Introductory Calculus U, MATH 1K03 or equivalent; and credit or registration in MATH 1M03 or equivalent

Antirequisite: ECON 2G03, 2L06

*Not open to students registered in Economics programs.*

**ECON 3B03****PUBLIC SECTOR ECONOMICS: EXPENDITURES**

Theory and practice of public finance. Topics are selected from growth of the public sector, market failure, theory of public goods, incentive mechanisms, logic of group decisions and the political process, theory of benefit-cost analysis, intergovernmental fiscal relations, government budgeting.

Three lectures; one term

Prerequisite: One of ECON 2G03, 2X03, 2L06

Antirequisite: ECON 3C06

**ECON 3C03****PUBLIC SECTOR ECONOMICS: TAXATION**

Theory and practice of public finance: analysis and comparison of the efficiency, equity and distribution effects of the taxation of income, wealth and expenditure, analysis of social insurance; intergovernmental fiscal relations.

Three lectures; one term

Prerequisite: One of ECON 2G03, 2X03, 2L06

Antirequisite: ECON 3C06

**ECON 3D03****LABOUR ECONOMICS**

Introduction to the economics of the labour market; demand for labour by the firm and industry; supply of labour by the individual; investment in human capital.

Three lectures; one term

Prerequisite: One of ECON 2G03, 2X03, 2L06

**ECON 3F03****METHODS OF INQUIRY IN ECONOMICS**

This course develops skills for investigating a research question in economics, through workshops (eg. writing, library, internet, data), and the subsequent application of the skills to an economic issue.

Three hours; one term

Prerequisite: ECON 2B03 and registration in Level III or Level IV of an Honours Economics program

**ECON 3G03****INTRODUCTION TO ADVANCED ECONOMIC THEORY**

An introduction to the application of mathematics in economic theory.

Three lectures; one term

Prerequisite: One of Grade 12 Mathematics of Data Management U, MATH 1B03 or STATS 1L03; and MATH 1M03 or equivalent; and a grade of at least C in each of ECON 2G03 (or 2X03), 2GG3 (or 2L06), 2H03, 2HH3 (or 2M06)

*Not open to students with credit or registration in MATH 2A03, 2X03 or 2Q04.*

**ECON 3H03****INTERNATIONAL MONETARY ECONOMICS**

Macroeconomic problems of an open economy with special reference to Canada; the international financial system and proposals for its reform.

Three hours (lectures and seminars); one term

Prerequisite: ECON 2H03 or 2M06

**ECON 3HH3****INTERNATIONAL TRADE**

Real theory of international trade; interregional and international specialization; effect of commercial and industrial policies.

Three lectures; one term

Prerequisite: One of ECON 2G03, 2X03, 2L06

**ECON 3I03****ECONOMIC HISTORY OF THE UNITED STATES**

Economic analysis of the development of the U.S. economy. Topics include the colonial economy, slavery, transportation, income distribution, foreign trade, technical and institutional change and the Great Depression.

Three lectures; one term

Prerequisite: One of ECON 2G03, 2X03, 2L06. ECON 2H03 or 2M06 is recommended

**ECON 3K03****TOPICS IN MONETARY ECONOMICS**

Analysis of monetary theory and policy. Topics include money demand and supply, money and inflation, rational expectations, monetary policy and asset market analysis.

Three lectures; one term

Prerequisite: One of ECON 2G03, 2X03, 2L06; and ECON 2H03 or 2M06

**ECON 3LL3****HISTORY OF ECONOMIC THEORY**

Economic thought from earliest times, with emphasis on the major schools from Adam Smith to Alfred Marshall, selected modern trends and controversies.

Three lectures; one term

Prerequisite: One of ECON 2G03, 2X03, 2L06; and ECON 2H03 or 2M06

**ECON 3M03****INTRODUCTION TO GAME THEORY**

An introduction to the theory of games, including strategic, extensive and coalitional games. Applications in economics, political science and evolutionary biology are discussed.

Three lectures; one term

Prerequisite: ECON 1A06 or 1B03; and MATH 1K03 (or equivalent)

*Not open to students with credit in ECON 3Y03 if the topic was Introduction to Game Theory.*

**ECON 3Q03 THE ECONOMICS OF AGING**

Topics include the macroeconomics of population aging and its impact on national pension and health plans and the microeconomics of retirement and income security.

Three lectures; one term

Prerequisite: One of ECON 2G03, 2X03, 2L06; and ECON 2H03 or 2M06

**ECON 3S03 INDUSTRIAL ORGANIZATION**

A study of the structure, conduct and performance of industrial markets.

Three lectures; one term

Prerequisite: One of ECON 2G03, 2X03, 2L06

Antirequisite: ECON 3N06

**ECON 3T03 TOPICS IN ECONOMIC DEVELOPMENT**

Topics may include the measurement of structural change, dual economies, agriculture and production, technical and institutional change, and health and nutrition.

Three lectures; one term

Prerequisite: One of ECON 2G03, 2X03, 2L06; and ECON 2H03 or 2M06

Antirequisite: ECON 3J06

**ECON 3U03 ECONOMETRICS I**

Elaboration of regression techniques developed in ECON 2B03. Problems of inference and interpretation in the analysis of economic data. Introduction to forecasting in economics.

Three lectures; one term

Prerequisite: One of ECON 2G03, 2X03, 2L06; and ECON 2H03 or 2M06; and ECON 2B03 or one of CHEM ENG 4C03, COMMERCE 2QA3, GEO 2S03, GEOG 2LL3, 2N03, POL SCI 2F06, 3N06, PSYCH 2G03, 2R03, 2RA3, 2RB3, 2RR3, SOC SCI 2J03, SOCIOLOGY 2Y03, 3H06, STATS 1CC3, 2D03, 2R06 or another course that is approved by a departmental counselor as equivalent to ECON 2B03

Not open to students with credit in ECON 3O06, STATS 2MA3, 2MB3, 3D03, or 3DD3 or credit or registration in ECON 4G03.

**ECON 3W03 NATURAL RESOURCES**

Competitive and socially optimal management of nonrenewable resources; market failure as illustrated by mineral cartels, fisheries and forestry, including analysis of bioeconomic models.

Three hours (lectures and seminars); one term

Prerequisite: MATH 1M03 and one of ECON 2G03, 2J03, 2X03, 2L06; or permission of the instructor

**ECON 3Z03 HEALTH ECONOMICS**

Analysis of allocation of resources in health care. Topics include markets for health care, insurance, biomedical research, technology assessment, organization and public policy.

Three lectures; one term

Prerequisite: One of ECON 2CC3, 2G03, 2L06, 2X03, HEALTHST 2C03, ECON 2B03 or another course in statistics is recommended.

**ECON 4A03 HONOURS SEMINAR IN ECONOMICS**

Students prepare, present and discuss papers under supervision of a faculty member. Several sections will normally be offered. Topics for each section will be announced in January.

Three hours (seminars); one term

Prerequisite: ECON 2GG3, 2HH3, 3F03; and ECON 3U03 or 3O06; and registration in an Honours Economics program

**ECON 4B03 SELECTED TOPICS**

Topics will vary from year to year depending on student interests and faculty availability. Students should consult the Department on topics to be offered.

Three hours; one term

Prerequisite: Permission of the Department

**ECON 4G03 ECONOMETRICS II**

Development of regression models appropriate to economics. Illustrations from applied micro- and macroeconomics.

Three lectures; one term

Prerequisite: ECON 2G03 or 2X03 (or 2L06); and ECON 2H03 (or 2M06); and at least C- in ECON 3O06 or 3U03 or an average of 4.0 in both STATS 2D03 and 2MB3 (or 2M03)

**ECON 4M06 DIRECTED RESEARCH I**

A reading and/or research program supervised by a Department member. A major paper is required. Interested students should consult the Department concerning admission.

Prerequisite: Permission of the Department

**ECON 4N03 DIRECTED RESEARCH II**

As per ECON 4M06.

Prerequisite: Permission of the Department

**ECON 4T03 ADVANCED ECONOMIC THEORY I**

Mathematically oriented approaches to the analysis of the behaviour of individual consumers, workers and firms.

Three lectures; one term

Prerequisite: A grade of at least C- in one of ECON 3G03, MATH 2Q04, 2X03 (or 2A03); and a grade of at least C in each of ECON 2G03 (or 2X03), 2GG3 (or 2L06); 2H03, 2HH3 (or 2M06)

Antirequisite: ECON 3A03

**ECON 4TT3 ADVANCED ECONOMIC THEORY II**

Analysis of dynamic macroeconomic models including models of endogenous growth and other selected topics.

Three lectures; one term

Prerequisite: A grade of at least C- in one of ECON 3G03, MATH 2Q04, 2X03 (or 2A03); and a grade of at least C in each of ECON 2G03 (or 2X03), 2GG3 (or 2L06); 2H03, 2HH3 (or 2M06)

Antirequisite: ECON 3AA3

## ELECTRICAL AND COMPUTER ENGINEERING

WEB ADDRESS: <http://www.ece.mcmaster.ca>

Information Technology Building, Room A111

Ext. 24347

### Faculty as of January 15, 2006

**Chair**

K. Max Wong

**Associate Chair (Undergraduate Programs)**

James P. Reilly

**Associate Chair (Graduate Studies)**

T. Kirubarajan

**Distinguished University Professor**

Simon Haykin/B.Sc., Ph.D., D.Sc. (Birmingham), F.R.S.C., F.I.E.E.E.

**Professors**

David W. Capson/B.Sc.Eng. (New Brunswick), M.Eng., Ph.D. (McMaster), P.Eng.  
M. Jamal Deen/B.Sc. (Guyana), M.S., Ph.D. (Case Western Reserve),  
F.I.E.E.E., F.E.I.C.

Wei-Ping Huang/B.S. (Shandong), M.S. (Science and Technology of China),  
Ph.D. (M.I.T.)

James P. Reilly/B.A.Sc. (Waterloo), M.Eng., Ph.D. (McMaster), P.Eng.

Peter M. Smith/B.Eng.Mgt., M.Eng., Ph.D. (McMaster), P.Eng.

Barna Szabados/Dipl.Eng. (Grenoble), M.Eng., Ph.D. (McMaster), P.Eng.

Ted H. Szymanski/B.A.Sc., M.A.Sc., Ph.D. (Toronto), P. Eng.

Terrence D. Todd/B.A.Sc., M.A.Sc., Ph.D. (Waterloo), P.Eng.

Kon Max Wong/B.Sc. (Eng.), Ph.D., D.Sc. (Eng.) (London), D.I.C. (Imperial  
College), P.Eng., C.Eng., F.I.E.E., F.Inst.P., F.S.S., F.I.E.E.E.

X. Wu/B.Sc. (Wuhan, China), Ph.D. (Calgary)

**Adjunct Professors**

Laurel Carney/S.B., M.S., Ph.D. (Wisconsin)

Alex B. Gershman/M.Eng.Sc., Ph.D. (Nizhny Novgorod)

Jim Lee/B.Sc. (Calgary), M.A.Sc. (Toronto), Ph.D. (Carleton)

Tom (Z-Q.) Luo/B.Sc. (Peking), Ph.D. (M.I.T.), P. Eng.

Mark Haacke/B.Sc., M.Sc., Ph.D. (Toronto)

Ben Ong/B.Sc., Ph.D. (McGill)

**Associate Professors**

T. Davidson/B.Eng. (Western Australia), D. Phil. (Oxford)

Hubert deBruin/B.Eng., M.Eng., Ph.D. (McMaster), P.Eng.

T.R. Field/B.A. (Cambridge), D. Phil. (Oxford)

T. Kirubarajan/B.A., M.A. (Cambridge), M.S., Ph.D. (Connecticut)

X. Li/B.S. (Shandong), M.S. (Wuhan Research Inst. of Posts & Telecom-  
munications), Ph.D. (Northern Jiaotong) P.Eng.

N. Nikolova/Dipl. Ing. (Technical University of Varna), Ph.D. (University of  
Electrocommunications, Tokyo), P.Eng.

**Adjunct Associate Professors**

Eloi Bosse/B.Sc.A., M.Sc. (Laval), Ph.D. (Carleton, Ottawa, Laval)

Z. (Jack) Ding, B.Sc., M.A.Sc., Ph.D. (Northwestern Polytechnic Univer-  
sity, P.R. China)

**Assistant Professors**

- M. Bakr/B.Sc., M.Sc. (Cairo), Ph.D. (McMaster), P.Eng.  
 I. Bruce/B.Eng., Ph.D. (Melbourne)  
 C.H. Chen/B.A.Sc. (National Central Univ., Taiwan), M.A.Sc. (Simon Fraser), Ph.D. (McMaster)  
 S. Dumitrescu/B.Sc., Ph.D. (Bucharest)  
 Y. Haddara/B.Eng. (Memorial), M.Sc., Ph.D. (Stanford)  
 S. Hranilovic/B.A.Sc. (Waterloo), M.A.Sc., Ph.D. (Toronto)  
 A. Jeremic/Dipl.Ing. (Belgrade), M.Sc., Ph.D. (Illinois-Chicago)  
 D. Jones/B.Sc. (Western Ontario), Ph.D. (Stanford)  
 S. Kumar/B.S. (Mysore University, India), M.S., Ph.D. (Indian Institute of Science), Ph.D. (Osaka)  
 Nicola Nicolici/B.Eng. (Technical University Timisoara), Ph.D. (Southampton)  
 S. Shirani/B.Sc. (Isfahan University of Technology), M.Sc. (Amirkabir University of Technology), Ph.D. (British Columbia), P.Eng.  
 S. Sirouspour/B.Sc., M.Sc. (Sharif University of Technology, Iran), Ph.D. (British Columbia)  
 D. Zhao/B.S. (Northern Jiaotong, Beijing), Ph.D. (Waterloo), P.Eng.

**Adjunct Assistant Professors**

- Javier F. De la Hidalga-W/B.Sc., M.Sc., Ph.D. (INAOE, Puebla, Mexico)  
 Qü Jin/B.Eng., M.Eng. (Dalian Maritime), Ph.D. (McMaster)  
 Derek C. Schuurman/B.A.Sc., M.A.Sc., (Waterloo), Ph.D. (McMaster)

**Associate Members**

- Gary Bone/(Mechanical Engineering) B.Sc.App.Sc. (Queen's), M.Eng., Ph.D. (McMaster)  
 Troy Farncombe/(Medical Imaging) B.Sc., M.Sc., Ph.D. (British Columbia)  
 Jan Huizinga/(Medicine) B.Sc., M.Sc., Ph.D. (Groningen, Netherlands)  
 Markad V. Kamath/(Medicine) M.S., Ph.D. (Indian Inst. of Tech., Madras), Ph.D. (McMaster)  
 Michael Noseworthy/(Medical Imaging) B.Sc., M.Sc., Ph.D. (Guelph)  
 Allan D. Spence/(Mechanical Engineering) B.Math., M.A.Sc. (Waterloo), Ph.D. (British Columbia), P.Eng.  
 Tamás Terlaky/(Computing and Software) M.Sc., Ph.D. (Loránd Eötvös)

**Lecturers**

- Drazena Brocilo/B.Eng., M.Eng., Ph.D. (McMaster)  
 Thomas E. Doyle/B.Sc., B.E.Sc., M.E.Sc. (Western Ontario), P.Eng.  
 Zhe Wang/B.Eng, M.Eng, Ph.D (McMaster)  
 Hu Zhang/B.Eng., M.Eng., M.Phil., Ph.D (Kiel)  
 J.K. Zhang/B.S., M.S., Ph.D (Xidian)

**COMPUTER ENGINEERING ...****Department Note:**

Computer Engineering is a multi-disciplinary program that includes a combination of Computer Engineering, Electrical Engineering and Software Engineering courses. In their senior year, students have the opportunity to customize their program by selecting from a wide range of technical electives. All Electrical and Computer Engineering courses are open to students registered in an Electrical or Computer Engineering program, subject to prerequisite requirements. Prior permission of the Department is necessary for students from other Engineering departments or faculties.

**Courses****COMP ENG 2DI4 LOGIC DESIGN**

Binary numbers and codes; Boolean algebra; combinational circuit design; electrical properties of logic circuits; sequential circuit design; computer arithmetic; programmable logic; CPU organization and design. Three lectures, one tutorial, one lab every other week; first term  
 Prerequisite: Registration in a program in Computer Engineering  
 Antirequisite: COMP SCI 2MF3, ELEC ENG 2DI4, SFWR ENG 2D03, 2D04, 2DA3

**COMP ENG 2DP4 MICROPROCESSOR SYSTEMS**

Introduction to computer organizations; Algorithmic state machine design; Microprocessor-based system design including memory and peripheral interfaces; Interrupt systems; software development tools; Machine-level coding and programming. Three lectures, one tutorial, one lab every other week; second term  
 Prerequisite: COMP ENG 2DI4  
 Antirequisite: COMP ENG 3DJ4

**COMP ENG 2SH4 PRINCIPLES OF PROGRAMMING**

Fundamental concepts of programming languages: (Assertion, Assignment, Control Flow, Iteration, Recursion, Exceptions); Data Representations; Basic concepts of operating systems; Composing and analyzing small programs. Three lectures, one tutorial, one lab every other week; first term  
 Prerequisite: Registration in a program in Electrical and Computer Engineering  
 Antirequisite: SFWR ENG 2S03

**COMP ENG 2SI4 DATA STRUCTURES, ALGORITHMS AND DISCRETE MATHEMATICS**

Application of logic and finite state machines programming; data types; data abstraction and algorithms for sorting and searching; application of graph algorithms and combinatorics in programming; estimating program resource utilization.

Three lectures, one tutorial (two hours); second term

Prerequisite: ENGINEER 1D04, COMP ENG 2SH4

Antirequisite: COMP SCI 2MD3, 2SC3, 3DA3, ELEC ENG 2SI4, SFWR ENG 2C03, 2C04

**COMP ENG 3DJ4 DIGITAL SYSTEMS DESIGN**

CAD tools for digital circuits; hardware description language; programmable logic and applications; algorithmic state machine design; micro-processor-based system design including memory and peripheral interfaces; machine-level programming.

Three lectures, one tutorial, one lab every other week; first term

Prerequisite: COMP ENG 2DI4 or ELEC ENG 2DI4

Antirequisite: COMP ENG 2DP4, PHYSICS 4D06, 4DA3, SFWR ENG 3F03

**COMP ENG 3DQ4 DIGITAL SYSTEMS DESIGN**

Advanced design methods of digital systems including modelling, simulation, synthesis and verification using hardware description languages; timing analysis and hardware debugging; implementation of computer peripherals in programmable devices.

Two lectures, one tutorial, one lab (three hours) every week; first term

Prerequisite: COMP ENG 2DI4

**COMP ENG 3DR4 COMPUTER ORGANIZATION**

Instruction set design, computer arithmetic, assembly language, controller and datapath design, cache and memory systems, input-output systems, networks interrupts and exceptions, pipelining, performance and cost analysis, computer architecture history and a survey of advanced architectures.

Three lectures, one tutorial; second term

Prerequisite: COMP ENG 3DQ4

**COMP ENG 3SK3 COMPUTER-AIDED ENGINEERING**

Numerical analysis; linear and nonlinear systems; least squares and QR factorization; optimization; numerical integration and differentiation; sensitivity analysis; finite differences and finite elements; engineering applications.

Three lectures, one tutorial; second term

Prerequisite: ELEC ENG 2CJ4 or 2CJ5; and MATH 2P04

Antirequisite: COMP ENG 3SK4, SFWR ENG 3X03

**COMP ENG 4DK4 COMPUTER COMMUNICATION NETWORKS**

Introduction to switching and communication networks; packet switching; shared media access and LANs; error control; network layer operation and the Internet; ISDN; wireless networks; performance and simulation.

Three lectures, one tutorial, one lab every other week; first term

Prerequisite: ELEC ENG 3TQ4

**COMP ENG 4DL4 REAL-TIME AND DISTRIBUTED COMPUTING SYSTEMS**

Computing systems design for real-time applications in control and communications; data acquisition, file management, memory management and multitasking in a real-time environment; distributed computing systems; synchronization, fault tolerance.

Three lectures, one tutorial, one lab every other week; second term

Prerequisite: COMP ENG 3DJ4

**COMP ENG 4DM4 COMPUTER ARCHITECTURE**

Overview of CISC/RISC microprocessors; performance metrics; instruction set design; processor and memory acceleration techniques; pipelining; scheduling; instruction level parallelism; memory hierarchies; multiprocessor structures; storage systems; interconnection networks.

Three lectures, one tutorial, one lab every other week; first term

Prerequisite: COMP ENG 3DJ4 or 3DR4

Antirequisite: SFWR ENG 3G03, 3GA3

**COMP ENG 4DN4 ADVANCED INTERNET COMMUNICATIONS**

Advanced internet protocols; routing, security, encryption; quality of service; ATM, RSVP, video and voice over IP; terminals, gateways and gatekeepers; wireless networks; WDM systems; optical crossconnects.

Three lectures, one tutorial, one lab every other week; second term

Prerequisite: COMP ENG 4DK4

**COMP ENG 4DS4 EMBEDDED SYSTEMS**

Embedded processor architectures and SOC organization; EDA tools for hardware/software co-design; co-verification and testability; interfacing; co-processors, soft processors and ASIP design; real-time systems; applications.

Three lectures, one tutorial, one lab every other week; second term

Prerequisite: COMP ENG 3DQ4

**COMP ENG 4EK3 MICROELECTRONICS**

CMOS and MOSFET integrated circuit design; fabrication and layout; simulation; digital and analog circuit blocks; computer-aided design and analysis; testing and verification.

Two lectures, one tutorial, one lab every other week; first term

Prerequisite: ELEC ENG 3EJ4

Antirequisite: ELEC ENG 4EK3

**COMP ENG 4OJ5 ENGINEERING DESIGN**

The design process; establishing objectives; preliminary design; planning; scheduling; decision matrices; modelling tools; economic impact; optimization methods; reliability; safety; a term project composed of small teams of students including an oral presentation and written report.

Lectures, tutorials, one capstone project; first term

Prerequisite: Registration in Level IV or V of any Electrical or Computer Engineering program

**COMP ENG 4OJ3 RESEARCH PROJECT**

A research-oriented project under the direct supervision of a faculty member to foster initiative and independent creativity while working on an advanced topic. First term or second term

Prerequisite: Prior arrangement with an Electrical and Computer Engineering faculty member, inclusion on the Dean's Honour List, registration in Level IV or V or permission of the instructor

Antirequisite: ELEC ENG 4OJ3

**COMP ENG 4TL4 DIGITAL SIGNAL PROCESSING**

Classical filter theory; DFT and FFT; FIR and IIR digital filters; effects of finite precision; implementation of DSP systems; adaptive filtering; spectral analysis, signal compression.

Three lectures, one tutorial, one lab every other week; first term

Prerequisite: ELEC ENG 3TP4, 3TQ4

Antirequisite: ELEC ENG 4TL4

**COMP ENG 4TN3 IMAGE PROCESSING**

Digital image formation and representation; filtering, enhancement and restoration; edge detection; discrete image transforms; encoding and compression; segmentation; recognition and interpretation; 3D imagery; applications.

Two lectures, one tutorial, one lab every other week; second term

Prerequisite: ELEC ENG 3TP4, 3TQ4

Antirequisite: ELEC ENG 4BF3

**ELECTRICAL ENGINEERING ...****Department Note:**

All students in the Electrical Engineering program initially follow a common curriculum consisting of a combination of Electrical Engineering and Computer Engineering courses. In their senior year, students are given the opportunity to customize their program by selecting from a wide range of technical electives. All Electrical and Computer Engineering courses are open to students registered in any Electrical or Computer Engineering program or the Electrical and Biomedical Engineering program, subject to prerequisite requirements. Prior permission of the Department is necessary for students from other Engineering departments or faculties.

**Courses****ELEC ENG 2CJ5 INTRODUCTION TO ELECTRICAL ENGINEERING**

Current, potential difference; Kirchhoff's laws; Ohm's Law; circuit elements; mesh/nodal analysis of electrical circuits; first and second order circuits; complex arithmetic; phasors, impedance and admittance; AC power; operational amplifiers.

Three lectures, one tutorial, one lab every week; first term

Prerequisite: Registration in a Computer Engineering or Electrical Engineering program

Antirequisite: ELEC ENG 2CJ4

**ELEC ENG 2CJ4 CIRCUITS AND SYSTEMS**

Laplace transforms with applications; responses of linear systems; coupled circuits; power relationships; dependent sources; magnetic and nonlinear circuits.

Three lectures, one tutorial (two hours); second term

Prerequisite: ELEC ENG 2CJ4 or 2CJ5

Antirequisite: ELEC ENG 2CJ5

**ELEC ENG 2D14 LOGIC DESIGN**

Binary numbers and codes; Boolean algebra; combinational circuit design; electrical properties of logic circuits; sequential circuit design; computer arithmetic; programmable logic; CPU organization and design.

Three lectures, one tutorial, one lab every other week; first term

Prerequisite: Registration in a program in Electrical Engineering, Engineering Physics, Photonics Engineering or Physics

Antirequisite: COMP ENG 2D14, COMP SCI 2MF3, SFWR ENG 2D03, 2D04, 2DA3

**ELEC ENG 2EJ5 ELECTRONIC DEVICES AND CIRCUITS I**

Semiconductor devices and electronic circuits; electrical characteristics, principles of operation, circuit models of diodes, field-effect and bipolar transistors, and operational amplifiers; analysis and design of basic application circuits.

Three lectures, one tutorial, one lab every week; second term

Prerequisite: ELEC ENG 2CJ4 or 2CJ5

Antirequisite: ELEC ENG 2EJ4

**ELEC ENG 2FH3 ELECTROMAGNETICS I**

Transmission lines, electrostatics, current and conductors, the steady magnetic field. Faraday's law.

Three lectures, one tutorial; second term

Prerequisite: ELEC ENG 2CJ4 or 2CJ5; and PHYSICS 1E03

Antirequisite: ELEC ENG 3F14

**ELEC ENG 2S14 DATA STRUCTURES, ALGORITHMS AND DISCRETE MATHEMATICS**

Application of logic and finite state machines programming; data types; data abstraction and algorithms for sorting and searching; application of graph algorithms and combinatorics in programming; estimating program resource utilization.

Three lectures, one tutorial (two hours); second term

Prerequisite: COMP ENG 2SH4, ENGINEER 1D04

Antirequisite: COMP ENG 2S14, COMP SCI 2MD3, 2SC3, 3DA3, SFWR ENG 2C03, 2C04

**ELEC ENG 3BA3 STRUCTURE OF BIOLOGICAL MATERIALS**

Structure of proteins, nucleic acids, connective tissue and bone from molecular to microscopic levels; principles and applications of instruments for imaging identification and measurement of biological materials.

Three lectures, one tutorial; first term

Prerequisite: Registration in Level III Electrical and Biomedical Engineering

**ELEC ENG 3BB3 CELLULAR BIOELECTRICITY**

Generation and transmission of bioelectricity in excitable cells; ionic transport in cellular membranes; propagation of electricity within and between cells; cardiac and neural physiology; measurement of extracellular fields; electrical stimulation of excitable cells.

Three lectures, one tutorial; second term

Prerequisite: Registration in Level III Electrical and Biomedical Engineering

**ELEC ENG 3EJ4 ELECTRONIC DEVICES AND CIRCUITS II**

Analog and digital electronics; operational amplifier circuits; multistage amplifiers; oscillators; analog and digital integrated circuits; data converters; amplifier frequency response; feedback and stability; computer aids to analysis and design.

Three lectures, one tutorial, one lab every other week; second term

Prerequisite: ELEC ENG 2CJ4 or 2CJ5; and ELEC ENG 2EJ4 or 2EJ5

**ELEC ENG 3F14 ELECTROMAGNETIC FIELDS**

Electrostatics, magnetostatics, ferromagnetics; Maxwell's equations; plane and spherical waves; wave and intrinsic impedance; phase and group velocity; energy; Poynting's theorem; propagation and reflection.

Three lectures, one tutorial, one lab every other week; second term

Prerequisite: ELEC ENG 2CJ4 or 2CJ5; and MATH 2P04, 2Q04

Antirequisite: ELEC ENG 2FH3, 3FK4

**ELEC ENG 3FK4 ELECTROMAGNETICS II**

Electrostatics, magnetostatics, time-varying fields, uniform plane waves, plane wave reflection and dispersion, guided waves, radiation.

Three lectures, one tutorial, one lab every other week; second term

Prerequisite: ELEC ENG 2FH3

Antirequisite: ELEC ENG 3F14

**ELEC ENG 3P14 POWER DEVICES AND SYSTEMS**

Power circuits; transformers; magnetic circuits; three phase connections; single phase motors; polyphase machines; synchronous generators and motors, induction motors; dc motors; design of industrial systems.

Three lectures, one tutorial, one lab every other week; first term

Prerequisite: ELEC ENG 2CJ4 or 2CJ5; and ELEC ENG 2CJ4 or 2CJ5

**ELEC ENG 3TP4 SIGNALS AND SYSTEMS**

Time and frequency domain descriptions of continuous-time and discrete-time signals and linear systems, including convolution; Fourier transforms, impulse response and frequency response; applications to control and communication systems.

Three lectures, one tutorial, one lab every other week; first term

Prerequisite: ELEC ENG 2CJ4 or 2CJ5

Antirequisite: MECH ENG 4R03

**ELEC ENG 3TQ4 PROBABILITY AND RANDOM PROCESSES**

Probability theory, random variables, expectations; random processes, autocorrelation, power spectral densities; filtering of random processes; noise in communication systems.

Three lectures, one tutorial, one lab every other week; first term

Prerequisite: MATH 2P04

**ELEC ENG 3TR4 COMMUNICATION SYSTEMS**

Review of continuous-time signals and systems; analysis and implementation of amplitude modulation (DSB-SC, SSB), phase and frequency modulation schemes; digital modulation; noise performance.

Three lectures, one tutorial, one lab every other week; second term

Prerequisite: ELEC ENG 3TP4, 3TQ4; or ENG PHYS 3W04

**ELEC ENG 4BC3 MODELLING OF BIOLOGICAL SYSTEMS**

Introduction to mathematical and engineering methods for describing and predicting the behaviour of biological systems; including sensory receptors, neuromuscular and biomechanical systems; statistical models of biological function; kinetic models of biological thermodynamics.

Three lectures, one tutorial; first term

Prerequisite: Registration in Level IV Electrical and Biomedical Engineering

**ELEC ENG 4BD4 BIOMEDICAL INSTRUMENTATION**

Generation and nature of bioelectric potentials; electrodes and other transducers; principles of instrumentation; electrical safety; neuromuscular and cardiovascular instrumentation; ultrasonics and other medical imaging.

Three lectures, one tutorial, one lab every other week; second term

Prerequisite: One of ELEC ENG 3EJ4, ENGINEER 3N03 or PHYSICS 3B06

Antirequisite: ELEC ENG 4EL3

**ELEC ENG 4BE4 MEDICAL ROBOTICS**

Fundamentals of robotics and telerobotics; feedback from the environment using sensors and machine vision; application of robotics to medicine and surgery.

Three lectures, one tutorial, one lab every other week; second term

Prerequisite: Registration in Level IV Electrical and Biomedical Engineering

**ELEC ENG 4BF3 MEDICAL IMAGE PROCESSING**

Physical principles of medical image formation; imaging technology for Xray, ultrasound, magnetic resonance; image quality descriptions and enhancement; 3D imagery.

Two lectures, one tutorial, one lab every other week; second term

Prerequisite: ELEC ENG 3TQ4

Antirequisite: COMP ENG 4TN3

**ELEC ENG 4BI5 BIOMEDICAL DESIGN PROJECT**

The design process; establishing objectives; preliminary design; planning; scheduling; decision matrices; modelling tools; economic impact; optimization methods; reliability; safety; a term project composed of small teams of students including an oral presentation and written report.

Three lectures, two tutorials, one capstone project; first term

Prerequisite: Registration in Level IV Electrical and Biomedical Engineering

Antirequisite: COMP ENG 4O14, 4O15, ELEC ENG 4BI4, 4O14, 4O15

**ELEC ENG 4CL4 CONTROL SYSTEM DESIGN**

Design of linear control systems using classical and state-space techniques; performance limitation; sampled-data control; nonlinear systems; multi-input multi-output control systems.

Three lectures, one tutorial, one lab every other week; second term

Prerequisite: ELEC ENG 3TP4

**ELEC ENG 4EM3 PHOTONIC DEVICES AND SYSTEMS**

Fundamentals of light. Optical fibers and their propagation characteristics. Lasers and photo-diodes. Optical amplifiers and modulators. Photonic networks.

Two lectures, one tutorial, one lab every other week; second term

Prerequisite: ELEC ENG 3EJ4

**ELEC ENG 4FJ4 MICROWAVE ENGINEERING**

Principles of transmission lines, impedance matching and Smith charts; scattering parameters; waveguides and resonant cavities; stripline and microstrip; antenna radiation; radio-wave propagation.

Three lectures, one tutorial, one lab every other week; second term

Prerequisite: ELEC ENG 3FI4, 3FK4

**ELEC ENG 4O15 ENGINEERING DESIGN**

The design process; establishing objectives; preliminary design; planning; scheduling; decision matrices; modelling tools; economic impact; optimization methods; reliability; safety; a term project composed of small teams of students including an oral presentation and written report.

Lectures, tutorials, one capstone project; second term

Prerequisite: Registration in Level IV or V of any Electrical or Computer Engineering program

Antirequisite: COMP ENG 4O14, ELEC ENG 4BI4, 4BI5, 4O14

**ELEC ENG 4OJ3 RESEARCH PROJECT**

A research-oriented project under the direct supervision of a faculty member to foster initiative and independent creativity while working on an advanced topic.

First term or second term

Prerequisite: Prior arrangement with an Electrical and Computer Engineering faculty member, inclusion on the Dean's Honour List, registration in Level IV or V or permission of the instructor

Antirequisite: COMP ENG 4OJ3

**ELEC ENG 4PL4 ENERGY SYSTEMS AND MANAGEMENT**

Elements of generation, transmission, and distribution systems; system-wide energy flow and control; modelling and simulation; economics and management; fault prediction and management.

Three lectures, one tutorial, one lab every other week; first term

Prerequisite: ELEC ENG 3PI4

**ELEC ENG 4TK4 DIGITAL COMMUNICATIONS SYSTEMS**

Digital modulation systems, intersymbol interference, equalization, synchronization; ASK, FSK, PSK, MSK, optimal receiver, noncoherent detection; introduction to information theory; entropy, source coding, mutual information, channel capacity.

Three lectures, one tutorial, one lab every other week; second term

Prerequisite: ELEC ENG 3TR4

**ENGINEERING (GENERAL)**

**WEB ADDRESS:** <http://www.eng.mcmaster.ca/>

**Note:**

Enrolment in these courses is limited to students registered in an Engineering program.

**Courses** *If no prerequisite is listed, the course is open.***ENGINEER 1A00 SAFETY TRAINING**

Introduction to safety guidelines at McMaster University, acceptable safety conduct and positive safety attitudes and practices in laboratories and Workplace Hazardous Materials Information System (WHMIS).

One hour, first week; first term

Prerequisite: Registration in any Engineering program

Antirequisite: SCIENCE 1A00, NURSING 1A00

*This course must be successfully completed before registering in Level II Engineering.*

**ENGINEER 1C03 ENGINEERING DESIGN AND GRAPHICS**

Graphical visualization and communication; technical sketching, 2D and 3D computer-aided design; use of solid modelling software.

One lecture, one lab (three hours), one tutorial (two hours); first or second term

Prerequisite: Registration in any Engineering program

Antirequisite: ENGINEER 1C04

**ENGINEER 1D04 ENGINEERING COMPUTATION**

Disciplined design of sequential programs for engineering applications. Development, analysis, testing, and documentation of trustworthy programs. Use of the state concept and abstraction in programming.

Three lectures, one tutorial (two hours); first or second term

Prerequisite: Registration in any Engineering program

Antirequisite: COMP SCI 1MA3, 1MC3, 1SA3

**ENGINEER 1E00 INTRODUCTION TO THE ENGINEERING CO-OP PROGRAM**

Orientation to Engineering Co-op programs and the workplace; self-assessment and goal setting; application procedures and materials; occupational health and safety.

Five sessions; first or second term

Prerequisite: Registration in a Co-op program in the Faculty of Engineering  
*Not open to students in their final level.*

**ENGINEER 1P03 INTRODUCTION TO PROFESSIONAL ENGINEERING**

Introduction to professional engineering including ethics, health and safety, roles and responsibilities to society, engineering communication; design skills; group design projects.

One lecture first term; one lecture, one tutorial (two hours) second term; both terms

Prerequisite: Registration in any Engineering program

**ENGINEER 2C03 ELECTRICITY, THERMOPHYSICS AND ENERGY**

An exposure of electrical and thermophysics fundamentals having civil engineering applications. Topics: electrostatics, electric currents, circuits and transients, electrical power engineering, energy efficiency, heat transfer mechanisms.

Two lectures, one tutorial (two hours); first term

Prerequisite: PHYSICS 1E03 and registration in MATH 2M06

**ENGINEER 2EE0 FOUR MONTH CO-OP EXPERIENCE I**

Minimum of 15 weeks of full time employment in a professional environment. Credit may also be earned through successful completion of one UROP - Undergraduate Research Opportunities Program (Level I and II students only).

Prerequisite: ENGINEER 1EE0

Not open to students in their final level.

**ENGINEER 2H03 THERMODYNAMICS**

An introduction to thermodynamics and its statistical basis at the microscopic level, with applications to problems originating in a modern laboratory or engineering environment.

Three lectures; second term

Prerequisite: Registration in Level II or above of any Engineering program except Engineering Physics or Photonics Engineering

Antirequisite: ENGINEER 2V04, ENG PHYS 2H04, MECH ENG 2W04, PHYSICS 2H04

**ENGINEER 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 or second term

Prerequisite: PHYSICS 1E03; and registration in either MATH 2M06 or both MATH 2P04 and 2Q04

Antirequisite: ENGINEER 3M03

**ENGINEER 2P04 ENGINEERING MECHANICS 'A'**

Principles of statics as applied to deformable solid bodies. Stress and strain, elastic behaviour of simple members under axial force, bending and torsion. Principal stresses; deflection of beams; static indeterminacy.

Three lectures, plus one unit comprising tutorials or lectures devoted to applications, at the discretion of the instructor; first term

Prerequisite: PHYSICS 1D03

Antirequisite: MECH ENG 2P04

**ENGINEER 3EE0 FOUR MONTH CO-OP EXPERIENCE II**

Minimum of 15 weeks of full time employment in a professional environment. Credit may also be earned through successful completion of one UROP - Undergraduate Research Opportunities Program (Level I and II students only).

Prerequisite: ENGINEER 2EE0

Not open to students in their final level.

**ENGINEER 3K03 INTRODUCTION TO THERMODYNAMICS AND HEAT TRANSFER**

Fundamentals of thermodynamics. Principles of conductive, radiant and convective heat transfer. Examples from chemical, mechanical and electrical systems.

Three lectures; first term

Prerequisite: Completion of Level II of any Software Engineering program

**ENGINEER 3N03 ELECTRONICS AND INSTRUMENTATION**

Semiconductor devices; diodes, transistors and silicon-controlled rectifiers. Transistor characteristic 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: One of ENGINEER 2M04, 2MM3 or 3M03

**ENGINEER 4A03 ENGINEERING AND SOCIAL RESPONSIBILITY**

The historical development of the engineering profession's concern for social responsibility. Engineering as a cultural activity. The scope and limitations of engineering ethics. The role of the engineering profession in the social control of technological change.

Two lectures, one tutorial; second term

Prerequisite: Registration in Level III or above of any Engineering program except Engineering and Society

Antirequisite: ENGINEER 4H03, ENG PHYS 2S03, 4C03

**ENGINEER 4B03 ENGINEERING ECONOMICS**

Engineering criteria for decision-making. Money flow. Financial ventures. Personal financing. Total project investment. Production and operations costs. Economic analysis. Financial attractiveness.

Three hours (lectures, applications, discussions); second term

Prerequisite: Registration in Level IV or V of an Engineering program

Antirequisite: CHEM ENG 4N04, ENGINEER 2B03

Not open to students registered in an Engineering and Management program.

**ENGINEER 4EA0 EIGHT MONTH CO-OP EXPERIENCE**

Eight months of full time employment in a professional environment.

Prerequisite: ENGINEER 1EE0

Not open to students in their final level.

**ENGINEER 4EB0 TWELVE MONTH CO-OP EXPERIENCE**

Twelve months of full time employment in a professional environment.

Prerequisite: ENGINEER 1EE0

Not open to students in their final level.

**ENGINEER 4EC0 SIXTEEN MONTH CO-OP EXPERIENCE**

Sixteen months of full time employment in a professional environment.

Prerequisite: ENGINEER 1EE0

Not open to students in their final level.

**ENGINEER 4EE0 FOUR MONTH CO-OP EXPERIENCE III**

Minimum of 15 weeks of full time employment in a professional environment.

Prerequisite: ENGINEER 3EE0

Not open to students in their final level.

**ENGINEER 4H03 ENGINEERING: ITS HISTORY AND CONTEMPORARY CONTEXT**

History of engineering from antiquity to modern times, with special emphasis on scientific technology. Cultural significance of engineering to civilization. Nature and problems of industrial technology. Benefits and risks of technological progress. Engineering as a learned profession.

Three lectures; first term

Prerequisite: Registration in Level III, IV, or V of any Engineering program except Engineering and Society

Antirequisite: ENGINEER 4A03, ENG PHYS 2S03, 4C03

**ENGINEER 4J03 MATERIALS FABRICATION**

Offered jointly by the Departments of Mechanical Engineering and Materials Science and Engineering. Processing methods for a wide range of materials, including metals, ceramics and plastics. The analytical basis for understanding and optimizing materials processes. Exercises in mathematical modelling and the use of software packages to optimize processes.

Three lectures; first term

Prerequisite: One of MATLS 3M03, 3P03 or MECH ENG 3A03

**ENGINEER 4U03 UNIT OPERATIONS AND PROCESSES IN ENVIRONMENTAL ENGINEERING**

The process capabilities, hardware and design equations, of the physical, chemical and biological processes used to improve water. Emphasis on processes such as bio-oxidation, clarification, coagulation, sludge dewatering and disinfection.

Two lectures, one tutorial (two hours); second term

Prerequisite: One of CHEM ENG 3O04, CIV ENG 3M04 or MECH ENG 3O04; and registration in Level IV or above of any Engineering program

**ENGINEERING AND MANAGEMENT**

Web Address: <http://www.eng.mcmaster.ca/engandmgt/Index.html>

John Hodgins Engineering Building, Room A214-K

Ext. 27009

The Engineering and Management Programs are described in the *Faculty of Engineering* section in this Calendar. These programs are administered jointly by the Faculty of Business and the Faculty of Engineering and lead to the B.Eng. Mgt. degree. An Industrial Advisory Council also participates in the education process.

**Program Director**

John W. Medcof/B.A. (New Brunswick), M.A., Ph.D. (Toronto)

**Courses If no prerequisite is listed, the course is open.****ENGN MGT 2AA2 COMMUNICATION SKILLS**

Writing skills: interpersonal communications, business letters, formal reports. Speaking, listening and presentation skills: oral communications, speeches, technical presentations. Communication technology.

One lecture, one tutorial (two hours); one term

Prerequisite: Registration in any Engineering and Management program

**ENGN MGT 3AA1 PROJECT MANAGEMENT AND TEAMWORK SKILLS**

Project Management: project phases; project scheduling/scheduling software; project monitoring, teamwork evaluation. Teamwork Skills: working in groups, communications in groups. Leadership: leading a group, negotiating.

One seminar/class; one term

Prerequisite: One of CHEM ENG 2G03, CIV ENG 2I03 or ENGN MGT 2AA2; and registration in any Engineering and Management program

**ENGN MGT 4A01 ENGINEERING AND MANAGEMENT REPORT**  
 Students prepare a written report and make an oral presentation on an engineering and management problem encountered during summer work experience. Written and oral communications are assessed. Guidelines must be obtained from the Program Director before the end of Level III. One seminar/class; one term  
 Prerequisite: ENGN MGT 3AA1 and registration in any Engineering and Management program

**ENGN MGT 5B03 ENGINEERING AND MANAGEMENT PROJECTS**  
 Capstone course: Students work in multidisciplinary teams to solve an integrated engineering and business problem in an organization. Project management skills are taught and project management software is used. One lecture, two tutorials (two hours); one term  
 Prerequisite: ENGN MGT 4A01 and registration in any Engineering and Management program

**ENGINEERING AND SOCIETY**

**WEB ADDRESS:** <http://www.eng.mcmaster.ca/engandsoc/>  
**John Hodgins Engineering Building, Room A214-D**  
**Ext. 27679**

The Engineering and Society Programs are described in the *Faculty of Engineering* section in this Calendar. These programs lead to the B.Eng. Society degree.

**Program Director**

B. Baetz / (Civil Engineering) B.A.Sc., M.A.Sc. (Toronto), Ph.D. (Duke), P.Eng.

**Operating Committee, as of July 1, 2005:**

**Chair**

- B. Baetz (Civil Engineering)
- M. Elbestawi (Dean of Engineering)
- P.M. Smith (Associate Dean of Engineering)
- I. Bruce (Electrical and Computer Engineering)
- D. Conochie (Materials Science and Engineering)
- K. Garay (Women's Studies)
- A. Kitai (Engineering Physics) - Term 2
- A. Knights (Engineering Physics) - Term 1
- J. Main (Civil Engineering (Structural/Geotechnical) and Society, Student)
- J. Peng (Computing and Software)
- K. Sharma (Civil Engineering (Structural/Geotechnical) and Society, Student)
- H. Sheardown (Chemical Engineering)
- E. Sorensen (Engineering Physics and Society, Student)
- B. Statham (Engineering Physics and Society, Student)
- S. Veldhuis (Mechanical Engineering)
- J. Wagenaar (Engineering Physics and Society, Student)

**Courses If no prerequisite is listed, the course is open.**

**ENGSOCTY 2X03 INQUIRY IN AN ENGINEERING CONTEXT I**  
 Inquiry is a non-disciplinary approach to the study of issues of public concern. In terms of the design process, inquiry focuses on the problem definition stage, in which formulating questions, researching underlying issues, and analyzing opposing arguments are essential. The first course involves teaching how to use the university and community resources in research, how to write a research paper, and how to express ideas orally. The theme for 2006-2007 is sustainable society. Three hours (lectures, discussion, group work); second term  
 Prerequisite: Registration in any Engineering and Society program

**ENGSOCTY 2Y03 CASE STUDIES IN HISTORY AND TECHNOLOGY**  
 History and philosophy of technology, from antiquity to modern times, with a special emphasis on the cultural aspects of technology, are addressed on a case study basis. Three hours (lectures, discussion, group work); first term  
 Prerequisite: Registration in any Engineering and Society program

**ENGSOCTY 3X03 INQUIRY IN AN ENGINEERING CONTEXT II**  
 This inquiry course builds on the skills developed in previous courses, focusing on a specific issue related to the role of engineering and technology in society. The course is devoted to the study of one topic such as: automation and employment, technology and the quality of life, the deteriorating environment, or the information society. Three hours (lectures, discussion, group presentations); first term  
 Prerequisite: ENGSOCTY 2X03

**ENGSOCTY 3Y03 THE CULTURE OF TECHNOLOGY**  
 A study of the nature and structure of technology, the nature of culture, and the role and place of different groups, including engineers, in a culture dominated by technology. Three hours (lectures, discussion, group work, seminars); first term  
 Prerequisite: ENGSOCTY 2Y03

**ENGSOCTY 3Z03 PREVENTIVE ENGINEERING: ENVIRONMENTAL PERSPECTIVES**  
 The basic concepts of preventive engineering are studied and applied to specific case studies. The focus is on sustainability and the natural environment. Three hours (lectures, discussion, group projects); second term  
 Prerequisite: Registration in Level III or IV of an Engineering and Society program or the Honours Environmental Science (B.Sc.) Program

**ENGSOCTY 4X03 INQUIRY IN AN ENGINEERING CONTEXT III**  
 Under the supervision of a faculty member, students write an inquiry paper and present their findings orally. Topics for inquiry must bear on the relation of technology to society and have implications for the practising engineer. Prerequisite: ENGSOCTY 3X03

**ENGSOCTY 4Z03 THE SOCIAL CONTROL OF TECHNOLOGY**  
 The dominant mechanisms of the social control of technology are studied, with a specific emphasis on the role of the engineering profession. Includes an examination of assessment methods and the role of ethics as one approach to social responsibility in engineering. Three hours (lectures, discussion, group projects, seminars); first term  
 Prerequisite: Registration in Level V of an Engineering and Society program

**ENGINEERING PHYSICS**

**WEB ADDRESS:** <http://engphys.mcmaster.ca/>  
**John Hodgins Engineering Building, Room A315**  
**Ext. 24545**

**Faculty as of January 15, 2006**

**Chair**

Paul E. Jessop

**Professors**

- Alexander A. Berezin/B.Sc., M.Sc., Ph.D. (Leningrad State)
- Daniel T. Cassidy/B.Eng. (McMaster), M.Sc. (Queen's), Ph.D. (McMaster), P.Eng.
- William J. Garland/B.Eng., M.Eng., Ph.D. (McMaster), P.Eng.
- Harold K. Haugen/B.Sc. (Acadia), M.Eng. (McMaster), Ph.D. (Aarhus)
- Paul E. Jessop/B.Sc. (Waterloo), M.A., Ph.D. (Harvard)
- Adrian H. Kitai/B.Eng. (McMaster), Ph.D. (Cornell), P.Eng.
- Rafael N. Kleiman/SB (MIT), Ph.D. (Cornell)
- John C. Luxat/B.Sc. (Cape Town), Ph.D. (Windsor), P.Eng.
- Peter Mascher/M.Eng., Ph.D. (Technical University of Graz), P.Eng.
- John S. Preston/B.Eng. (McMaster), M.Sc., Ph.D. (Toronto), P.Eng.
- David A. Thompson/B.Sc., Ph.D. (Reading), C.Eng.
- Chang Q. Xu/B.Sc., M.Sc. (University of Science and Technology of China), D.Eng. (Tokyo)
- David R. Novog/B.Sc. Eng. (Manitoba), M.Eng., Ph.D. (McMaster), P. Eng.

**Adjunct Associate Professor**

Glenn D. Harvel/B.Eng., M.Eng., Ph.D. (McMaster)

**Assistant Professors**

- Andrew P. Knights/B.Sc. (DeMontfort), Ph.D. (East Anglia)
- Ray R. LaPierre/B.Sc. (Dalhousie), M.Eng., Ph.D. (McMaster)
- Qiyin Fang/B.S. (Nankai), M.S., Ph.D. (East Carolina)

**Adjunct Professors**

- Denis J. Corr/B.Sc., Ph.D. (Queen's, Belfast)
- David P. Jackson/B.Sc., M.A., M.A.Sc., Ph.D. (Toronto)
- Nikola K. Popov/B.Eng. (Kiri and Metodij), M.Sc. (Belgrade), Ph.D. (Zagreb)
- Victor G. Snell/B.Sc. (Manitoba), M.Sc., Ph.D. (Toronto)

**Associate Members**

- Chan Y. Ching / (Mechanical Engineering) B.S. (Peradeniya), Ph.D. (Syracuse)
- M. Jamal Deen / (Electrical and Computer Engineering) B.Sc. (Guyana), M.Sc., Ph.D. (Case Western Reserve)
- Yaser M. Haddara / (Electrical and Computer Engineering) B.Eng. (Memorial), Ph.D. (Stanford)
- Joseph E. Hayward / (Radiology) B.Eng., M.Eng., Ph.D. (McMaster)

Fred M. Hoppe/(*Mathematics and Statistics*) B.Sc. (Toronto), M.Sc. (Weizmann Institute of Science), M.A., Ph.D. (Princeton)  
 Jan Dirk Huijzinga/(*Medicine*) B.Sc., M.Sc., Ph.D. (Groningen)  
 Peter Kruse/(*Chemistry*) Dipl. Chem. (FSU-Jena), Ph.D. (California-San Diego)  
 Marilyn F. Lightstone/(*Mechanical Engineering*) B.A.Sc. (Queen's), M.A.Sc., Ph.D. (Waterloo), P.Eng.  
 Rafik O. Loutfy/(*Chemical Engineering*) B.Sc., M.Sc. (Ain Shams), Ph.D. (Western Ontario), M.B.A. (Toronto)  
 Skipper Poehiman/(*Computing and Software*) B.S. (Niagara), B.Sc. (Brock), M.Sc., Ph.D. (McMaster), P.Eng.  
 Kalaichelvi Saravanamuttu/(*Chemistry*) B.Sc., Ph.D. (McGill)

### Department Note:

All Engineering Physics courses are open to students registered in Engineering Physics unless otherwise stated. Prior permission of the Department is necessary for students from other engineering departments and other faculties.

### Courses *If no prerequisite is listed, the course is open.*

#### ENG PHYS 2A04 ELECTRICITY AND MAGNETISM

Development of electromagnetic theory - electrostatics, charge, Gauss's Law, electric energy, DC circuits, magnetic fields, Ampère's law, AC circuits. Development of Maxwell's equations via vector calculus.

Three lectures, one tutorial, one lab (three hours), every other week; first term

Prerequisite: PHYSICS 1E03 and credit or registration in MATH 2P04

Antirequisite: ENG PHYS 2A03

#### ENG PHYS 2E04 ANALOG AND DIGITAL CIRCUITS

Design and analysis of analog and digital electrical circuits - component analysis, circuit analysis and theorems, binary numbers, Boolean analysis and digital circuit design.

Three lectures, one lab (three hours); second term

Prerequisite: ENG PHYS 2A03 or 2A04

#### ENG PHYS 2H04 THERMODYNAMICS

An introduction to thermodynamics and its statistical basis at the microscopic level, with applications to problems originating in a modern laboratory or engineering environment.

Three lectures, one tutorial; one lab every other week; second term

Prerequisite: Registration in Level II Engineering Physics

Cross-list: PHYSICS 2H04

Antirequisite: ENGINEER 2H03, 2V04, MATLS 2B03

#### ENG PHYS 2QM3 INTRODUCTION TO QUANTUM MECHANICS

Wave-particle duality, uncertainty principle, Hydrogen atom, Schrödinger Equation for 1D systems, barriers and tunnelling, probability, properties of insulators, semiconductors and metals. Examples from experiments.

Three lectures; second term

Prerequisite: Registration in an Engineering Physics or Materials Engineering program

#### ENG PHYS 2S03 ENGINEERING PHYSICS AND EMERGING TECHNOLOGIES

An inquiry-based course on the societal impact of emerging technologies associated with Engineering Physics. Topics include alternative energy sources, nuclear power, new information technologies, and new developments in biomedical engineering.

Two lectures first term, one lecture second term; both terms

Prerequisite: Registration in an Engineering Physics program

Antirequisite: ENGINEER 4A03, 4H03

#### ENG PHYS 3A03 APPLICATIONS OF PHOTONICS

This course will provide an introduction to industrial, commercial and medical applications of photonics. Will include lecture-based instruction and design projects.

Two lectures, one lab; first term

Prerequisite: Credit or registration in ENG PHYS 3E03

#### ENG PHYS 3D03 PRINCIPLES OF NUCLEAR ENGINEERING

Introduction to fission and fusion energy systems. Energetics of nuclear reactions, interactions of radiation with matter, radioactivity, design and operating principles of fission and fusion reactors.

Three lectures, two labs (three hours each); second term

Prerequisite: Registration in Level III or above of any program in Engineering or Physics

#### ENG PHYS 3E03 FUNDAMENTALS OF PHYSICAL OPTICS

Reflection and refraction; geometrical optics; interference and diffraction; optical constants of media; optical design software; introduction to design of optical systems.

Two lectures, one tutorial, one lab (three hours every other week); first term

Prerequisite: ENG PHYS 2A03 or 2A04; and ENG PHYS 2E04

#### ENG PHYS 3ES3 INTRODUCTION TO ENERGY SYSTEMS

A survey course on energy systems with emphasis on the analytic tools needed to evaluate them in terms of performance, resources and environmental sustainability, costs, and other relevant factors over their life cycles.

Three lectures; first term

Prerequisite: Registration in an Engineering Physics program

#### ENG PHYS 3F04 ADVANCED APPLICATIONS OF QUANTUM MECHANICS

Application of quantum mechanics to the electronic, optical and mechanical behaviour of materials.

Two lectures, both terms; four labs (three hours each); second term

Prerequisite: ENG PHYS 2QM3 or PHYSICS 3M03

Antirequisite: ENG PHYS 3F03

#### ENG PHYS 3G03 OPTICAL INSTRUMENTATION

Design of optical equipment (including reflective and refractive optical systems, interferometers and spectrometers). Optical sources and power measurements. Detectors (photographic, photoelectric, etc.), including use in the infrared and ultraviolet, and at low intensity levels.

Three lectures; second term

Prerequisite: ENG PHYS 3EP3 or PHYSICS 3N03

Antirequisite: ENG PHYS 4G03, PHOTONIC 4G03

#### ENG PHYS 3MD3 INTRODUCTION TO MICROSYSTEM DEVICES

New materials, phenomena, and platforms for the design, fabrication, and application of modern and emerging technologies. Included MicroElectroMechanical Systems (MEMS), microfluidic, electronic, and photonic devices.

Three lectures; first term

Prerequisite: Registration in an Engineering Physics program

#### ENG PHYS 3O03 INTRODUCTION TO FLUID MECHANICS AND HEAT TRANSFER

Fluid properties and statics are introduced. Basic equations of continuity, energy and momentum for internal and external flows are discussed. Similitude, dimensional analysis, measuring devices, fluid machinery and electromagnetic flow. Conduction and convection heat transfer.

Two lectures, one tutorial; one lab (three hours every other week); second term

Prerequisite: Credit or registration in MATH 2M06; or MATH 2P04 and 2Q04

#### ENG PHYS 3PN3 SEMICONDUCTOR JUNCTION DEVICES

Electronic properties of semiconductors: non-equilibrium carrier conditions; steady state and non-steady state; p-n junctions; Schottky diodes; bipolar junction transistors. Detailed coverage of a range of diodes including photodiodes, solar cells, light emitting diodes, zener diodes, and avalanche diodes.

Three lectures; second term

Prerequisite: ENG PHYS 3F03 or credit or registration in ENG PHYS 3F04

Antirequisite: ENG PHYS 4E03

#### ENG PHYS 3W04 ACQUISITION AND ANALYSIS OF EXPERIMENTAL INFORMATION

A systems approach to measurement in which synthesis of topics such as Fourier transforms, signal processing and enhancement, data reduction, modelling and simulation is undertaken.

Two lectures; both terms

Prerequisite: Registration in Level III or above of any Engineering or Science program

#### ENG PHYS 3X03 HUMAN PHYSIOLOGY

Basic introduction and working knowledge of the human body. Includes study of the cellular level of organization.

Three lectures; second term

Prerequisite: Completion of a minimum of 30 units above Level I in any Engineering program

Antirequisite: BIOLOGY 2A03, 3U03, 3U06, 3UU3, 4G06

#### ENG PHYS 4A06 DESIGN AND SYNTHESIS PROJECT

Design and synthesis projects supervised by a faculty member in the Department of Engineering Physics.

Two labs (three hours); both terms

Prerequisite: Registration in the final level of an Engineering Physics program

Antirequisite: ENG PHYS 4A04



**ENG PHYS 4D03 NUCLEAR REACTOR ANALYSIS**

Introduction to nuclear energy; nuclear physics and chain reactions; reactor statics and kinetics; multigroup analysis, core thermalhydraulics; reactor design.

Three lectures (including field trip); first term

Prerequisite: ENG PHYS 3D03

**ENG PHYS 4E03 SOLID STATE DEVICES I**

Electronic properties of semiconductors, contact phenomena; p-n junctions; Schottky diodes, photodiodes, bipolar transistors, field effect transistors.

Three lectures; first term

Prerequisite: ENG PHYS 3F03, MATLS 3Q03

Antirequisite: ENG PHYS 3PN3

Last offered in 2006-2007.

**ENG PHYS 4ES3 SPECIAL TOPICS IN ENERGY SYSTEMS**

Various topics will be examined and critically evaluated to consolidate the student's knowledge and analytical skills in the area of energy systems.

Three lectures; second term

Prerequisite: ENG PHYS 3ES3

**ENG PHYS 4F03 SOLID STATE DEVICES II**

Physical principles underlying operation of selected devices, and their characteristics; optical devices, avalanche devices, Gunn Effect devices, Read diodes, charge coupled devices, integrated circuits; Josephson junctions.

Three lectures; second term

Prerequisite: Credit or registration in ENG PHYS 3PN3 or 4E03

Offered in first term in 2007-2008.

**ENG PHYS 4H04 SPECIAL STUDIES IN ENGINEERING PHYSICS**

A special program of studies to be arranged by mutual consent of a professor and the student with approval of the department chair, to carry out experiments and/or theoretical investigations. A written report and oral defence are required.

Two tutorials, one lab (three hours); both terms

Prerequisite: Registration in final level of an Engineering Physics program and a CA of at least 9.5

**ENG PHYS 4K03 OPTICAL COMMUNICATIONS SYSTEMS**

Propagation of light in an optical fibre. Semiconductor lasers and detectors for optical communications. Analogue and digital coding. Signal to noise considerations. System design.

Three lectures; first term

Prerequisite: Registration in Level IV or V of any Engineering or Physics program

Antirequisite: PHOTONIC 4K03

**ENG PHYS 4L04 INDUSTRIAL MONITORING AND DETECTION TECHNIQUES**

Single and two-phase flow diagnostics and monitoring techniques for industrial and power plant operations; radiation monitoring; pollutant monitoring and analyses; nuclear instrumentation for industrial processes.

Two lectures first term, lectures and labs second term; both terms

Prerequisite: ENG PHYS 3O03

Antirequisite: ENG PHYS 4L03

**ENG PHYS 4MD4 ADVANCED MATERIALS AND NEXT-GENERATION DEVICES**

This course explores the relationship between material properties and device performance. In particular, the design challenges associated with employing properties such as magneto-resistance, superconductivity, and piezoelectricity in devices will be studied.

Two lectures; both terms

Prerequisite: ENG PHYS 3F03 or 3F04; and credit or registration in ENG PHYS 3PN3 or 4E03

**ENG PHYS 4NE3 ADVANCED NUCLEAR ENGINEERING**

Energy generation and conversion, heat transfer and transport in a nuclear reactor. Characteristics and performance of nuclear fuels. Thermal margins and safety limits. Aging of core structural materials. Structural integrity of components.

Three lectures; second term

Prerequisite: ENG PHYS 3D03

**ENG PHYS 4P03 NUCLEAR POWER PLANT SYSTEMS AND OPERATION**

Systems and overall unit operations relevant to nuclear power plants; includes all major reactor and process systems; nuclear power plant simulator; self-study using interactive CD-ROM.

One term

Prerequisite: Registration in Level IV or above of any Engineering program

**ENG PHYS 4S04 LASERS AND ELECTRO-OPTICS**

Basic properties of electromagnetic radiation. Optical modulation and detection. Non-linear optics. Multiple-beam interference and coherence. Optical resonators. Laser systems.

Two lectures; both terms

Prerequisite: ENG PHYS 3E03 or PHYSICS 3N03

Antirequisite: PHOTONIC 4S04

**ENG PHYS 4U04 MODERN AND APPLIED PHYSICS LABORATORY**

Selected advanced experiments in two areas of applied physics, chosen from among: lasers and optical communications; microelectronic devices; computer systems; nuclear engineering.

Two labs (three hours); both terms

Prerequisite: ENG PHYS 3W04, PHYSICS 3B06

**ENG PHYS 4Z03 SEMICONDUCTOR MANUFACTURING TECHNOLOGY**

Detailed description of fabrication technologies used in the semiconductor industry; computer modelling of device fabrication; analysis of device performance.

Two classroom-based lectures, one computer cluster-based lecture; second term

Prerequisite: ENG PHYS 3F03

**ENGINEERING TECHNOLOGY (GENERAL)**

Students currently in the Bachelor of Technology Degree Program in Manufacturing Engineering Technology should contact the School of Technology for advice on course selection and continuation in the degree program.

**ENGLISH AND CULTURAL STUDIES**

WEB ADDRESS: <http://www.humanities.mcmaster.ca/~english/>

Chester New Hall, Room 321

Ext. 24491

**Faculty as of January 15, 2006****Chair**

Mary O'Connor

**Distinguished University Professor**

James King/B.A. (Toronto), M.A., Ph.D. (Princeton), F.R.S.C.

**Professors**

Joseph Adamson/B.A. (Trent), M.A., Ph.D. (Toronto)

David L. Clark/B.A., M.A., Ph.D. (Western Ontario)

John Ferns/B.A., M.A. (Oxford), Dipl.Ed. (Nottingham), M.A., Ph.D. (Western Ontario)

Henry Giroux/B.S. (Maine), M.A. (Appalachian State), D. Arts (Carnegie-Mellon)/Global Television Network Chair in Communications

Donald C. Goelnicht/B.A. (Queen's), M.A., Ph.D. (McMaster)

Mary E. O'Connor/B.A. (McGill), M.A., Ph.D. (Toronto)

Helen M. Ostovich/B.A., M.A., Ph.D. (Toronto)

Nasrin Rahimieh/B.A., M.A. (Dalhousie), Ph.D. (Alberta)

Mary Silcox/B.A. (Western Ontario), M.A., Ph.D. (Queen's)

Peter Walmsley/B.A., M.A. (Toronto), Ph.D. (Cambridge)

Lorraine M. York/B.A., M.A., Ph.D. (McMaster)

**Associate Professors**

Daniel Coleman/B.Ed., M.A. (Regina), Ph.D. (Alberta), Canada Research Chair

Jeffery Donaldson/B.A., M.A., Ph.D. (Toronto)

Ronald Granofsky/B.A. (Trent), M.A. (Canterbury), Ph.D. (Queen's)

Melinda Gough/B.A. (McGill), M.A., Ph.D. (Yale)

Roger L. Hyman/B.A. (York), M.A., Ph.D. (Toronto)

Grace Kehler/B.A. (Regina), M.A., Ph.D. (Western Ontario)

Susie O'Brien/B.A. (Queen's), M.A. (Queensland), Ph.D. (Queen's)

Anne Savage/B.A. (Calgary), Ph.D. (London)

Imre Szeman/B.A. (Queen's), M.A. (Western Ontario), Ph.D. (Duke)

Senator William McMaster Chair in Globalization and Cultural Studies

**Assistant Professors**

Sarah Brophy/B.A. (Wilfrid Laurier), M.A., Ph.D. (McMaster)

Chandrima Chakraborty/B.A. (Calcutta), M.A., M.Phil. (Jawaharlal Nehru), Ph.D.

(York)

Catherine Gris /B.A. (Trent), M.A., Ph.D. (Western Ontario)  
 Jacques Khalip/B.A., M.A., (McGill), Ph.D. (Duke)  
 Saikat Majumdar/B.A. (Calcutta), M.A. (Jadavpur), M.F.A. (Bowling Green State),  
 Ph.D. (Rutgers)  
 Julie Park/B.A. (Bryn Mawr), M.A., Ph.D. (Princeton)  
 Susan Searls Giroux/B.A.; M.A.T. (Miami University-Oxford, Ohio), Ph.D.  
 (Pennsylvania State)

### Department Notes:

- The following are courses open as electives to students registered in Level II and above of any university program.
 

ENGLISH 2C03	Contemporary Canadian Fiction
ENGLISH 2E03	Twentieth-Century British Literature
ENGLISH 2F03	Studies in American Literature
ENGLISH 2J03	Contemporary Popular Culture
ENGLISH 2L03	Shakespeare: Selected Plays
ENGLISH 2N03	Feminist Utopias
ENGLISH 2R03	Monsters and Magic
ENGLISH 2S03	Spectacular Bodies
ENGLISH 3BB3	The Cyborg in Fiction and Critical Theory
ENGLISH 3D03	Science Fiction
ENGLISH 3DD3	Contemporary Canadian Drama
ENGLISH 3EE3	African American Fiction
ENGLISH 3H03	Jane Austen
ENGLISH 3S03	Biblical Traditions In Literature
ENGLISH 3U03	Neanderthals and Nukes
ENGLISH 3W03	Contemporary Native Literature in Canada (note prerequisite for this course)
ENGLISH 3X03	Contemporary Native Literature in the United States (note prerequisite for this course)
ENGLISH 3Y03	Children's Literature
ENGLISH 3YY3	Contemporary Youth Culture

Please note that the Department is able to offer only a selection of elective courses each year.
- Courses restricted to students registered in programs in English may be available to qualified students in other programs if space permits. Students interested in such courses should request permission from the departmental counsellor.
- Level IV seminars are open only to Honours students registered in Level IV of an English program. Enrolment will be limited to 15 students per seminar when possible. A list of seminars to be offered will be available prior to registration.

### Courses *If no prerequisite is listed, the course is open.*

**ENGLISH 1A03 LITERATURE IN ENGLISH: SHORTER GENRES**  
 A selection of shorter literary texts (short stories, poems, essays) will be studied. Students will be introduced to the elements of various genres and to a variety of interpretive approaches. Considerable emphasis will be placed on the development of critical skills in reading and writing. Two lectures, one tutorial; one term

**ENGLISH 1AA3 LITERATURE IN ENGLISH: LONGER GENRES**  
 A selection of longer literary texts - novels and plays - will be studied. Students will be introduced to the elements of the various genres and to a variety of interpretive approaches. Considerable emphasis will be placed on the development of critical skills in reading and writing. Two lectures, one tutorial; one term

**ENGLISH 1B03 CULTURAL STUDIES AND VISUAL CULTURE**  
 An introduction to cultural studies focusing on the critical and conceptual tools for the analysis of various forms of visual culture (e.g., photography, film, television, advertising, new media technologies). Considerable emphasis is placed on the development of effective writing skills. Two lectures, one tutorial; one term  
 Cross-list: CSCT 1B03

**ENGLISH 1BB3 CULTURAL STUDIES AND CONSUMER CULTURE**  
 An overview of the development of cultural studies as an interdisciplinary field of academic inquiry through an exploration of the history of mass and consumer culture. Considerable emphasis will be placed on the development of critical skills in reading and writing. Two lectures, one tutorial; one term  
 Cross-list: CSCT 1BB3

**ENGLISH 1C06 A HISTORY OF ENGLISH LITERATURE**  
 A survey centering on the history of English literature from its origins to the present providing a grounding in literary historical periods, genres, and critical approaches to works by canonical and non-canonical authors. Emphasis will be placed on critical skills in reading and writing. Two lectures, one tutorial; two terms

**ENGLISH 2A03 CONTEMPORARY CRITICAL APPROACHES TO LITERATURE**  
 This course will offer a grounding in reading literary texts from a range of contemporary critical approaches. Three hours; one term  
 Prerequisite: Registration in a program in English or Comparative Literature  
 Cross-list: COMP LIT 2F03

**ENGLISH 2B06 THE DEVELOPMENT OF ENGLISH DRAMA**  
 English drama from the medieval period to the close of the 18th century (excluding Shakespeare). Three hours; two terms  
 Prerequisite: Registration in a program in English. Students registered in a program in Theatre & Film may apply to the Department for permission to take this course.

**ENGLISH 2C03 CONTEMPORARY CANADIAN FICTION**  
 A study of the themes and structure of the contemporary Canadian novel, usually with emphasis on the relationship between Canada's cultural patterns and its literature. Three hours; one term  
 Prerequisite: Registration in Level II or above  
*Not open to students with credit or registration in ENGLISH 2G06.*

**ENGLISH 2D03 CREATIVE WRITING INQUIRY**  
 A creative writing seminar and workshop based on the Inquiry model of self-directed research and collaboration. Students will exercise their creative talents in a variety of genres and work independently and in groups to develop critical skills and problem solving techniques. Three hours; one term  
 Prerequisite: Registration in a program in English

**ENGLISH 2E03 TWENTIETH-CENTURY BRITISH LITERATURE**  
 A study of selected works of twentieth-century British Literature with an emphasis on the historical, intellectual, ideological and aesthetic contexts. Three hours; one term  
 Prerequisite: Registration in Level II or above  
*Not open to students with credit or registration in ENGLISH 2I06.*

**ENGLISH 2F03 STUDIES IN AMERICAN LITERATURE**  
 A study of some of the most important writers who developed American literature as a distinctive mode of writing in English. Three hours; one term  
 Prerequisite: Registration in Level II or above  
*Not open to students with credit or registration in ENGLISH 2H06.*

**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 hours; two terms  
 Prerequisite: Registration in a program in English

**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 hours; two terms  
 Prerequisite: Registration in a program in English

**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 hours; two terms  
 Prerequisite: Registration in a program in English

**ENGLISH 2J03 CONTEMPORARY POPULAR CULTURE**  
 This course explores the concept of popular culture through an examination of specific cultural forms, with emphasis on analytic skills informed by cultural and critical theory. Three hours; one term  
 Prerequisite: Registration in Level II or above  
 Cross-list: CSCT 2J03

**ENGLISH 2K06****STUDIES IN WOMEN WRITERS**

A closely focused course on women's writing in English. The topic for the course varies, sometimes concentrating on specific issues, sometimes on an historical period or national literature. Relevant feminist theory will be a component of the course.

Three hours; two terms

Prerequisite: Registration in a program in English or Women's Studies

Cross-list: CSCT 2K06, WOMEN ST 2K06

**ENGLISH 2L03****SHAKESPEARE: SELECTED PLAYS**

A study of a representative selection of plays.

Three hours; one term

Prerequisite: Registration in Level II or above

*Not open to students with credit or registration in ENGLISH 3K06.*

**ENGLISH 2M03****CONCEPTS OF CULTURE**

An analysis of the development of the concept of culture from the Enlightenment to the present. Theoretical readings combined with the analysis of specific cultural texts, objects, forms, and practices will allow students to trace historical and contemporary debates concerning culture.

Three hours; one term

Prerequisite: Registration in a program in Communication Studies, Comparative Literature or English

Cross-list: CMST 2M03, COMP LIT 2E03, CSCT 2M03

**ENGLISH 2MM3****MODERN COUNTERCULTURES**

An exploration of a variety of cultural forms (e.g. literature, art, photography, film, music) produced by avant-gardes and counter-cultural groups from the mid-19th century to the present. Areas of investigation may include surrealism, futurism, the beats, the sixties, situationism and punk.

Three hours; one term

Prerequisite: Registration in a program in Communication Studies, Comparative Literature or English

Cross-list: CMST 2MM3, COMP LIT 2EE3, CSCT 2MM3

**ENGLISH 2N03****FEMINIST UTOPIAS**

An examination of literary texts offering women's visions of social change. Three hours (seminar and discussion); one term

Prerequisite: Registration in Level II or above. WOMEN ST 1A06 (or 1A03 and 1AA3) is recommended.

Cross-list: WOMEN ST 2L03

*This course is administered by Women's Studies.*

**ENGLISH 2P03****MODERNITY/POSTMODERNITY/VISUALITY**

This course will examine modernity and postmodernity through an exploration of a variety of theoretical discourses and representational practices, with specific reference to visual culture.

Three hours; one term

Prerequisite: Registration in a program in English

Cross-list: CSCT 2P03

**ENGLISH 2R03****MONSTERS AND MAGIC**

An examination of texts that explore the monstrous and magical, from *Beowulf* to the 17th century, considering their relationship to their own and our culture. Early texts will be read in modern versions.

Three hours; one term

Prerequisite: Registration in Level II or above

**ENGLISH 2S03****SPECTACULAR BODIES**

This course examines the representations and constructions of the racialized, gendered, ethnic or othered human body in and through contemporary cultural texts.

Three hours; one term

Prerequisite: Registration in Level II or above

Cross-list: CSCT 2S03

**ENGLISH 3A03****CRITICAL RACE STUDIES**

This course examines contemporary debates in critical race theory in an attempt to critically decode the operations of race in literary and cultural texts.

Three hours; one term

Prerequisite: Registration in a program in Comparative Literature, English, Peace Studies or Women's Studies

Cross-list: COMP LIT 3RR3, CSCT 3A03, PEACE ST 3A03, WOMEN ST 3H03

**ENGLISH 3AA3****THEORIES OF GENDER AND SEXUALITY**

This course explores a range of theories of gender and sexuality by working through readings from the intersecting fields of feminist, queer, and masculinity studies.

Three hours; one term

Prerequisite: Registration in a program in Comparative Literature, English or Women's Studies

Cross-list: COMP LIT 3AA3, CSCT 3AA3, WOMEN ST 3HH3

**ENGLISH 3BB3****THE CYBORG IN FICTION  
AND CRITICAL THEORY**

A study of selected works of speculative fiction and critical theory exploring a crucial site of the intersection of culture, science, and technology.

Three hours; one term

Prerequisite: Registration in Level II or above

Cross-list: CSCT 3BB3

*Not open to students with credit in ENGLISH 3II3, TOPICS IN PROSE, if the topic was The Cyborg in Fiction and Critical Theory.*

**ENGLISH 3C06****MEDIEVAL LITERATURE IN ENGLAND, 1200-1500**

Middle English literature in a range of genres, such as romance, lyric and chronicle, will be studied in the context of medieval English culture.

Three hours; two terms

Prerequisite: Registration in a program in English

**ENGLISH 3CC3****READING FILM**

A critical examination of selected films and film genres as cultural texts, using methods drawn from film theory and cultural studies.

Three hours, plus one weekly film screening; one term

Prerequisite: Registration in Level II or above of a program in Art History, Communication Studies, Comparative Literature, English or Theatre & Film Studies. It is recommended that students should already have completed THTR&FLM 2F03.

Cross-list: CMST 3CC3, COMP LIT 3L03, CSCT 3CC3, THTR&FLM 3R03

**ENGLISH 3D03****SCIENCE FICTION**

An examination of a number of standard science fiction tropes such as time travel, lost worlds, utopia/dystopia, totalitarian societies, alien races, and post holocaust societies.

Three lectures; one term

Prerequisite: Registration in Level II or above

Cross-list: CSCT 3D03

*Not open to students with credit in ENGLISH 3II3, TOPICS IN PROSE, if the topic was Science Fiction.*

**ENGLISH 3DD3****CONTEMPORARY CANADIAN DRAMA**

A course on current Canadian drama focusing on Canadian dilemmas, readings of international politics, philosophical questions, innovation in staging, and performance histories.

Three lectures; one term

Prerequisite: Registration in Level II or above

*Not open to students with credit in ENGLISH 3XX3, TOPICS IN DRAMA, if the topic was Contemporary Canadian Drama.*

**ENGLISH 3EE3****AFRICAN AMERICAN FICTION**

A study of selected fiction by African American writers published since 1900, considered in the context of African American history and literary tradition.

Three lectures; one term

Prerequisite: Registration in Level II or above

Cross-list: CSCT 3EE3

*Not open to students with credit in ENGLISH 3II3: TOPICS IN PROSE, if the topic was African American Fiction.*

**ENGLISH 3G06****STUDIES IN EIGHTEENTH-CENTURY****BRITISH LITERATURE AND CULTURE**

A study of English literature during the period 1660-1800, with special attention to works by Dryden, Swift, Pope and Johnson.

Three hours; two terms

Prerequisite: Registration in a program in English

**ENGLISH 3H03****JANE AUSTEN**

A critical evaluation of a selection of Jane Austen's work with a focus on exploring late eighteenth- and early nineteenth-century British culture.

Three lectures; one term

Prerequisite: Registration in Level II or above

*Not open to students with credit in ENGLISH 3II3, TOPICS IN PROSE, if the topic was Jane Austen.*

**ENGLISH 3I06****THE AGE OF ELIZABETH I**

A consideration of this tumultuous age, galvanized by revolutions in exploration, religion, and selfhood, and ruled by a female monarch. Authors include Spenser, Sidney and women writers.

Three hours; two terms

Prerequisite: Registration in a program in Comparative Literature or English

Cross-list: COMP LIT 3J06

**ENGLISH 3J06 ENGLISH HISTORICAL AND DESCRIPTIVE LINGUISTICS**

A study of the origins and evolution of English followed by approaches such as language universals, generative grammar and sociolinguistics. Three hours; two terms

Prerequisite: Registration in a program in English  
Antirequisite: LINGUIST 1A03, 1A06, 1AA3

**ENGLISH 3K06 SHAKESPEARE**

An extensive critical reading and discussion of selected plays. Three hours; two terms

Prerequisite: Registration in a program in English. Students registered in a program in Theatre & Film Studies may apply to the Department for permission to take this course.

**ENGLISH 3L06 THE EARLIEST ENGLISH LANGUAGE AND LITERATURE**

Old English language and literature will be studied in the context of Anglo-Saxon culture, translation theory and practice.

Three hours; two terms

Prerequisite: Registration in a program in English

**ENGLISH 3M06 STUDIES IN NINETEENTH-CENTURY BRITISH LITERATURE AND CULTURE**

A study of selected texts, genres, and issues of Nineteenth-Century British Literature, including reference to relevant social and political contexts.

Three hours; two terms

Prerequisite: Registration in a program in English

**ENGLISH 3N06 THE BRITISH NOVEL**

This course will trace the history of English fiction to the 20th century and will focus on the varieties of narrative forms, while also exploring the intellectual, cultural and psychological contexts of fiction.

Three hours; two terms

Prerequisite: Registration in a program in English

**ENGLISH 3Q03 THE HISTORY OF CRITICAL THEORY**

A survey of the main developments in critical theory from Plato to the end of the 19th century. Areas of investigation may include: art, aesthetics, civil society, representation, ethics, and knowledge.

Three hours; one term

Prerequisite: Registration in a program in Comparative Literature or English  
Cross-list: COMP LIT 3Q03, CSCT 3Q03

**ENGLISH 3QQ3 CONTEMPORARY CRITICAL THEORY**

This course examines selected issues in contemporary critical theory. Areas of investigation may include: representation, power/knowledge, discourse, subjectivity, and the body.

Three hours; one term

Prerequisite: Registration in a program in Comparative Literature or English.  
COMP LIT 3Q03, CSCT 3Q03 or ENGLISH 3Q03 is recommended.

Cross-list: COMP LIT 3QQ3, CSCT 3QQ3

**ENGLISH 3R06 POSTCOLONIAL CULTURES: THEORY AND PRACTICE**

A study of contemporary texts including literature, film, art and other forms of popular culture that engage the implications of living in a postcolonial world. Close consideration will be given to issues of imperialism, globalization, race, gender, ethnicity, nation, language and representation.

Three hours; two terms

Prerequisite: Registration in a program in Comparative Literature, English or Peace Studies

Cross-list: COMP LIT 3R06, CSCT 3R06, PEACE ST 3E06

**ENGLISH 3S03 BIBLICAL TRADITIONS IN LITERATURE**

A study of the influence of the Bible on Western literature, especially English. Approaches may include the examination of symbolism, imagery, typology, doctrinal themes and narrative structures.

Three hours; one term

Prerequisite: Registration in Level II or above

Cross-list: COMP LIT 3H03

**ENGLISH 3U03 NEANDERTHALS AND NUKES**

An exploration of the emerging world view after World War II through a consideration of approximately six British novels.

Three lectures; one term

Prerequisite: Registration in Level II or above

Not open to students with credit in ENGLISH 3I13, TOPICS IN PROSE, if the topic was *The British Novel After World War II*.

**ENGLISH 3V06 STUDIES IN 17TH-CENTURY LITERATURE**

A detailed examination of poets and prose-writers of the period, with emphasis on the poetry of Donne, the "metaphysical school", Jonson and Milton.

Three hours; two terms

Prerequisite: Registration in a program in English

**ENGLISH 3W03 CONTEMPORARY NATIVE LITERATURE IN CANADA**

A study of significant works by Native writers who give voice to their experience in Canada. Issues examined include appropriation of voice, native identity, women in indigenous societies, and stereotyping.

Three hours (lectures and seminars); one term

Prerequisite: Six units of Level II Indigenous Studies or six units of Level II English or permission of the instructor

Cross-list: CSCT 3W03, INDIG ST 3D03, PEACE ST 3W03

*This course is administered by Indigenous Studies.*

**ENGLISH 3X03 CONTEMPORARY NATIVE LITERATURE IN THE UNITED STATES**

A study of contemporary works by Native writers in the United States within the context of American society and Post-Modern and Post-Colonial Literary Theory.

Three hours (lectures and seminars); one term

Prerequisite: Six units of Level II Indigenous Studies or six units of Level II English or permission of the instructor

Cross-list: CSCT 3X03, INDIG ST 3E03, PEACE ST 3X03

*This course is administered by Indigenous Studies.*

**ENGLISH 3Y03 CHILDREN'S LITERATURE**

A critical evaluation of literary works from approximately 1700 to the present written primarily for children.

Three lectures; one term

Prerequisite: Registration in Level II or above

Cross-list: CSCT 3Y03

*Not open to students with credit in ENGLISH 3I13, TOPICS IN PROSE, if the topic was *Children's Literature*.*

**ENGLISH 3YY3 CONTEMPORARY YOUTH CULTURE**

An examination of contemporary youth culture through dominant representations of identity. Themes include: violence, sex/sexuality, age, gender, technology, music and dance, countercultures, subcultures, private/public space.

Three hours; one term

Prerequisite: Registration in Level II or above

Cross-list: CSCT 3YY3

**ENGLISH 4X03 HONOURS ESSAY**

In consultation with members of the English Department, students will prepare an essay on an approved topic. This course is normally substituted for three units of Level IV seminar work in the second term. Students who are interested in taking 4X03 should contact the faculty member chairing the 4X03 committee early in the first term.

Prerequisite: Registration in Level IV of an Honours program in English  
*Enrolment is limited. Departmental permission required.*

**Note:**

Level IV seminars are open only to Honours students registered in Level IV of an English program. Enrolment will be limited to 15 students per seminar when possible. The Department is able to offer only a selection of the seminars listed below every year. A list of seminars to be offered will be available prior to registration, which takes place through the Department in March.

**ENGLISH 4AA3 AFRICAN-AMERICAN WOMEN WRITERS**

A study of a selection of African-American women writers, including Hurston, Walker, Morrison and Naylor, with a consideration of gender and race in literary theory.

Seminar (two hours); one term

Prerequisite: Registration in Level IV of an Honours program in English  
Cross-list: CSCT 4AA3

*Enrolment is limited. Departmental permission required.*

**ENGLISH 4AR3 RHETORIC, CULTURE, CATASTROPHE: AIDS AND ITS REPRESENTATIONS**

An examination of selected novels, films, autobiographical writings and theoretical texts about AIDS, with an emphasis on the cultural discourses surrounding the AIDS crisis.

Seminar (two hours); one term

Prerequisite: Registration in Level IV of an Honours program in English  
Cross-list: CSCT 4AR3

*Enrolment is limited. Departmental permission required.*

**ENGLISH 4AS3 THE AESTHETICS OF SEX IN THE 1890s**

This course will focus on the ideologically related struggles of 1890s men and women to express radical forms of sexuality in literature and on the aesthetics and politics that enforced divisions along gender lines.

Seminar (two hours); one term

Prerequisite: Registration in Level IV of an Honours program in English

Cross-list: CSCT 4AS3

*Enrolment is limited. Departmental permission required.*

**ENGLISH 4AW3 ASIAN AMERICAN WRITING**

A study of selected texts by Americans and/or Canadians of Asian origin with a focus on race, ethnicity, gender, sexuality, class, immigration, multiculturalism, transnationalism and diaspora.

Seminar (two hours); one term

Prerequisite: Registration in Level IV of an Honours program in English

Cross-list: CSCT 4AW3

*Enrolment is limited. Departmental permission required.*

**ENGLISH 4BB3 BLACK POPULAR CULTURE**

This course focuses on the production and reception of black popular culture (particularly the entertainment industry and professional sports) in ways that problematize the racialization of cultural forms of expression.

Seminar (two hours); one term

Prerequisite: Registration in Level IV of an Honours program in English

Cross-list: CSCT 4BB3

*Enrolment is limited. Departmental permission is 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 program in English

*Enrolment is limited. Departmental permission required.*

**ENGLISH 4CB3 READING THE BESTSELLER: CONTEMPORARY BRITISH FICTION**

An exploration of possible critical vocabularies for the analysis of recent British fiction in light of how bestseller lists, prizes, publicity and media adaptability now shape the writing, marketing, and reading of fiction.

Seminar (two hours); one term

Prerequisite: Registration in Level IV of an Honours program in English

Cross-list: CSCT 4CB3

*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 program in English

Cross-list: CSCT 4CF3

*Enrolment is limited. Departmental permission required.*

**ENGLISH 4EM3 MODERNISM AND EMPIRE**

An examination of the formalistic, ideological and political relationship between British modernism and postcolonial studies through reading literary texts and cultural-historical contexts of modernism.

Seminar (two hours); one term

Prerequisite: Registration in Level IV of an Honours program in English

Cross-list: CSCT 4EM3

*Enrolment is limited. Departmental permission required.*

**ENGLISH 4FR3 FANTASIES OF THE ORIENT IN EIGHTEENTH-CENTURY BRITAIN**

This course explores how eighteenth-century England registered and imagined "the other" through "the Orient", as well as how the Orient shaped emerging literary genres and modes.

Seminar (two hours); one term

Prerequisite: Registration in Level IV of an Honours program in English

Cross-list: CSCT 4FR3

Antirequisite: ENGLISH 4F03

*Enrolment is limited. Departmental permission required.*

**ENGLISH 4FT3 THE FAIRY TALE**

A study of the fairy tale from the structuralist, psychoanalytic, and sociological points of view, concentrating on the tales of the Brothers Grimm in translation and considering the importance of fairy tales in acculturation and their symbolic significance.

Seminar (two hours); one term

Prerequisite: Registration in Level IV of an Honours program in English

Cross-list: CSCT 4FT3

*Enrolment is limited. Departmental permission required.*

**ENGLISH 4FW3 FORMS OF CREATIVE WRITING**

This seminar will combine a hands-on study of form with an opportunity for students to exercise and focus their own creative energies. In any given year, the course will concentrate on either verse or fictional form.

Seminar (two hours); one term

Prerequisite: Registration in Level IV of an Honours program in English

*Enrolment is limited. Departmental permission required.*

**ENGLISH 4GW3 GOOD WOMEN, BAD GIRLS**

This seminar explores representations of feminine virtue and vice with examples drawn from early sagas, epics, tales, hagiography, drama, miracle stories, and romance

Seminar (two hours); one term

Prerequisite: Registration in Level IV of an Honours program in English

*Enrolment is limited. Departmental permission required.*

**ENGLISH 4HC3 THE HISTORY OF CULTURAL STUDIES**

A study of the history of cultural studies from its origins in the Frankfurt School, through the Birmingham Centre for Contemporary Cultural Studies, to its dispersal into distinct modes of academic practice.

Seminar (two hours); one term

Prerequisite: Registration in Level IV of an Honours program in English

Cross-list: CSCT 4HC3

*Enrolment is limited. Departmental permission required.*

**ENGLISH 4HL3 CANADIAN HOLOCAUST NOVELS**

An examination of selected Canadian novels that respond to the Holocaust. Aesthetic and ethical issues involved in such responses will also be discussed.

Seminar (two hours); one term

Prerequisite: Registration in Level IV of an Honours program in English

*Enrolment is limited. Departmental permission required.*

**ENGLISH 4ID3 DISLOCATION AND BELONGING: CANADIAN WRITINGS OF IMMIGRATION AND DIASPORA**

This course examines works by and about people who have moved between cultural locations to consider questions of cultural and cross-cultural identity.

Seminar (two hours); one term

Prerequisite: Registration in Level IV of an Honours program in English

Cross-list: CSCT 4ID3

*Enrolment is limited. Departmental permission required.*

**ENGLISH 4J03 CROSSING BORDERS: GLOBAL FEMINISMS**

Examines how women's lives are being transformed in a changing global society and the implications of women's changing places in society for feminist theory and practice

Seminar (two hours); one term

Prerequisite: Registration in Level IV of an Honours program in English

Cross-list: CSCT 4J03, WOMEN ST 4J03

*Enrolment is limited. Departmental permission required.*

*This course is administered by Women's Studies.*

**ENGLISH 4LM3 EIGHTEENTH-CENTURY MACHINE LIFE**

This seminar will explore how metaphors and constructions of the machine pushed the boundaries of what it meant to be human during the eighteenth century.

Seminar (two hours); one term

Prerequisite: Registration in Level IV of an Honours program in English

Cross-list: CSCT 4LM3

*Enrolment is limited. Departmental permission required.*

**ENGLISH 4MO3 MODERNISM AND THE POLITICS OF FORM**

Reading of modernist texts in the light of the contested relationship of formal/technical experimentation with the politics of race, gender, colonialism and other modes of power relations.

Seminar (two hours); one term

Prerequisite: Registration in Level IV of an Honours program in English

Cross-list: CSCT 4MO3

*Enrolment is limited. Departmental permission required.*

**ENGLISH 4ON3 MICHAEL ONDAATJE**

This course explores various approaches to Michael Ondaatje's poetry and prose; gender, postcoloniality, and interdisciplinarity (Ondaatje's engagement with film, photography, painting and music) are topics of particular interest.

Seminar (two hours); one term

Prerequisite: Registration in Level IV of an Honours program in English

Cross-list: CSCT 4ON3

*Enrolment is limited. Departmental permission required.*

**ENGLISH 40P3 THE "OPRAH EFFECT"**

This seminar considers the influence of Oprah Winfrey at various sites of cultural contestation: television, magazine publication, women's body images, entrepreneurship, celebrity activism, race, "self-help."

Seminar (two hours); one term

Prerequisite: Registration in Level IV of an Honours program in English  
Cross-list: CSCT 40P3

*Enrolment is limited. Departmental permission required.*

**ENGLISH 4PA3 THE "OPTICAL UNCONSCIOUS": AESTHETICS IN THE AGE OF PHOTOGRAPHY**

This seminar engages a series of contemporary debates in aesthetic theory, organized around the question of photography and the problems of visual representation.

Seminar (two hours); one term

Prerequisite: Registration in Level IV of an Honours program in English  
Cross-list: CSCT 4PA3

*Enrolment is limited. Departmental permission required.*

**ENGLISH 4PC3 PSYCHE AND CULTURE**

This course explores the psychoanalytic understanding of culture with reference to three main areas: ideology, gender polarity, and imaginative culture (the arts and literature).

Seminar (two hours); one term

Prerequisite: Registration in Level IV of an Honours program in English  
Cross-list: CSCT 4PC3

Antirequisite: COMP LIT 4C03, 4F03

*Enrolment is limited. Departmental permission required.*

**ENGLISH 4QM3 SHAKESPEARE'S APPRENTICESHIP: MORAL PLAYS AND THE QUEEN'S MEN**

This course will examine some of the popular plays the young Shakespeare would have seen, focusing on playing spaces, character types and cultural attitudes.

Seminar (two hours); one term

Prerequisite: Registration in Level IV of an Honours program in English  
*Enrolment is limited. Departmental permission required.*

**ENGLISH 4RD3 RENAISSANCE DRAMA, EXCLUDING SHAKESPEARE**

An intensive study of transgression (economic, erotic, social, and literary) in popular and elite drama by Shakespeare's contemporaries, including women writers.

Seminar (two hours); one term

Prerequisite: Registration in Level IV of an Honours program in English  
*Enrolment is limited. Departmental permission required.*

**ENGLISH 4RM3 LITERARY REPRESENTATIONS OF MADNESS**

This course will seek a partial answer to the question of how writers represent madness by examining texts from the 17th to the 20th centuries. Particular attention will be paid to the role of social pressures behind the transformation of concepts of madness.

Seminar (two hours); one term

Prerequisite: Registration in Level IV of an Honours program in English  
*Enrolment is limited. Departmental permission required.*

**ENGLISH 4RR3 THE ROMANCE OF ROMANCE**

Pairs of medieval and modern romances will be studied in the light of critical theories of romance, gender, and reading.

Seminar (two hours); one term

Prerequisite: Registration in Level IV of an Honours program in English  
Cross-list: CSCT 4RR3

*Enrolment is limited. Departmental permission required.*

**ENGLISH 4RT3 TELEVISION AND CONTEMPORARY CULTURE**

This seminar studies the cultural artefact called "television," providing a comprehensive overview of various approaches to its study and the requisite theoretical tools to "read" this important element of contemporary culture.

Seminar (two hours); one term

Prerequisite: Registration in Level IV of an Honours program in English  
Cross-list: CSCT 4RT3

*Enrolment is limited. Departmental permission required.*

**ENGLISH 4SC3 WOMEN WRITERS OF THE 16TH AND 17TH CENTURIES**

This seminar explores a variety of works written by women in 16th- and 17th-century England, with a consideration of their literary and cultural contexts, and the construction of female identity.

Seminar (two hours); one term

Prerequisite: Registration in Level IV of an Honours program in English  
*Enrolment is limited. Departmental permission required.*

**ENGLISH 4SF3 SCIENCE FICTION TOMORROW OR THE DAY AFTER**

This seminar will examine science fiction based in the present or near future in the context of artificial intelligence theory, economic possibilities and biology.

Seminar (two hours); one term

Prerequisite: Registration in Level IV of an Honours program in English  
Cross-list: CSCT 4SF3

*Enrolment is limited. Departmental permission required.*

**ENGLISH 4SS3 SHAKESPEARE AND SHAKESPEARE'S SISTERS**

By examining works from different genres, this course explores the ways gender expectations shaped women's and men's contributions to popular and elite culture in early modern England.

Seminar (two hours); one term

Prerequisite: Registration in Level IV of an Honours program in English  
Cross-list: CSCT 4SS3

*Enrolment is limited. Departmental permission required.*

**ENGLISH 4TS3 TORTURED SUBJECTS OF ROMANTICISM**

This course explores what the Romantics meant when they spoke of the "self" and how they began to rethink it as both a glowing ideal and a source of cultural antagonism and resentment.

Seminar (two hours); one term

Prerequisite: Registration in Level IV of an Honours program in English  
Cross-list: CSCT 4TS3

*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 program in English  
Cross-list: CSCT 4UT3

*Enrolment is limited. Departmental permission required.*

**ENGLISH 4WC3 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 program in English  
*Enrolment is limited. Departmental permission required.*

**ENGLISH 4WI3 WOMAN AND THE NATION IN INDIAN POPULAR CINEMA**

An examination of Indian popular cinema (Bollywood) and its construction of the nation through representations of women. Themes may include: partition, religion, sexuality, minority, caste, diaspora.

Seminar (two hours); one term

Prerequisite: Registration in Level IV of an Honours program in English  
Cross-list: CSCT 4WI3

*Enrolment is limited. Departmental permission required.*

**ENGLISH 4WL3 GLOBALIZATION AND POSTCOLONIAL FICTION**

This course examines fictional representations of the ideology and processes of globalization, while also considering how globalization shapes the production and consumption of postcolonial culture.

Seminar (two hours); one term

Prerequisite: Registration in Level IV of an Honours program in English  
Cross-list: CSCT 4WL3

*Enrolment is limited. Departmental permission required.*

**ENGLISH 4WW3 WOMEN WRITERS OF THE EIGHTEENTH CENTURY**

An exploration of poetry and fiction written by women in the 18th century, with particular attention to the social and philosophical concerns of these writers.

Seminar (two hours); one term

Prerequisite: Registration in Level IV of an Honours program in English  
*Enrolment is limited. Departmental permission required.*

**ENVIRONMENTAL SCIENCE**

**Courses** If no prerequisite is listed, the course is open.

**ENVIR SC 1A03 ATMOSPHERE AND HYDROSPHERE**

An introduction to the processes involved in weather, climate and surface waters with a focus on the human impacts on these processes.  
Two lectures; one tutorial, one lab (one-hour); second term

**ENVR SC 1B03 THE LIVING ENVIRONMENT**

Characteristics of the biosphere and introduction to major environmental processes and issues.

Two lectures, one tutorial, one lab (two hours); second term

**ENVR SC 1G03 EARTH AND THE ENVIRONMENT**

An introduction to environmental geology and geomorphology through study of the processes that form the earth and its surface features. A mandatory Saturday field trip will be held.

Two lectures, one tutorial, one lab (two hours); first term

**CHEM 3A03 ANALYTICAL CHEMISTRY II**

An introduction to modern instrumental methods of analysis.

Two lectures, one lab (three hours); first term

Prerequisite: CHEM 2A03 or 2N03; and CHEM 2PA3 or 2R03

Antirequisite: ENVR SC 3A03

**FRENCH**

WEB ADDRESS: <http://www.humanities.mcmaster.ca/~french>

Togo Salmon Hall, Room 612

Ext. 24470

**Faculty as of January 15, 2006**

**Chair**

Michael Kliffer

**Professors**

Marie-Madeleine Ahmed/L.ès L., M. ès L., D. de l'U (Paris-Sorbonne)

Caroline Bayard/L. ès L., M. ès L. (Toulouse), M.A., Ph.D. (Toronto)

Suzanne Crosta/B.A., M.A. (McMaster), Ph.D. (Toronto)

Madeleine Jeay/L. ès L. (Bordeaux), M.A., Ph.D. (Montréal)

**Associate Professors**

William F. Hanley/B.A. (Toronto), M. ès L. (Paris-Sorbonne), D.Phil. (Oxford)

Michael Kliffer/B.A. (British Columbia), M.A. (Michigan), Ph.D. (Cornell)

Gabriel Moyal/B.A. (McGill), M.A., Ph.D. (Toronto)

Anna St. Leger Lucas/B.A. (Nottingham), M.A. Ph.D. (British Columbia)

John C. Stout/B.A. (British Columbia), Ph.D. (Princeton)

Gary A. Warner/B.A. (London), L. ès L., D. de l'U. (Caen)

**Assistant Professors**

Jane A.C. Rush/B.A. (Toronto), M.A., Ph.D. (California-Los Angeles)

Stéphanie Posthumus/B.A. (Calvin College), M.A. (Queen's), Ph.D. (Western Ontario)

Alexandre Sévigny/B.A. (York), M.A., Ph.D. (Toronto)

Hélène Trépanier/B.A. (McGill), M.A. (Laval), D.E.S., D. ès L. (Geneva)

Muriel Walker/L. ès L., M. ès L. (Bordeaux), M.A., Ph.D. (Toronto)

**Program Coordinator, Continuing Education**

Hélène Gallier-Morgan, D.U.E.L., L. ès L., M. ès L., D.E.A. (Paris-Sorbonne)

**Courses** *If no prerequisite is listed, the course is open.*

**FRENCH 1A06 INTRODUCTION TO FRENCH STUDIES: ADVANCED LEVEL**

Review of grammar, oral and written practice, and introduction to literary analysis.

Four hours (including one oral French tutorial); two terms

Prerequisite: Grade 12 Core French U with a grade of at least 80%. The Department reserves the right to place students in the course most appropriate to their abilities. Immersion students should register in this course.

Antirequisite: FRENCH 1N06, 2M06

**FRENCH 1N06 INTRODUCTION TO FRENCH STUDIES: INTERMEDIATE LEVEL**

Review of grammar, composition, reading and oral practice. Computer-assisted instruction is used for work outside the classroom.

Three hours; two terms

Prerequisite: Grade 12 Core French U with a grade of less than 80% or FRENCH 1Z06 with a grade of at least A-

Antirequisite: FRENCH 1A06, 1B06, 2Z06

*Not open to students with Grade 12 français or to immersion students. Not open to students with credit or registration in FRENCH 2M06. The Department reserves the right to place students in the course most appropriate to their abilities.*

**FRENCH 1Z06 BEGINNER'S INTENSIVE FRENCH I**

An intensive course for developing basic skills in both written and spoken French. The normal sequel to this course is FRENCH 2Z06.

Five hours (including three computer labs); two terms

Antirequisite: Grade 12 Core French U. Not open to Francophones.

*Enrolment is limited.*

*Students with prior knowledge of the language, as determined by a placement test, may be required to enrol in an appropriate alternative.*

**FRENCH 2B03 FRENCH LANGUAGE PRACTICE I**

A course designed to improve competence in oral and written expression. Written proficiency includes the study of vocabulary, grammar and composition. The oral component will stress listening, comprehension and conversational proficiency.

Four hours (including one oral French tutorial); one term

Prerequisite: One of FRENCH 1A06, 1N06 or 2M06

Antirequisite: FRENCH 2A03, 4R06

**FRENCH 2BB3 FRENCH LANGUAGE PRACTICE II**

Continuation of FRENCH 2B03.

Four hours (including one oral French tutorial); one term.

Prerequisite: FRENCH 2B03 with a grade of at least C-

Antirequisite: FRENCH 2A03, 4R06

**FRENCH 2E03 LITERATURE OF QUEBEC**

Selected novels, plays, and poems representative of the main currents of Quebec Literature.

Three hours; one term

Prerequisite: One of FRENCH 1A06, 1N06 or 2M06

**FRENCH 2F03 SURVEY OF FRENCH LITERATURE**

Examination of a representative sampling of texts from various periods and genres.

Three hours; one term

Prerequisite: One of FRENCH 1A06, 1N06 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 hours; one term

Prerequisite: A grade of at least B- in FRENCH 1A06 or 2M06 or B+ in FRENCH 1N06

**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 hours; one term

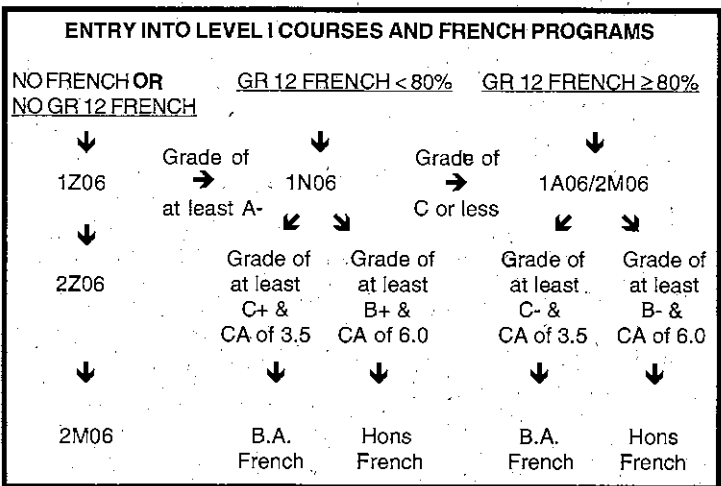
Prerequisite: One of FRENCH 1A06, 1N06 or 2M06

**FRENCH 2J03 19TH-CENTURY FRENCH LITERATURE I**

Aspects of the development of 19th century French literature up to 1848.

Three hours; one term

Prerequisite: One of FRENCH 1A06, 1N06 or 2M06



**FRENCH 2JJ3 19TH-CENTURY FRENCH LITERATURE II**  
Aspects of the development of 19th century French literature after 1848.  
Three hours; one term  
Prerequisite: One of FRENCH 1A06, 1N06 or 2M06

**FRENCH 2M06 INTRODUCTION TO FRENCH STUDIES:  
ADVANCED LEVEL**  
Review of grammar, oral and written practice, and introduction to literary analysis.

Four hours (including one oral French tutorial); two terms  
Prerequisite: FRENCH 1N06 or 2Z06  
Antirequisite: FRENCH 1A06  
*Not open to students with credit or registration in FRENCH 2B03.*

**FRENCH 2N03 INTRODUCTION TO THE  
CIVILIZATION OF FRANCE**  
The study of contemporary France through a selection of texts and audiovisual materials.

Three hours; one term  
Prerequisite: One of FRENCH 1A06, 1N06 or 2M06

**FRENCH 2Z06 BEGINNER'S INTENSIVE FRENCH II**  
A sequel to FRENCH 1Z06. Review of grammatical structures. Expansion of vocabulary. Conversation practice. Study of texts with class discussions. The normal sequel to this course is FRENCH 2M06. This course cannot be applied toward a Minor in French.

Five hours (including three computer labs); two terms  
Prerequisite: FRENCH 1Z06  
Antirequisite: FRENCH 1N06  
*Not open to students with credit or registration in FRENCH 1A06, 1B06, 2B03, 2M06.*  
*Enrolment is limited.*

**FRENCH 3A03 EVOLUTION OF THE FRENCH LANGUAGE**  
This course will be based on treatises of the French language dating from the Middle Ages to the present and will show how French has changed over the centuries. The subject matter is divided into four modules treating vocabulary, syntax, verb forms and spelling from a historical point of view.

Three hours; one term  
Prerequisite: FRENCH 2BB3  
*Alternates with FRENCH 3SS3.*

**FRENCH 3AA3 THE MODERN FRENCH-CANADIAN NOVEL**  
Representative novels by contemporary authors with emphasis upon the relationship between technique and meaning.

Three hours; one term  
Prerequisite: Six units of French above Level I, excluding FRENCH 2M06 and 2Z06

**FRENCH 3BB3 CONTEMPORARY QUEBEC THEATRE**  
Contemporary experimental theatre and representative playwrights such as Marcel Dubé and Michel Tremblay.

Three hours; one term  
Prerequisite: Six units of French above Level I, excluding FRENCH 2M06 and 2Z06

**FRENCH 3C03 FRENCH LANGUAGE PRACTICE: WRITTEN**  
Advanced grammar and composition; introduction to stylistics.

Three hours; one term  
Prerequisite: A grade of at least C- in FRENCH 2BB3  
Antirequisite: FRENCH 4R06

**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 hours; one term  
Prerequisite: A grade of at least B- in each of FRENCH 2BB3 and 2G03; or registration in Level III or IV of the Honours Linguistic Cognitive Science program. Students not registered in a program in French should have communicative competence in French.

**FRENCH 3F03 FRENCH LANGUAGE PRACTICE:  
FRENCH CIVILIZATION AND CULTURE**  
An introduction to contemporary French society through oral discussions and presentations.

Three hours; one term  
Prerequisite: FRENCH 2BB3. Not available to Francophone students with native fluency.

**FRENCH 3GG3 FRENCH LANGUAGE PRACTICE:  
TRANSLATION FROM FRENCH TO ENGLISH**  
The emphasis will be on inferring strategies and stylistic comparisons between the two languages. Translation materials will be drawn from contemporary magazines such as L'Express, Le Nouvel Observateur and L'Actualité.

Three hours; one term

Prerequisite: FRENCH 2G03

**FRENCH 3H03 INTRODUCTION TO FRENCH LINGUISTICS II**  
The study of word formation (morphology), sentence structure (syntax) and meaning (semantics). Contemporary French will be the primary data for all three components. Both functional and formal approaches will be examined.

Three hours; one term  
Prerequisite: FRENCH 2B03, FRENCH 2H03 and/or LINGUIST 1A03 and 1AA3 (or 1A06) are recommended.

**FRENCH 3K03 18TH-CENTURY FRENCH LITERATURE I**  
The early 18th century with emphasis on Montesquieu, Marivaux and Prévost, and on the early writings of Voltaire.

Three hours; one term  
Prerequisite: Six units of French above Level I, excluding FRENCH 2M06 and 2Z06

**FRENCH 3KK3 REVOLUTIONARY LITERATURE  
BEFORE THE REVOLUTION:  
VOLTAIRE, ROUSSEAU, AND BEAUMARCHAIS**  
Texts representing the main aspects of Enlightenment thought and literature from *Candide* to the Revolution.

Three hours; one term  
Prerequisite: Six units of French above Level I, excluding FRENCH 2M06 and 2Z06

**FRENCH 3Q03 17TH-CENTURY FRENCH LITERATURE I**  
A study of selected plays by Corneille, Molière and Racine.

Three hours; one term  
Prerequisite: Six units of French above Level I, excluding FRENCH 2M06 and 2Z06

**FRENCH 3QQ3 17TH-CENTURY FRENCH LITERATURE II**  
A consideration of selected themes as they appear in the works of major French writers of the 17th century.

Three hours; one term  
Prerequisite: Six units of French above Level I, excluding FRENCH 2M06 and 2Z06

**FRENCH 3SS3 STUDIES IN MEDIEVAL  
LANGUAGE AND CIVILIZATION**  
An exploration of the particular characteristics of Old French through a selection of Medieval texts representative of the civilization of the period (chivalry, courtly love, feasts and rituals).

Three hours; one term  
Prerequisite: FRENCH 2BB3  
*Alternates with FRENCH 3A03.*

**FRENCH 3W03 20TH-CENTURY FRENCH LITERATURE I**  
Aspects of the development of 20th-century literature to the end of the Second World War.

Three hours; one term  
Prerequisite: Six units of French above Level I; excluding FRENCH 2M06 and 2Z06

Antirequisite: FRENCH 2W03

**FRENCH 3Z03 AFRICAN AND CARIBBEAN  
FRENCH LITERATURES**  
An introduction to French African and Caribbean literatures.

Three hours; one term  
Prerequisite: One of FRENCH 1A06, 2M06 or registration in a French program

**FRENCH 4A03 FRENCH LANGUAGE PRACTICE**  
Advanced stylistics and composition.

Three hours; one term  
Prerequisite: A grade of at least B- in FRENCH 3C03 and registration in an Honours program in French.

**FRENCH 4BB3 FRENCH LANGUAGE PRACTICE:  
ADVANCED TRANSLATION**  
Practice in the translation into French of texts of a specialized nature (e.g., administration, business, politics).

Three hours; one term  
Prerequisite: FRENCH 3C03, 3CC3; or registration in Level III or IV of the Honours Linguistic Cognitive Science program. Students not registered in a program in French should have communicative competence in French.



- FRENCH 4E03 APPLIED LINGUISTICS AND SECOND-LANGUAGE LEARNING**  
An examination of various aspects of second language acquisition as applied to the teaching of French, with special emphasis on psycholinguistic and cognitive scientific factors.  
Seminar (two hours); one term  
Prerequisite: FRENCH 2H03 or registration in Level III or IV of the Honours Linguistic Cognitive Science program. Students not registered in a program in French should have communicative competence in French.
- FRENCH 4F03 TOPICS IN 18TH-CENTURY FRENCH LITERATURE**  
Previous topics include: Voltaire, Theatre and Performance. Consult the Department concerning topic to be offered.  
Seminar (two hours); one term  
Prerequisite: 12 units of French above Level I, excluding FRENCH 2M06 and 2Z06  
*FRENCH 4F03 may be repeated, if on a different topic, to a total of six units. Enrolment is limited.*
- FRENCH 4H03 TOPICS IN LINGUISTICS**  
Previous topics include: Lexicology, Pragmatics, Sociolinguistics. Consult the Department concerning topic to be offered.  
Seminar (two hours); one term  
Prerequisite: FRENCH 2H03 or registration in Level III or IV of the Honours Linguistic Cognitive Science program. Students not registered in a program in French should have communicative competence in French.  
*FRENCH 4H03 may be repeated, if on a different topic, to a total of six units. Enrolment is limited.*
- FRENCH 4I03 TOPICS IN FRENCH POETRY**  
Previous topics include: Poets and Humour, Love Poetry, Women Poets, Poètes maudits. Consult the Department concerning topic to be offered.  
Seminar (two hours); one term  
Prerequisite: 12 units of French above Level I, excluding FRENCH 2M06 and 2Z06  
*FRENCH 4I03 may be repeated, if on a different topic, to a total of six units. Enrolment is limited.*
- FRENCH 4II3 FRENCH SOCIOLINGUISTICS**  
The study of linguistic variations within French-speaking communities with special emphasis on sociolinguistic issues arising in multilingual societies (Africa, America, Europe).  
Three lectures; one term  
Prerequisite: FRENCH 2H03
- FRENCH 4J03 FRENCH LITERATURE OF THE RENAISSANCE**  
Characteristic themes of Renaissance humanism as they appear in the works of Rabelais, Montaigne, and selected poets.  
Three hours; one term  
Prerequisite: 12 units of French above Level I, excluding FRENCH 2M06 and 2Z06
- FRENCH 4LL3 TOPICS IN FRENCH AFRICAN AND CARIBBEAN FRENCH LITERATURES**  
Previous topics include: Contemporary Caribbean Writers, Literature of Senegal. Consult the Department concerning topic to be offered.  
Seminar (two hours); one term  
Prerequisite: 12 units of French above Level I, excluding FRENCH 2M06 and 2Z06  
*FRENCH 4LL3 may be repeated, if on a different topic, to a total of six units. Enrolment is limited.*
- FRENCH 4MM3 SEX, VIOLENCE AND ELEGANCE: THE 18TH-CENTURY NOVEL**  
A study of the genesis and themes of representative 18th-century novels.  
Seminar (two hours); one term  
Prerequisite: 12 units of French above Level I, excluding FRENCH 2M06 and 2Z06  
*Enrolment is limited.*
- FRENCH 4N03 TOPICS IN THE FRENCH NOVEL**  
Previous topics include: Emile Zola, Balzac's Novels: History and Fiction. Consult the Department concerning topic to be offered.  
Seminar (two hours); one term  
Prerequisite: 12 units of French above Level I, excluding FRENCH 2M06 and 2Z06  
*FRENCH 4N03 may be repeated, if on a different topic, to a total of six units. Enrolment is limited.*
- FRENCH 4Q03 TOPICS IN 17TH-CENTURY FRENCH LITERATURE**  
Previous topics include: Corneille, Racine, Molière. Consult the Department concerning topic to be offered.  
Seminar (two hours); one term  
Prerequisite: FRENCH 3Q03  
*FRENCH 4Q03 may be repeated, if on a different topic, to a total of six units. Enrolment is limited.*
- FRENCH 4R06 FRENCH READING COURSE (TAUGHT IN ENGLISH)**  
Students intending to enter graduate programs will be provided with reading skills and techniques which will enable them to comprehend academic texts. Reading materials are selected to practice textual analysis, study grammatical usage and aid in vocabulary development. Credit obtained in this course may be accepted in fulfilment of the second language reading requirement for graduate programs.  
Four hours, four days per week; one term  
**Offered during the first term of summer session only.**  
Prerequisite: FRENCH 1Z06 and registration in any Level IV Honours Program or permission of the French Department  
Antirequisite: FRENCH 2B03, 2BB3, 3C03  
*Not open to students registered in a program in French.*
- FRENCH 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 hours; one term  
Prerequisite: FRENCH 2BB3
- FRENCH 4T03 INDEPENDENT STUDY**  
The student will prepare under the supervision of a faculty member a research paper involving independent research in an area of study in which the student has already demonstrated a high level of basic knowledge.  
Prerequisite: Registration in Level IV of an Honours program in French and permission of the FRENCH 4T03 Committee
- FRENCH 4U03 TOPICS IN FRENCH-CANADIAN LITERATURE**  
Previous topics include: Fiction and Postmodern Cultural Theories, Women Writers of Quebec. Consult the Department concerning topic to be offered.  
Seminar (two hours); one term  
Prerequisite: 12 units of French above Level I, excluding FRENCH 2M06 and 2Z06  
*FRENCH 4U03 may be repeated, if on a different topic, to a total of six units. Enrolment is limited.*
- FRENCH 4V03 CROSS-PERIOD THEMES**  
Topics may include: Erotic Literature, Literary Influences Underlying Psychoanalysis, Varying Practices in Literary Translation Across the Centuries. Consult the Department concerning topic to be offered.  
Seminar (two hours); one term  
Prerequisite: 12 units of French above Level I, excluding FRENCH 2M06 and 2Z06  
*FRENCH 4V03 may be repeated, if on a different topic, to a total of six units. Enrolment is limited.*
- FRENCH 4WW3 20TH-CENTURY FRENCH LITERATURE II**  
Aspects of the development of 20th-century literature since the Second World War.  
Three hours; one term  
Prerequisite: 12 units of French above Level I, excluding FRENCH 2M06 and 2Z06  
Antirequisite: FRENCH 2WW3
- FRENCH 4X03 LINGUISTICS AND LITERATURE**  
General linguistics applied to literary analysis. Includes narrative structures, pragmatics and sign theory.  
Seminar (two hours); one term  
Prerequisite: 12 units of French above Level I, excluding FRENCH 2M06 and 2Z06; or registration in Level III or IV of the Honours Linguistic Cognitive Science program. Students not registered in a program in French should have communicative competence in French.  
*Enrolment is limited.*
- FRENCH 4Y03 TOPICS IN 20TH-CENTURY FRENCH LITERATURE**  
Previous topics include: Women's Writing, The Essay, Gay and Lesbian Novel in France. Consult the Department concerning topic to be offered.  
Seminar (two hours); one term  
Prerequisite: 12 units of French above Level I, excluding FRENCH 2M06 and 2Z06  
*FRENCH 4Y03 may be repeated, if on a different topic, to a total of six units. Enrolment is limited.*

## GEOGRAPHY AND EARTH SCIENCES

WEB ADDRESS: <http://www.science.mcmaster.ca/geo/>

Burke Science Building, Room 235

Ext. 23533

## Faculty as of January 15, 2006

**Director**

John J. Drake

**Associate Director**

Richard S. Harris

**Distinguished University Professor**

John D. Eyles/B.A., M.Sc. (L.S.E.), Ph.D. (London)

**Professors**

Vera Chouinard/B.A. (Western Ontario), M.A. (Toronto), Ph.D. (McMaster)

Alan P. Dickin/M.A. (Cambridge), D.Phil. (Oxford)

John J. Drake/M.A. (Oxford), M.Sc., Ph.D. (McMaster)

Susan J. Elliott/M.A. Ph.D. (McMaster)

Carolyn H. Eyles/B.Sc. (East Anglia), M.Sc., Ph.D. (Toronto)

Frederick L. Hall/A.B. (Amherst), M.Sc. (M.I.T.), Ph.D. (Chicago)/Professor of Civil Engineering and Engineering Mechanics

Richard S. Harris/B.A. (Cambridge), M.A. (Ohio), Ph.D. (Queen's)

Pavlos S. Kanaroglou/B.Sc. (Athens), M.A., M.Sc., Ph.D. (McMaster)/Senior Canada Research Chair

Kao-Lee Liaw/B.S. (National Taiwan), M.A. (Kansas State), Ph.D. (Clark)

William A. Morris/B.Sc. (Leeds), Ph.D. (Open University)

Ming-ko Woo/M.A. (Hong Kong), Ph.D. (British Columbia)

**Associate Professors**

Altaf Arain/B.E. (Pakistan), M.S., Ph.D. (Arizona)

Joe Boyce/B.Sc. (McMaster), M.Sc., Ph.D. (Toronto)

Bruce Newbold/B.A., Ph.D. (McMaster)

Eduard Reinhardt/B.A., Ph.D. (Carleton)

W. Jack Rink/B.Sc., Ph.D. (Florida State)

James Smith/B.Sc., M.Sc. (Guelph), Ph.D. (Waterloo)

J. Michael Waddington/M.Sc., Ph.D. (York)

Lesley A. Warren/B.Sc., Ph.D. (Toronto)

Allison Williams/M.A. (Toronto), Ph.D. (York)

Robert D. Wilton/B.A. (Hull), M.A., Ph.D. (Southern California)

**Assistant Professors**

Paulin Coulibaly/B.A.Sc., M.A.Sc. (Nice), Ph.D. (Laval)

Darren Gröcke/B.Sc., (Adelaide), M.Sc. (Monash), D.Phil. (Oxford)

Antonio Paez/B.Sc. (Mexico), M.Sc., Ph.D. (Tohoku)

Darren Scott/B.A. (St. Mary's), M.A. (Western Ontario), Ph.D. (McMaster)

Greg Slater/B.Sc., M.Sc., Ph.D. (Toronto)/Canada Research Chair

**Associate Members**

Patricia Chow-Fraser/(Biology) B.Sc., M.Sc. (Waterloo), Ph.D. (Toronto)

Fran Scott/(Clinical Epidemiology and Biostatistics) B.Sc. (Toronto), M.Sc., M.D. (McMaster)

John C. Weaver/(History) B.A. (Queen's), M.A., Ph.D. (Duke)

**Lecturers**

Walter Peace/M.A., Ph.D. (McMaster)

Susan Vajoczki/M.Sc. (McMaster)

**School Notes:**

1. The Honours Earth and Environmental Sciences programs allow students to select a specialist stream in geochemistry (formerly biogeoscience), geosciences or hydrosciences at the end of Level II. Specialist streams aim to fulfill the academic requirements for professional registration of Geoscientists in Ontario. Students should seek academic advice from the School during March counselling in Level II to ensure that their course choices are appropriate.
2. Course codes including the letter H indicate a non-science course.
3. Students are advised that not all courses will be offered in every year.

**Courses** If no prerequisite is listed, the course is open.**ENVIR SC 1A03 ATMOSPHERE AND HYDROSPHERE**

An introduction to the processes involved in weather, climate and surface waters with a focus on the human impacts on these processes.

Two lectures, one tutorial, one lab (one hour); second term

**ENVIR SC 1B03 THE LIVING ENVIRONMENT**

Characteristics of the biosphere and introduction to major environmental processes and issues.

Two lectures, one tutorial, one lab (two hours); second term

**ENVIR SC 1G03 EARTH AND THE ENVIRONMENT**

An introduction to environmental geology and geomorphology through study of the processes that form the earth and its surface features. A mandatory Saturday field trip will be held.

Two lectures, one tutorial, one lab (two hours); first term

**GEO 1HS3 GEOGRAPHY OF THE HUMAN ENVIRONMENT**

Introduction to human-environment relations and spatial analysis with special emphasis on urban, social, health and cultural environments.

Two lectures, one lab (one hour); first term and second term

**GEO 1HU3 URBAN ECONOMIC GEOGRAPHY**

Basic principles in spatial analysis and location theory applied to the changing urban, economic and environmental patterns of development and urbanization at the local, national and international scale.

Two lectures, one lab (one hour); second term

**GEO 2A03 INTRODUCTION TO ENVIRONMENTAL ISSUES**

An introduction to issues, perspectives and models in environmental studies at local, regional, national and international scales.

Two lectures, one lab (two hours); one term

Prerequisite: One of ENVIR SC 1A03, 1B03, 1G03, GEO 1HS3, 1HU3

**GEO 2B03 SOILS AND THE ENVIRONMENT**

An introduction to the physical, chemical and biological properties of soil. Application to environmental and land use impacts.

Two lectures, one lab (three hours); one term

Prerequisite: One of ENVIR SC 1A03, 1B03, 1G03

**GEO 2C03 SURFACE CLIMATE PROCESSES AND ENVIRONMENTAL INTERACTION**

The surface heat and water balance of natural and human-modified landscapes. Emphasis on interactions of people and the biosphere with climate.

Two lectures, one lab (two hours); one term

Prerequisite: One of ENVIR SC 1A03, 1B03, 1G03

**GEO 2E03 EARTH HISTORY**

Geological evolution of the Earth and paleontological evidence for the evolution of marine life, with emphasis on the geological history of North America.

Two lectures, one lab (three hours) one term

Prerequisite: ENVIR SC 1G03

**GEO 2G03 EARTH SURFACE PROCESSES**

An examination of the many dynamic processes that shape the face of the earth, including fluvial, eolian, coastal, mass wasting, karst and weathering processes.

Two lectures, one lab (two hours); one term

Prerequisite: ENVIR SC 1A03 or 1G03

**GEO 2GG3 NATURAL DISASTERS**

A study of natural processes including plate tectonics, earthquakes, volcanoes, landslides, river erosion and climate change and their impacts on human populations.

Three lectures; one term

Prerequisite: Registration in Level II or above

**GEO 2HA3 LOCATIONAL ANALYSIS**

Spatial location theory and spatial analysis methods as related to the siting of resource, manufacturing, and service activities.

Two lectures, one lab (two hours); one term

Prerequisite: GEO 1HS3 or 1HU3

**GEO 2HB3 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.

Two lectures; one lab (two hours); one term

Prerequisite: GEO 1HS3 or 1HU3

**GEO 2HC3 CANADA**

The geography of Canada emphasizing the economic and social geography of regions and current development issues.

Three lectures; one term

Prerequisite: Registration in Level II or above

**GEO 2HD3 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

**GEO 2HG3 POPULATION, SOCIETIES, AGING AND THE ENVIRONMENT**

Differential growth of human populations and their changing age and sex structures with an emphasis on birth and death processes. The connections between population structures and processes and various aspects of environments and societies including aging, are emphasized.

Three lectures; one term

Prerequisite: Registration in Level II or above

**GEO 2HR3 RESEARCH METHODS IN SOCIAL GEOGRAPHY**

An introduction to research methods in social geography. Emphasis is placed on the application of various methods to understanding human spatial behaviour.

Two lectures, one lab (one hour); one term

Prerequisite: GEO 1HS3 or 1HU3

Antirequisite: ANTHROP 2Z03, CMST 2A03, GERONTOL 2C03, HEALTHST 2B03, SOCIOL 2Z03

**GEO 2HU3 THE UNITED STATES OF AMERICA**

The physical and economic geography of the United States.

Three lectures; one term

Prerequisite: Registration in Level II or above

**GEO 2HY3 CITIES IN A CHANGING WORLD**

Key themes, perspectives and concepts in urban social geography are examined. Emphasis is placed on the relationship between processes of economic, political and cultural change and people's everyday lives in urban settlements.

Two lectures, one lab (one hour); one term

Prerequisite: GEO 1HS3 or 1HU3

**GEO 2I03 GIS AND DIGITAL CARTOGRAPHY**

An introduction to the principles and techniques underlying the use of a GIS (Geographic Information Systems) for storing, managing, analyzing and visualizing "geographic" data. Cartographic principles are also introduced emphasizing the production of effective thematic maps using a GIS.

Two lectures, one lab (two hours); one term

Prerequisite: One of MATH 1AA3, 1B03, 1D03, SOC SCI 2J03, STATS 1CC3

**GEO 2K03 OPTICAL CRYSTALLOGRAPHY AND MINERALOGY**

Introduction to crystallography, optical theory, and the polarizing microscope. Identification of minerals in igneous and sedimentary rocks and discussion of their structure and chemistry.

Two lectures, one lab (two hours); one term

Prerequisite: ENVIR SC 1G03

**GEO 2MM3 GEMSTONES: ORIGINS AND CHARACTERISTICS**

An examination of gemstones focusing on their geologic origin, mineralogy, colour, chemistry, economic value and historical significance.

Three lectures; one term

Prerequisite: Registration in Level II or above

**GEO 2Q03 INTRODUCTION TO ENVIRONMENTAL GEOCHEMISTRY**

Chemical principles applied to the understanding of processes in aquatic and environmental systems.

Two lectures, one lab (three hours); one term

Prerequisite: CHEM 1A03

**GEO 2W03 PHYSICAL HYDROLOGY: SURFACE**

Hydrological processes including precipitation, snowmelt, slope runoff, streamflow and hydrological data analysis.

Two lectures, one lab (two hours); one term

Prerequisite: One of MATH 1AA3, 1B03, 1D03, SOC SCI 2J03, STATS 1CC3; and one of ENVIR SC 1A03, 1B03, 1G03

**GEO 2WW3 WATER AND THE ENVIRONMENT**

Selected environmental issues related to water, including floods and droughts, irrigation, effects of water management projects and pollution. Examples from Canada and the world.

Three lectures; one term

Prerequisite: Registration in Level II or above

**GEO 3A03 ENVIRONMENTAL POLICY AND PLANNING**

A theoretical and practical exploration of environmental policy, planning and decision-making, as well as the relationships between science, society, and policy design.

Two lectures, one lab (two hours); one term

Prerequisite: GEO 2A03; or registration in an Honours Biology, an Engineering and Society program or an Honours program in the School of Geography and Earth Sciences

**GEO 3AA3 GEOSCIENCE EXPLORERS AND ADVENTURERS**

An examination of the discoveries made by geoscience explorers of modern times including those made on the moon and mars, in the deep and shallow seas, and in the landscapes inhabited by the earliest life forms, dinosaurs and the first humans.

Three lectures; one term

Prerequisite: Registration in Level III or above

**GEO 3CC3 EARTH'S CHANGING CLIMATE**

The earth's climatic history including natural causes of past climate change and human influences on climate will be explored.

Three lectures; one term

Prerequisite: Registration in Level III or above

**GEO 3DD3 GEOARCHAEOLOGY OF THE UNDERWATER REALM**

Methods in underwater exploration; geoarchaeological record of human interaction with the marine environment and the effects of climate and sea level changes.

Three lectures; one term

Prerequisite: Registration in Level III or above

**GEO 3E03 SEDIMENTARY ENVIRONMENTS**

Sedimentary processes, stratigraphy and depositional environments of clastic and carbonate systems.

Two lectures, one lab (two hours); one term

Prerequisite: GEO 2E03

**GEO 3FE3 FIELD CAMP**

A field camp to introduce students to field equipment and methodologies used by earth and environmental scientists. Most of this course occurs outside the regular academic term, usually the two weeks preceding the start of term in September; details and applications are available in March. Students enrolling in this course must pay both the incidental fees as prescribed by the School and the regular tuition fees.

Prerequisite: GEO 2E03 and registration in Level III or above of an Honours program in the School of Geography and Earth Sciences

**GEO 3HD3 TRANSPORTATION GEOGRAPHY**

Principles and techniques applied to understanding, predicting and optimizing movement for transportation systems at various geographical scales. Problems arising from movement are also discussed.

Two lectures, one lab (two hours); one term

Prerequisite: One of ECON 1A06, 1B03, GEO 1HS3, 1HU3

**GEO 3HE3 ENVIRONMENTAL AND NATURAL RESOURCE MANAGEMENT**

An introduction to the methods and tools of resource management and economics, focusing on the development of resource systems and the environmental implications.

Three lectures; one term

Prerequisite: GEO 1HU3

**GEO 3HF3 FIELD STUDY IN HUMAN GEOGRAPHY**

Introduction to field research in Human Geography, usually in the Hamilton area.

Two lectures (two hours); one term

Prerequisite: GEO 2HR3 and registration in Level III or above of an Honours program in the School of Geography and Earth Sciences

**GEO 3HG3 POPULATION DISTRIBUTION AND MIGRATION**

Introduction of important theories, models and facts in the fields of population distribution and internal and international migration processes.

One lecture (three hours); one term

Prerequisite: GEO 1HS3 or 1HU3; and one of COMMERCE 2QA3, HTH SCI 1F03, 2A03, KINESIOL 3C03, MATH 1AA3, 1B03, 1D03, SOC SCI 2J03, STATS 1A03, 1CC3; and registration in Level III or above

**GEO 3HH3 GEOGRAPHY OF HEALTH AND HEALTH CARE**

An understanding of traditions in health geography and an exploration of the determinants of health including the social environment, the physical environment and health care services.

Three lectures; one term

Prerequisite: GEO 1HS3 or 1HU3

**GEO 3HJ3 GEOGRAPHY OF JAPAN**  
Human and physical geography of Japan with emphasis on historical, international, demographic and economic aspects.

One lecture (three hours); one term  
Prerequisite: Registration in Level III or above

**GEO 3HR3 GEOGRAPHY OF A SELECTED WORLD REGION**

The study of an area outside of North America which will include topics in physical and human geography.

Three lectures; one term  
*GEO 3HR3 may be repeated, if on a different topic, with permission of the School of Geography and Earth Sciences during March Counselling.*

**GEO 3HT3 GEOGRAPHY OF PLANNING**

A review of historical and contemporary approaches to city and regional planning problems.

One lecture (three hours); one term  
Prerequisite: One of GEO 2HA3, 2HB3, 2HY3

**GEO 3HU3 URBAN ISSUES IN THEORY AND PRACTICE**

Critical evaluation of the role that volunteerism and the non-profit sector play in responding to social and environmental problems facing contemporary urban society. Students will undertake a ten-week (four hours per week) volunteer placement. Details and application for the course are available in October.

One lecture (two hours), week placement commitment; one term  
Prerequisite: Registration in Level III of an Honours B.A. program in the School of Geography and Earth Sciences

**GEO 3HZ3 URBAN SOCIAL GEOGRAPHY**

The social geography of North American cities. Topics include commuting, segregation, inner-city gentrification, suburban development. Lectures and seminars (two hours, twice weekly); one term

Prerequisite: GEO 2HD3. GEO 2HR3 and 2HY3 are recommended.

**GEO 3I03 APPLIED GIS (GEOGRAPHIC INFORMATION SYSTEMS)**

Advanced principles and techniques in GIS applied to real-world problems. Two lectures, one lab (two hours); one term

Prerequisite: A minimum grade of C+ in GEO 2I03

**GEO 3J03 CLIMATE CHANGE AND ECOSYSTEM IMPACTS**

Past, present and future climate change is examined in terms of the underlying physical and global biogeochemical processes. The Kyoto Protocol and impacts of climate change on ecosystems are examined. Two lectures, one lab (two hours); one term

Prerequisite: One of BIOLOGY 2F03, GEO 2B03, 2C03

Antirequisite: GEO 3B03

**GEO 3K03 PETROLOGY**

Introduction to igneous and metamorphic petrology, including thin section examination of rock suites, use of phase diagrams in petrology, and discussion of petrogenesis.

Two lectures, one lab (two hours); one term

Prerequisite: GEO 2K03

**GEO 3L03 PHYSICAL AND CHEMICAL PROCESSES IN FRESHWATER ENVIRONMENTS**

A multidisciplinary course emphasizing the interactions of chemical, physical, geological and biological factors in controlling the chemical distribution, composition and structure of freshwater systems. A mandatory weekend field trip will be held in September. Students enrolling in this course must pay both the incidental fees as prescribed by the School and regular tuition fees. Two lectures, one lab (four hours), one term

Prerequisite: GEO 2Q03; and one of GEO 2E03, 2G03, 2W03; and permission of the School of Geography and Earth Sciences. Application must be received by March 31st of the academic year prior to registration.

Antirequisite: GEO 4L03

*Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.*

**GEO 3NN3 NORTHERN ENVIRONMENTS**

An appreciation of northern environments including climatic and hydrological setting, landforms, vegetation and associated development problems. Three lectures, one term

Prerequisite: Registration in Level III or above

**GEO 3O03 ORGANIC CONTAMINANTS IN THE ENVIRONMENT**

Primary factors controlling the distribution, transport and fate of organic compounds in the environment. Topics include sources, partitioning processes (sorption, volatilization, dissolution), transport, degradation (biotic, abiotic), and analytical techniques.

Two lectures, one lab (three hours), one term

Prerequisite: GEO 2Q03 or registration in an Honours Chemistry program

**GEO 3P03 ENVIRONMENTAL PALEONTOLOGY**

Paleontology as a paleoenvironmental indicator; important fossil groups, paleoecology and taphonomy will be emphasized.

Two lectures, one lab (three hours); one term

Prerequisite: GEO 2E03

**GEO 3Q03 ENVIRONMENTAL RECONSTRUCTION USING STABLE ISOTOPES**

Principles of stable isotope geochemistry and its application to modern and fossil environmental reconstructions. Topics include isotope stratigraphy and its application to palaeoclimatology, palaeoceanography and palaeobiology.

Two lectures; one lab (three hours); one term

Prerequisite: GEO 2E03, 2Q03

**GEO 3R03 RESEARCH DESIGN AND DISSEMINATION**

Description of some of the changed and changing paradigms in the discipline; formulation of a research proposal; communication of research results.

Two lectures, one lab (two hours); one term

Prerequisite: Registration in Level III or above of an Honours program in the School of Geography and Earth Sciences

**GEO 3S03 GEOSTATISTICS**

An introduction to the nature of geographic data and organization, descriptive spatial statistics and inferential statistics.

Two lectures, one lab (two hours); one term

Prerequisite: SOC SCI 2J03 or STATS 1CC3

**GEO 3U03 ENVIRONMENTAL SYSTEMS**

Use of simple numerical models applied to solving environmental problems related to anthropogenic perturbations. Introduction to STELLA numerical simulator, statement of the problem and "what if" scenarios.

One lecture (three hours); one term

Prerequisite: MATH 1A03, 1D03; and registration in B.Sc. Geoscience, or any Level III Honours program in the Faculties of Science and Engineering  
Antirequisite: CIV ENG 2J04

**GEO 3V03 ENVIRONMENTAL GEOPHYSICS**

Introduction to principles and applications of geophysics in groundwater and environmental investigations. Practical demonstrations in magnetics, gravity, shallow seismic, radar, borehole logging, surface EM and electrical methods. Two lectures, one lab (three hours); one term

Prerequisite: ENVIR SC 1G03, PHYSICS 1B03

**GEO 3W03 PHYSICAL HYDROGEOLOGY**

Mechanisms and processes of water movement in the subsurface including the saturated zone (groundwater) and the unsaturated zone (soil water).

Two lectures; one lab (three hours); one term

Prerequisite: One of GEO 2B03, 2G03, 2W03; and one of MATH 1A03, 1B03, 1D03, 1K03, 1M03, 1N03

**GEO 3Y03 REMOTE SENSING**

Aerial photography. Passive and active satellite direction systems. Image processing and interpretation procedures. Application to resource exploration and environmental management.

Two lectures; one lab (two hours); one term

Prerequisite: GEO 2I03

**GEO 3Z03 STRUCTURAL GEOLOGY**

Introduction to mapping and geometric description of geologic structures and analysis of stress and strain in the subsurface.

Two lectures, one lab (three hours); one term

Prerequisite: GEO 2E03

**GEO 4A03 ENVIRONMENTAL ASSESSMENT**

Technical and policy issues involved in the production and the appraisal of environmental impact assessments.

Two lectures, one lab; one term

Prerequisite: GEO 2A03; or registration in Honours Biology, a Civil Engineering program, an Engineering and Society program or an Honours program in the School of Geography and Earth Sciences

**GEO 4B03 WATERSHED ECOHYDROLOGY**

A course that emphasizes a watershed ecosystems approach to interactions of hydrological, ecological and biogeochemical processes in the study of the natural ecohydrological function and response to disturbance of stream, riparian and wetland ecosystems. A mandatory field trip will occur.

One lecture (two hours), one lab (two hours); one term

Prerequisite: One of GEO 2W03, 3B03, 3J03

**GEO 4C03 ADVANCED PHYSICAL CLIMATOLOGY**

This course develops energy and mass exchange processes in the near surface layer, the lower atmosphere and at the earth-atmosphere interface. Sensitivities of these processes to environmental change and feedback mechanisms are examined. Seminars and individual presentations are emphasized.

One lecture (two hours), one lab (two hours); one term

Prerequisite: GEO 2C03 or 2W03

**GEO 4CC3 REVIEW PAPER**

The student will conduct a comprehensive review of a selected topic. The review paper is due before the final examination period.

One seminar (two hours); first term

Prerequisite: GEO 3R03 and registration in Level IV of an Honours program in the School of Geography and Earth Sciences

Antirequisite: GEO 4R06

**GEO 4D03 ANALYSIS OF TRANSPORTATION SYSTEM**

An introduction to the use of models in transportation planning. Topics include data issues, the four-stage approach to modelling transportation systems, discrete choice models and contextual factors such as land use. Three lectures, one lab (two hours); one term

Prerequisite: GEO 3HD3

Cross-list: CIV-ENG 4H03

**GEO 4E03 COASTAL ENVIRONMENTS**

Coastal systems and their response to sea level change with an emphasis on the Holocene. A mandatory local field trip to collect data followed by laboratory analysis will be included.

Three lectures, one lab (three hours); one term

Prerequisite: GEO 3E03

**GEO 4FE3 FIELD COURSE**

Detailed study of a particular aspect of physical geography, earth sciences or environmental science in the field. Held immediately after the end of Level III or prior to Fall registration in Level IV; report to be submitted before the end of first term. Various topics and locations: details announced in March. Students enrolling in this course must pay both the incidental fees, as prescribed by the School, and the regular tuition fees. Prerequisite: Registration in Level III or above of an Honours B.Sc. program in the School of Geography and Earth Sciences

**GEO 4FF3 TOPICS OF FIELD RESEARCH**

Selected topics in field research in the Earth Sciences. Topics may vary from year to year, and the timing of the course will depend on the offerings. Details will be posted in the School. Students enrolling in this course must pay the incidental fees, as prescribed by the School, and the regular tuition fees.

Prerequisite: Registration in Level III or above of an Honours B.Sc. program and permission of the instructor

*GEO 4FF3 may be repeated, if on a different topic, with the permission of the School of Geography and Earth Sciences.*

**GEO 4G03 GLACIAL SEDIMENTS AND ENVIRONMENTS**

The development and movement of glaciers, glacial depositional processes and sedimentary successions in terrestrial, lacustrine and marine environments.

Two lectures, one lab (two hours); one term

Prerequisite: GEO 2E03 or 2G03

Antirequisite: GEO 3G03

**GEO 4HF3 FIELD RESEARCH IN THE HUMAN ENVIRONMENT**

Selected topics in field research in human geography and environmental studies. Topics may vary from year to year, and the timing of the course will depend on the offerings. Students enrolling in this course must pay the incidental fees, as prescribed by the School, and the regular tuition fees.

Prerequisite: Registration in Level III or above of an Honours program in the School of Geography and Earth Sciences and permission of the instructor

**GEO 4HH3 ENVIRONMENT AND HEALTH**

Models and methods for research and policy on environment and health. One lecture/seminar (three hours); one term

Prerequisite: One of GEO 3A03, 3HH3 or permission of the instructor

Cross-list: HEALTHST 4E03

**GEO 4HT3 URBAN PLACES AND URBAN DREAMS**

The ideas of planning visionaries and the designs of city planners will be explored as responses to forces shaping cities and regions.

Three lectures; one term

Prerequisite: One of GEO 2HD3, 2HY3, 3HT3

**GEO 4HY3 URBAN DEVELOPMENT AND POLICY ISSUES**

Current debates on urban development and policy issues. Emphasis on the political economy of urban change.

Three lectures; one term

Prerequisite: GEO 2HY3 or permission of the instructor

**GEO 4HZ3 URBAN HOUSING**

The geography of housing, including the effects of land development, construction, municipal planning and public policy on the urban landscape of housing and homelessness.

One lecture/seminar; one term

Prerequisite: GEO 3HZ3

**GEO 4I03 ADVANCED GIS (GEOGRAPHIC INFORMATION SYSTEMS)**

Advanced methods in GIS using ARC/INFO. Topics will include raster based analysis, working with linear features, surface modelling and AML programming.

Three lectures, one lab (two hours); one term

Prerequisite: GEO 3I03

**GEO 4O03 ENVIRONMENTAL ISOTOPE GEOCHEMISTRY**

Application of isotopic analysis to answer current questions in earth sciences, geochemistry, hydrogeology and microbiology. Topics include analytical techniques, principles of isotopic fractionation and applications of light and transition metal isotopes to environmental systems.

Two lectures, one lab (three hours); one term

Prerequisite: GEO 3O03

**GEO 4Q03 SEDIMENTARY GEOCHRONOLOGY**

Geological age determination techniques for the near-surface sedimentary record focusing on the last five million years of earth history. Geochemical perspectives on the fundamentals of radioactive decay and radiation effects in datable minerals.

Two lectures, one tutorial; one term

Prerequisite: GEO 3Q03

**GEO 4R06 SENIOR THESIS**

Students will select research topics and prepare a thesis either individually or in teams.

One seminar (two hours); two terms

Prerequisite: Registration in Level IV or above in an Honours program in the School of Geography and Earth Sciences; and a SA in the previous session of 8.5 or higher; and permission of the instructor. Students intending to enrol in this course must submit an application to the instructor by March 1 of the academic year prior to registration. Application forms are available from the School of Geography and Earth Sciences main office after February 1. Students will be informed of acceptance of their application on March 15 subject to fulfillment of the SA requirement.

Antirequisite: GEO 4CC3

*Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.*

**GEO 4S03 SPATIAL STATISTICS**

This course explores concepts and methods in visualisation, exploration and modelling of point pattern, spatially continuous data and area data.

Three hours; one term

Prerequisite: GEO 3S03

**GEO 4T03 PLATE TECTONICS AND ORE DEPOSITS**

Synthesis of plate tectonics, with application to crustal evolution and genesis of ore deposits.

Two lectures, one lab (two hours); one term

Prerequisite: GEO 2E03 and credit or registration in GEO 3K03

**GEO 4W03 HYDROLOGIC MODELLING**

Principles of numerical modelling and examination of selected hydrologic models including deterministic, conceptual and statistical models.

Two lectures, one lab (two hours); one term

Prerequisite: GEO 2W03 or 3W03

**GEO 4WW3 CONTAMINANT HYDROGEOLOGY**

Physical and chemical aspects of the fate and transport of contaminants in soils and groundwater, including multiphase flow.

Two lectures, one lab (two hours); one term

Prerequisite: Credit or registration in GEO 3W03

**GEO 4Z03 EXPLORATION GEOPHYSICS**

Principles of subsurface exploration using seismic, magnetic and borehole geophysical methods. Applications in geological research and oil and gas exploration.

Two lectures, one lab (two hours); one term

Prerequisite: GEO 2E03, 3V03

Antirequisite: GEO 4ZZ3

**GERMAN**

(SEE LINGUISTICS AND LANGUAGES, GERMAN)

## GERONTOLOGY

WEB ADDRESS: <http://www.socsci.mcmaster.ca/gerontology>

Kenneth Taylor Hall, Room 226

Ext. 24449

## Faculty as of January 15, 2006

**Director**

Margaret A. Denton

**Professors**

Margaret A. Denton/(Sociology) B.A., M.A., Ph.D. (McMaster)  
Ellen B. Ryan/(Psychiatry) B.A., M.A. (Brown), Ph.D. (Michigan)

**Associate Professor**

Anju Joshi/B.A., M.A. (Dalhousie)

**Adjunct Associate Professor**

Sherry Dupuis/(Waterloo) B.Mus. (Queen's), M.A. (Waterloo), Ph.D. (Guelph)

**Assistant Professors**

Lori Campbell/(Sociology) B.A., M.A. (Western Ontario), Ph.D. (Guelph)  
Michel Grignon/(Economics) M.A. (ENSAE), Ph.D. (EHSS)  
Martin Hering/(Political Science) B.A., M.A. (Philipps-Universität Marburg, Germany), Ph.D. (Johns Hopkins)

**Associate Members**

Jane Aronson/(Social Work) B.Sc. (New University of Ulster), B.S.W., M.S.W. (McGill), Ph.D. (Toronto)  
Alan G. Bishop/(English and Cultural Studies) B.A. (Rhodes, S. Africa), M.A., D.Phil. (Oxford)  
Laurie C. Doering/(Pathology and Molecular Medicine) B.Sc. (Queen's) M.Sc., Ph.D. (Saskatchewan)  
James W. Gladstone/(Social Work) B.A. (McGill), M.S.W. (British Columbia), Ph.D. (Toronto)  
Carrie McAiney/(Psychiatry and Behavioural Neurosciences) B.A., M.A., Ph.D. (Waterloo)  
Jenny Ploeg/(Nursing) B.Sc.N., M.Sc.N. (Western Ontario), Ph.D. (Toronto), R.N.  
Byron G. Spencer/(Economics) B.A. (Queen's), Ph.D. (Rice)

**Notes:**

- Not all Gerontology courses may be offered every year. Students are advised to contact the McMaster Centre for Gerontological Studies after May 1 to determine which courses will be offered in the following academic year.
- Gerontology students are strongly recommended to complete GERONTOL 2E03 prior to GERONTOL 3B03.
- GERONTOL 1A03, 2B03, 2F03, 3F03, 3H03, 3J03, 3K03 and 3M03 are available for students enrolled in a non-Gerontology program. In the case of GERONTOL 2F03, 3F03, 3H03, 3J03, 3K03 and 3M03, enrolment for non-Gerontology students is limited and priority sequence for registration will be:
  - students completing the Minor in Gerontology
  - students registered in a Health Studies program
  - all other students.
- Students completing a Minor in Gerontology must contact the Office of Gerontological Studies to request permission for their Fall/Winter Gerontology courses by May 31.

**Courses** If no prerequisite is listed, the course is open.**GERONTOL 1A03 AGING AND SOCIETY**

Examines issues in aging from a multidisciplinary perspective including such topics as: myths and stereotypes of aging, social ties in later life and the aging of the Canadian population. Provides a deeper understanding of aging and the changing body, mind and self, as well as the meaning and experiences, challenges and opportunities of aging and later life. Three hours (lectures, inquiry and experiential components); one term  
Antirequisite: GERONTOL 1A06  
Enrolment is limited.

**GERONTOL 2B03 THE AGING BODY**

An examination of age-related changes in biology and physiology of the human body.

Three hours (lectures); one term

Prerequisite: GERONTOL 1A03 or 1A06

Not open to students with credit or registration in KINESIOL 4SS3.

**GERONTOL 2C03 RESEARCH METHODS IN SOCIAL GERONTOLOGY**

A systematic investigation of research methods in social gerontology. Topics covered include research design, measurement, techniques of data collection and data analysis. Special attention will be given to how research methods may be applied in the study of aging. This course uses an inquiry based approach.

Three hours (lectures and practice); one term

Prerequisite: Registration in any Gerontology program

Antirequisite: ANTHROP 2Z03, CMST 2A03, GEO 2HR3, GERONTOL 3C03, HEALTHST 2B03, SOCIOL 2Z03

**GERONTOL 2D03 SOCIAL ASPECTS OF AGING**

Explores social aspects of aging at both the individual and societal levels using a variety of approaches such as life course perspective, political economy, social constructionism, self identity, and a feminist perspective of aging.

Three hours (lectures and discussions); one term

Prerequisite: Registration in any Gerontology program; or admission to the Minor in Gerontology and permission of the Director. (See Note 4 above.)

Antirequisite: GERONTOL 2A03, 2AA3

**GERONTOL 2E03 COMMUNICATION AND COUNSELLING WITH OLDER ADULTS**

Focuses on the unique communication and counselling needs of older adults. Explores various communication issues and approaches and enables students to apply client-centred communication techniques.

Three hours (lectures and discussion, includes experiential component); one term

Prerequisite: Registration in any Gerontology program. (See Note 2 above.)

Antirequisite: GERONTOL 4B03

Enrolment is limited.

**GERONTOL 2F03 AGING AND HEALTH CARE SYSTEMS**

This course examines the available international evidence on the impact of aging on health and long-term care expenditures and organization, as well as the choices various societies are making around issues of aging, health, and long-term care, and the equity issues such choices raise.

Three hours (lectures and discussion); one term

Prerequisite: GERONTOL 1A03 or 1A06

This course may be taken by undergraduate students registered in a non-Gerontology program. However, enrolment for such students is limited. Priority will be given to students completing a Minor in Gerontology or registered in a Health Studies program.

Not open to students with credit in GERONTOL 3I03, if the topic was Aging and Health Care Systems.

**GERONTOL 3B03 GERONTOLOGY FIELD OBSERVATION**

Directed observation of 40 hours in an approved field setting and a weekly seminar focusing on integration of theoretical knowledge and observation.

Approximately four hours field observation per week, and two hours weekly seminar; one term

Prerequisite: Registration in Level III or IV of any Gerontology program. (See Note 2 above.)

**GERONTOL 3BB3 ADVANCED GERONTOLOGY PLACEMENT**

A supervised experience linking classroom knowledge to a practice setting. Seminars focus on integration of theoretical knowledge and observation. Placement consists of approximately 60 hours of contact time. Six hours field practicum per week, and two hours bi-weekly seminar; one term

Prerequisite: GERONTOL 3B03 and registration in Level III or IV of any Gerontology program and permission of the instructor. (See Note 2 above.)

**GERONTOL 3D03 THE AGING MIND**

An examination of psychological aspects of aging: sensation, perception, attention, memory, intelligence, communication, personality, attitudes and mental health.

Three hours (lectures and discussion); one term

Prerequisite: Registration in any Gerontology program; or one of GERONTOL 1A03, 1A06 and registration in any Health Studies program; or admission to the Minor in Gerontology and permission of the Director. (See Note 4 above.)

Not open to students with credit in PSYCH 3DD3.

**GERONTOL 3E03 INDEPENDENT STUDY IN GERONTOLOGY I**

The student will select a topic in gerontology for an in-depth investigation under the supervision of a faculty member and write a paper. This investigation could take several forms such as library research, field study, or a supervised experience in an applied setting.

The study will normally extend over two terms.

Prerequisite: Registration in Level III or IV of any Gerontology program and permission of the Program Chair.

*GERONTOL 3E03 may be repeated, if on a different topic, to a total of six units.*

**GERONTOL 3F03 GERONTOLOGICAL 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: GERONTOL 3B03 and registration in Level III or IV of any Gerontology program; or GERONTOL 1A03 or 1A06 and an equivalent placement course and permission of the instructor

*This course may be taken as elective credit by undergraduate students registered in a non-Gerontology program. However, enrolment for such students is limited.*

**GERONTOL 3H03 DIVERSITY AND AGING**

Examines issues in gerontology related to the diversity of contemporary western societies. Aspects of diversity such as ethnicity, race, culture, disability, gender, sexual orientation, rural and urban life, and social class will be addressed.

Three hours (lectures and discussions, includes experiential components); one term

Prerequisite: GERONTOL 1A03 or 1A06

*This course may be taken as elective credit by undergraduate students registered in a non-Gerontology program. However, enrolment for such students is limited.*

**GERONTOL 3I03 SPECIAL TOPICS IN GERONTOLOGY**

Topics may vary from year to year. Students should consult the McMaster Centre for Gerontological Studies prior to registration, concerning topics to be examined.

Three hours (lectures and discussion); one term

Prerequisite: Registration in any Gerontology program

*GERONTOL 3I03 may be repeated, if on a different topic, to a total of six units.*

**GERONTOL 3J03 AGING, WORK, RETIREMENT AND PENSIONS**

An examination of the issues and concepts related to work, retirement and pensions and their implications for aging individuals and society.

Three hours (lectures and discussions); one term

Prerequisite: Registration in Level III or IV of any Gerontology program; or with permission of the instructor, registration in a Labour Studies program or GERONTOL 1A03 or 1A06 and registration in Level II or above of any program

*This course may be taken as elective credit by undergraduate students registered in a non-Gerontology program. However, enrolment for such students is limited.*

**GERONTOL 3K03 IMAGES OF AGING**

Explores themes in aging through critical analysis of representations in English literature, selected works of art, music, painting, photography and film, but with emphasis on English literature. Themes may include institutionalization, loss of autonomy, loneliness, intergenerational and other relations.

Three hours (lectures and discussion); one term

Prerequisite: GERONTOL 1A03 or 1A06

*Not open to students with credit in GERONTOL 3I03, if the topic was Images of Aging.*

*This course may be taken as elective credit by undergraduate students registered in a non-Gerontology program. However, enrolment for such students is limited.*

**GERONTOL 3L03 LONG-TERM CARE FACILITIES: ISSUES AND CHALLENGES**

Humanizing care for older adults living in long-term care facilities and other issues and challenges, including the structure and organization of long-term care facilities, policy, quality of life, and quality of care.

Three hours (lectures and discussion); one term

Prerequisite: GERONTOL 1A03 or 1A06

*This course may be taken by undergraduate students registered in a non-Gerontology program. However, enrolment for such students is limited. Priority will be given to students completing a Minor in Gerontology or registered in a Health Studies program.*

*Not open to students with credit in GERONTOL 3I03, if the topic was Long-term Care Facilities: Issues and Challenges.*

**GERONTOL 3M03 AGING IN A FAMILY CONTEXT**

Examines a diversity of topics related to family relationships and life transitions of older adults from a life course perspective. Topics may include diversity in families, marital status and parent status, adult child/parent relationships, sibling ties, and grandparent/grandchild relationships.

Three hours (lectures and discussions, includes experiential components); one term

Prerequisite: GERONTOL 1A03 or 1A06

Antirequisite: SOCIOL 3CC3

*Not open to students with credit in GERONTOL 4C03, if the topic was Aging in a Family Context.*

*This course may be taken as elective credit by undergraduate students registered in a non-Gerontology program. However, enrolment for such students is limited.*

**GERONTOL 3N03 AGING AND MENTAL HEALTH**

This course will examine the topic of mental health from a variety of perspectives. Terms, definitions, theories, assessment protocols and interventions related to mental health in older adults will be explored.

Three hours (lectures and discussions); one term

Prerequisite: GERONTOL 1A03 or 1A06

*Not open to students with credit in GERONTOL 4C03, if the topic was Aging and Mental Health.*

*This course may be taken as elective credit by undergraduate students registered in a non-Gerontology program. However, enrolment for such students is limited.*

**GERONTOL 3R03 RESEARCH METHODS IN SOCIAL GERONTOLOGY II**

An advanced systematic investigation of research methods in social gerontology. Topics include research design, measurement, data collection and analysis. Special attention will be given to how research methods may be applied in the study of aging. This course uses an inquiry based approach.

Prerequisite: GERONTOL 2C03 and registration in Level III or IV of any Gerontology program

Antirequisite: SOCIOL 3I03, 3O03

**GERONTOL 3S03 APPLIED TOPICS IN GERONTOLOGY**

Topics may vary from year to year. Possible topics include care management, ethical issues in aging, interventions for dementia, living environments, or program evaluation.

Three hours (lectures and discussion); one term

Prerequisite: GERONTOL 1A03 or 1A06

*GERONTOL 3S03 may be repeated, if on a different topic, to a total of six units*

*This course may be taken as elective credit by undergraduate students registered in a non-Gerontology program. However, enrolment for such students is limited.*

**GERONTOL 4A06 GERONTOLOGY THESIS**

Provides opportunity for students to integrate knowledge, practice, and research in a project related to their area of interest. Students may work with individual faculty members or community-based supervisors.

Prerequisite: GERONTOL 2C03 (or 3C03), 3R03 (or 3G03 or another approved statistics course) and registration in Level IV of any Honours Gerontology program; or GERONTOL 2C03 (or 3C03), 3R03 (or 3G03 or another approved statistics course) and registration in Level III of any B. A. Gerontology program and permission of the Program Chair

**GERONTOL 4C03 SPECIAL TOPICS IN GERONTOLOGY**

Topics may vary from year to year. Students should consult the Gerontological Studies Office prior to registration, concerning topics to be examined.

Prerequisite: Registration in Level IV of any Honours Gerontology program or registration in Level III of any B. A. Gerontology program and permission of the Program Chair

*GERONTOL 4C03 may be repeated, if on a different topic, to a total of six units.*

**GERONTOL 4G03 INDEPENDENT STUDY IN GERONTOLOGY II**

The student will select a topic in gerontology for an in-depth investigation under the supervision of a faculty member and write a paper. This investigation could take several forms such as library research, field study, or a supervised experience in an applied setting.

Prerequisite: Registration in Level III or IV of any Gerontology program and permission of the supervising instructor.

**GERONTOL 4I03 AGING AND HEALTH**

Addresses the biological, psychological and socio-political factors influencing the health of elderly persons from a broad national and international perspective.

Three hours (problem-based tutorial); one term

Prerequisite: Registration in Level IV of any Honours Gerontology or Honours Health Studies program or registration in Level III of any B.A. Gerontology program

*This course may be taken by undergraduate students registered in an Honours Health Studies program. However, enrolment for such students is limited.*

*Not open to students with credit in GERONTOL4D03, if the topic was Aging and Health.*

**GERONTOL 4J03 AGING AND DISABILITY**

Multidisciplinary models of successful aging are applied to older adults with mobility, sensory, and cognitive impairments. Psychological, communication, and spiritual issues are emphasized.

Three hours (seminar); one term

Prerequisite: Registration in Level IV of any Honours Gerontology program  
*Enrolment is limited.*

*Not open to students with credit in GERONTOL 4C03, if the topic was Aging and Disability.*

**GERONTOL 4K03 ISSUES IN THE SOCIAL ASPECTS OF AGING**

An advanced exploration of social aspects of aging including gender and health, family relationships and retirement.

Three hours (seminar); one term

Prerequisite: Registration in any Gerontology program

Antirequisite: SOCIOL 4PP3

**GERONTOL 4S03 SOCIAL POLICY AND THE AGING POPULATION**

Critical examination of the social and economic implications of the aging population and the nature of social welfare policy with respect to the elderly.

Three hours (problem-based tutorial); one term

Prerequisite: Registration in Level IV of any Honours Gerontology program or registration in Level III of any B.A. Gerontology Program; and permission of the instructor

Antirequisite: POL SCI 4A03, SOC WORK 4A03, 4L03, 4V03

**GREEK**

(SEE CLASSICS, GREEK)

**HEALTH SCIENCES****Faculty Note:**

This course listing is divided into two parts:

1. Bachelor of Health Sciences (Honours) program courses.
2. Health Sciences courses normally available only to students registered in Engineering (Chemical Engineering and Bioengineering or Electrical and Biomedical Engineering), Nursing (A), (B), (C) or (D) Streams, Oncology, Psychiatric-Mental Health Nursing or Midwifery, as applicable.

**BACHELOR OF HEALTH SCIENCES (HONOURS) ...**

WEB ADDRESS: <http://www.fhs.mcmaster.ca/bhsc>

Michael G. DeGroot Centre for Learning and Discovery, Room 3308

Ext. 22815

**Assistant Dean, Bachelor of Health Sciences (Honours)**

Delsworth G. Harnish/ B.Sc., M.Sc. (Queen's), Ph.D. (McMaster), 3M Teaching Fellow

**Note:**

Detailed course descriptions are available on the program web site at <http://www.fhs.mcmaster.ca/bhsc>

**Courses****HTH SCI 1E06 INQUIRY**

This course will initiate the development of a skill set required for life-long learning, in the context of the study of one or two health care issues. A problem based course applying principles of scientific inquiry to selected health issues.

Three hours; two terms

Prerequisite: Registration in the B.H.Sc. (Honours) program

Antirequisite: HTH SCI 1E03, 1EE3

*Note: Students entering the B.H.Sc. (Honours) program after completion of Level I in another program may be required to complete HTH SCI 2D06 at the discretion of the Assistant Dean of the program.*

**HTH SCI 1G03 PSYCHOBIOLOGY**

This course introduces essential components of the central and peripheral nervous systems as well as key regulatory systems. Concepts such as plasticity, homeostasis, compensation and adaptation and ways in which failure of these regulatory systems can lead to illness states are examined.

Two lectures, one tutorial; one term

Prerequisite: Credit or co-registration in BIOLOGY 1A03 or HTH SCI 1I06

*Not open to students with credit or registration in PSYCH 1A03.*

**HTH SCI 1I06 CELLULAR AND MOLECULAR SYSTEMS AND PRACTICUM IN HEALTH SCIENCES**

A critical examination of essential concepts in biological systems with specific reference to cellular and molecular investigations. An opportunity to investigate various elements of core health science courses in a laboratory setting.

Two practicums per week (two hours each), one tutorial; two terms

Prerequisite: Grade 12 U Biology and registration in Health Sciences I

Corequisite: SCIENCE 1A00. Students registering in HTH-SCI 1I06 must also register in SCIENCE 1A00 when completing their registration.

*Not open to students with credit or registration in BIOLOGY 1A03.*

**HTH SCI 2A03 STATISTICS**

Basic statistical methods and their application to the analysis of biological and psychosocial data. Manual calculations will be discouraged; use of the computer to do statistical analysis is an explicit goal of this course.

Two lectures, one tutorial; one term

Prerequisite: Registration in Level II or above and Grade 12 Advanced Functions and Introductory Calculus U

Antirequisite: HTH SCI 1F03, STATS 1CC3

**HTH SCI 2D06 INQUIRY II**

This course will initiate the development of a skill set required for life-long learning, in the context of the study of one or two health care issues and will use a problem-based format to introduce major illness categories.

Three hours; two terms

Prerequisite: Permission of the Assistant Dean, B.H.Sc. (Honours) Program.

*Note: This course is restricted to Level II B.H.Sc. (Honours) transfer students only.*

**HTH SCI 2E03 INQUIRY II**

This course will use a problem-based format to introduce major illness categories such as infectious disease, genetic diseases, cancer, and occupational/environmental.

One term

Prerequisite: HTH SCI 1E03 and 1EE3; or HTH SCI 1E06

**HTH SCI 2F03 HUMAN PHYSIOLOGY AND ANATOMY I**

An introduction to the principal organ systems including the endocrine, skin, CNS and locomotion.

Two lectures, one tutorial, one lab; one term

Prerequisite: Registration in Level II of the B.H.Sc. (Honours) program; or permission of the Assistant Dean, B.H.Sc. (Honours) Program

Antirequisite: BIOLOGY 1J03, 3K03, 3U03, 3UU3, HTH SCI 1D06, 1H03, 2L03, KINESIOL 1A06, 1X06, 1Y03, 1YY3

**HTH SCI 2FF3 HUMAN PHYSIOLOGY AND ANATOMY II**

A continuation of HTH SCI 2F03 with an examination of the Immune, Cardiovascular, Respiratory, Gastrointestinal and Uro-Genital Systems.

Two lectures, one tutorial, one lab; one term

Prerequisite: HTH SCI 2F03

Antirequisite: BIOLOGY 1J03, 3K03, 3U03, 3UU3; HTH SCI 1D06, 1HH3, 2LL3, KINESIOL 1A06, 1X06, 1Y03, 1YY3

**HTH SCI 2G03 EPIDEMIOLOGY**

This course examines concepts of health from molecular, clinical, population to societal perspectives.

Two lectures, one tutorial; one term

Prerequisite: STATS 1CC3 or registration in Level II of the B.H.Sc. (Honours) program

**HTH SCI 2J03 HEALTH PSYCHOLOGY**

This course will provide an overview of psychological factors as they influence or result from medical conditions. Topics will include stress, psychosomatic illness, illness behaviour, compliance, and cultural influences on health related behaviours.

Two lectures, one tutorial; one term

Prerequisite: HTH SCI 1G03 or PSYCH 1AA3

Corequisite: HTH SCI 2A03 or STATS 1CC3  
Antirequisite: KINESIOL 2G03



**HTH SCI 2K03 CELL BIOLOGY**

An examination of the relationship between cell structure and function in eukaryotic (primarily) cells.

Tutorials (three hours); Problem Based Learning and Computer Laboratories (three hours); one term

Prerequisite: CHEM 1AA3, and either BIOLOGY 1A03 or 1I06, and registration in the B.H.Sc. (Honours) program; or permission of the instructor  
*Not open to students with credit or registration in BIOLOGY 2B03.*

**HTH SCI 3D03 GENETICS IN HEALTH SCIENCES**

This course examines basic genetic issues including cytogenetics, genetic traits and inheritance as they relate to health care issues.

Two lectures, one tutorial; one term

Prerequisite: HTH SCI 2G03, 2FF3, 2K03

**HTH SCI 3E03 INQUIRY III**

This course will cover health issues that are prevalent at certain times in the developmental cycle. Topics will include reproduction, health of children and adolescents, adulthood, and health care issues in the elderly.

One term

Prerequisite: HTH SCI 2E03 and registration in Level III of the B.H.Sc. (Honours) Program

**HTH SCI 3G03 CRITICAL APPRAISAL OF THE MEDICAL LITERATURE**

Students learn methods to determine internal validity of various research designs to judge the strength of evidence for the effectiveness of an intervention, a diagnostic test, a screening program, a prognostic or risk factor and of systematic reviews.

Two lectures, one tutorial; one term

Prerequisite: HTH SCI 2G03

**HTH SCI 3GG3 HEALTH SYSTEMS AND HEALTH POLICY**

This course reviews how health care is different from other goods and services, how governments have responded to these differences, and how governments make decisions about health care.

Two lectures, one tutorial; one term

Prerequisite: HTH SCI 3G03

**HTH SCI 3H03 INQUIRY PROJECT**

An opportunity to explore one or more specialized areas of Health Sciences in preparation for HTH SCI 4A09 (or HTH SCI 4B06).

One, tutorial/seminar session (three hours); one term

Prerequisite: Registration in B.H.Sc. (Honours) program

Antirequisite: BIOCHEM 4C03, 4P03, BIOLOGY 4C09, 4F06, 4FF3, 4GG9, 4I03, MOL BIOL 4R09, PHARMAC 4F09, PSYCH 4D06, 4D09, 4E09

**HTH SCI 3I03 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; one term

Prerequisite: BIOLOGY 2B03 or HTH SCI 2K03

Antirequisite: BIOLOGY 3X03

**HTH SCI 3J03 HEALTH, INJURY AND PATHOLOGY**

An introduction to human pathology with emphasis on the mechanisms of pathogenesis and the morphologic changes induced to occur in cells and tissues.

Two lectures, one tutorial (three hours); one term

Prerequisite: HTH SCI 2K03

**HTH SCI 3K03 INTRODUCTORY VIROLOGY**

An introduction to the basics of virology. Topics include the structure and composition of viruses, virus replication strategies, virus-host interactions and uses of viruses for medical research.

Three lectures (one hour); one term

Prerequisite: BIOLOGY 2B03 or HTH SCI 2K03; and registration in Level III

**HTH SCI 3L03 INTRODUCTION TO BIOETHICS**

This course will cover ethical issues that are relevant to biological sciences. Topics will include genetic engineering and cloning, genetic screening, reproductive technology and the use of behavioural strategies to alter societal behaviours.

Two lectures, one tutorial; one term

Prerequisite: HTH SCI 2K03

Antirequisite: HEALTHST 3E03

**HTH SCI 3Y03 DEATH, DISEASE AND DEGENERATION: A HISTORY OF HEALTH AND HEALTH CARE IN CANADA**

This course explores the history of health and health care in Canada, from the first European settlements to the present day.

Two lectures, one small group discussion (one hour); one term

Prerequisite: Registration in Level II or above

Cross-list: HEALTHST 3Y03, HISTORY 3Y03

**HTH SCI 4AA3 GROUP DYNAMICS AND PROCESSES**

This course will offer both a theoretical and experiential introduction to group dynamics and processes. Learning will be facilitated in large and small groups.

One term

Prerequisite: Registration in Level IV of the B.H.Sc. (Honours) program and permission of course instructor

**HTH SCI 4A09 THESIS**

A thesis-based research project conducted under the direction and supervision of a member of the Faculty. Arrangements to enrol in HTH SCI 4A09, including agreement of the supervisor and a co-supervisor, must be made before the end of March in Level III.

Prerequisite: Registration in B.H.Sc. (Honours) program and permission of B.H.Sc. (Honours) Program Office

Antirequisite: BIOCHEM 4C03, 4P03, BIOLOGY 4C09, 4F06, 4FF3, 4GG9, 4I03, HTH SCI 4B06, MOL BIOL 4R09, PHARMAC 4F09, PSYCH 4D06, 4D09, 4E09

**HTH SCI 4B06 SENIOR PROJECTS**

A selection of information-based research projects conducted under the supervision of one or more members of the Faculty. Arrangements to register in HTH SCI 4B06 including agreement of supervisor must be made before the end of March in Level III.

Prerequisite: Registration in B.H.Sc. (Honours) program and permission of B.H.Sc. (Honours) Program Office

Antirequisite: BIOCHEM 4C03, 4P03, BIOLOGY 4C09, 4F06, 4FF3, 4GG9, 4I03, HTH SCI 4A09, MOL BIOL 4R09, PHARMAC 4F09, PSYCH 4D06, 4D09, 4E09

**HTH SCI 4BB3 NEUROIMMUNOLOGY**

This course will examine mechanisms of immune to brain communication, shared molecules and their role in the CNS; how interactions between the immune system and the brain impact CNS function, and the role of immune-brain communication in CNS diseases.

Two lectures, one tutorial; one term

Prerequisite: HTH SCI 2K03 or permission of course instructor

**HTH SCI 4D03 SPECIAL TOPICS IN HEALTH SCIENCES**

This course provides an opportunity for individual or small groups to integrate concepts from their undergraduate courses.

Sessions arranged individually or in small groups; one term

Prerequisite: Permission of Assistant Dean, B.H.Sc. (Honours)

**HTH SCI 4EE3 EDUCATION PRACTICUM IN HEALTH SCIENCES**

An opportunity to explore pedagogy as it relates to best practice in education. Sessions arranged individually or in small groups; two terms

Prerequisite: Permission of the Assistant Dean, B.H.Sc. (Honours) Program

**HTH SCI 4F03 CLINICAL PRACTICE ENVIRONMENT**

This course will include one or more placements for students. In conjunction with these placements, students will be required to compile a report on one or more health care delivery environments. Students must arrange their clinical placement.

One term

Prerequisite: HTH SCI 3H03 and permission of the Assistant Dean, B.H.Sc. (Honours) program

**HTH SCI 4I13 ADVANCED TOPICS IN IMMUNOLOGY**

This course will build on knowledge of the immune system and focus on the immune system in disease: allergy, inflammation, autoimmunity, immune deficiency, malignancy and cancer immunotherapy.

Two lectures, one tutorial; one term

Prerequisite: BIOLOGY 3X03 or HTH SCI 3I03

Antirequisite: BIOLOGY 4I13

**HTH SCI 4J03 BIOCHEMICAL IMMUNOLOGY**

This advanced course applies problem-based learning to immunological problems. Topics concern development of immunoassays, resistance to infection and immunity in health and disease.

One session (three hours), one tutorial; one term

Prerequisite: BIOLOGY 3X03 or HTH SCI 3I03; and one of BIOCHEM 3B03, 3BT3, 3D03, 3G03 or BIOLOGY 3H03

Cross-list: BIOCHEM 4J03, MOL BIOL 4J03

**HTH SCI 4K03 HUMAN PATHOPHYSIOLOGY**

The course is designed to allow participants to think and solve problems in the area of physiology, pathophysiology and anatomy.

One lecture, one tutorial, one lab; one term

Prerequisite: HTH SCI 2FF3 or permission of the instructor.

**HTH SCI 4KK3 HUMAN PATHOPHYSIOLOGY II**

This course is designed to take a more in depth look at the principles underlying the pathophysiology of the various body systems.

One lecture, one tutorial, one lab; one term

Prerequisite: HTH SCI 4K03

**HTH SCI 4O03 PRINCIPLES OF VIRUS PATHOGENESIS**

Current theories and knowledge on mechanisms that relate to virus pathogenesis and evasion of host cell responses.

Two lectures, one tutorial; one term

Prerequisite: BIOLOGY 2B03 or HTH SCI 2K03; and registration in Level III

**HTH SCI 4T03 CURRENT RESEARCH INITIATIVES**

An opportunity to explore current research initiatives at McMaster. Faculty members and Post-Doctoral fellows will offer three week sessions to explain and discuss their current research.

Three hours; one term

Prerequisite: Registration in Level II or above of the B.H.Sc. (Honours) program or permission of the Assistant Dean, B.H.Sc. (Honours) program

**HTH SCI 4U06 CURRENT RESEARCH INITIATIVES**

An opportunity to explore current research initiatives at McMaster. Faculty members and Post-Doctoral fellows will offer three week sessions to explain and discuss their current research.

Three hours; two terms

Prerequisite: Registration in Level II or above of the B.H.Sc. (Honours) program or permission of the Assistant Dean, B.H.Sc. (Honours) program

**HTH SCI 4V03 CONTROL OF HUMAN MOVEMENT**

The topics in this course will include basic neurophysiology and control of sensation, proprioception, reflex and voluntary movement. Throughout the course, theories underlying motor control of voluntary movement will be studied in healthy and neurologically impaired populations.

Two lectures, one lab; one term

Prerequisite: HTH SCI 2F03, 2FF3

**HTH SCI 4W03 SPECIAL TOPICS IN HEALTH SCIENCES II**

This course provides an opportunity for individual or small groups to integrate concepts from their undergraduate courses.

Sessions arranged individually or in small groups; one term

Prerequisite: Permission of the Assistant Dean, B.H.Sc. (Honours) Program

**HTH SCI 4X03 COLLABORATION AND PEER TUTORING**

An important part of our responsibility in the program is to develop a learning community that incorporates the concepts of collaboration, peer tutoring and life-long learning. This course will consist of three units to be taken over four years and will encourage these activities, both formally and informally.

Prerequisite: Registration in Level IV of the B.H.Sc. (Honours) program

Antirequisite: BIOLOGY 3Q03, 3QQ3, INQUIRY 3S03, SCIENCE 2L03, SQC SCI 2L03

**HTH SCI 4Y03 SCIENCE, CULTURE AND IDENTITY**

Through selected readings and discussion, this course will explore some critiques of science and will appraise the challenge they present to scientific authority. The course will culminate in the presentation of a research project on a question developed by students individually or in groups.

Three hours; one term

Prerequisite: Registration in Level II or above of the B.H.Sc. (Honours) Program

**HEALTH SCIENCES****(ENGINEERING, MIDWIFERY, NURSING) ...****Note:**

The following Health Sciences courses are normally available only to students registered in Engineering (Chemical Engineering and Bioengineering or Electrical and Biomedical Engineering), B.Sc.N. (A), (B), (C) or (D) Streams, Oncology, Psychiatric-Mental Health Nursing or Midwifery, as applicable.

**Courses****HTH SCI 1AA3 HUMAN BIOCHEMISTRY I**

Introduction to proteins, DNA, RNA, chromosomes and their building blocks; gene expression; proteins, carbohydrates and fats as fuels in the production of energy for living, including nutritional aspects.

Lectures and problem-based tutorial (three hours); one term

Prerequisite: Registration in Level I of the B.Sc.N. (A) or (D) Stream; or permission of the instructor

Antirequisite: HTH SCI 1A06, 1CC7

**HTH SCI 1BB3 HUMAN BIOCHEMISTRY II**

DNA replications, transcription and translation; recombinant DNA technology; and the molecular biology of inherited and acquired diseases.

Lectures and problem-based tutorial (three hours); one term

Prerequisite: HTH SCI 1AA3 and registration in Level I of the B.Sc.N. (A) or (D) Stream; or permission of the instructor

Antirequisite: HTH SCI 1A06, 1CC7

**HTH SCI 1C06 SOCIAL AND CULTURAL DIMENSIONS OF HEALTH CARE**

This course will increase the students' understanding of individuals, social and cultural groups in relation to health and health care. Special emphasis will be placed on understanding the social and cultural meanings of pregnancy and birth to women and their families, in particular cultural communities within Ontario.

Lectures/tutorials; two terms

Prerequisite: Registration in the Midwifery Education program

**HTH SCI 1CC7 INTEGRATED BIOLOGICAL BASES OF NURSING PRACTICE I**

Through a small group, self-directed problem-based learning format, students will apply principles of cellular biology, biochemistry and human anatomy and physiology essential to the assessment and understanding of health care problems.

Lecture (two hours), two problem-based tutorials (two hours each), self-study; one term

Prerequisite: Registration in Level II of the B.Sc.N. (E) Stream or Level III of the B.Sc.N. (B) Stream

Antirequisite: HTH SCI 1A06, 1AA3, 1BB3, 1ZZ4

**HTH SCI 1D06 ANATOMY AND PHYSIOLOGY**

This course covers basic concepts of human structure and function, genetics and embryology through lectures, demonstrations and appropriate laboratory assignments.

Lectures/tutorial; two terms

Prerequisite: Registration in the Midwifery Education program

Antirequisite: BIOLOGY 1J03, 3U03, 3UU3, HTH SCI 2F03, 2FF3, KINESIOL 1A06, 1X06, 1Y03, 1YY3

**HTH SCI 1H06 HUMAN PHYSIOLOGY AND ANATOMY I**

A study of anatomy and physiology of the communication and locomotion systems and the systems maintaining homeostasis.

Lecture (two hours), lab or tutorial (three hours); two terms

Prerequisite: Registration in Level I of the B.Sc.N. (A) or (D) Stream or permission of the instructor

Antirequisite: BIOLOGY 1J03, 2A03, HTH SCI 1B07, 1H03, 1HH3, 2F03, 2FF3, 2L03, 2LL3, KINESIOL 1A06, 1X06, 1Y03, 1YY3

**HTH SCI 1J03 LIFE SCIENCES FOR CLINICAL PRACTICE**

This course provides an overview of basic concepts relating to chemistry, biochemistry and microbiology. Content areas will include practical applications of clinical chemistry, specimen collection, related disease entities and pathologies, and the significance of laboratory values.

One lecture (three hours) one lab (two hours); one term

Prerequisite: Registration in the Midwifery Education program

Corequisite: HTH SCI 1D06

Antirequisite: MIDWIF 1C03

**HTH SCI 1Z04 HUMAN ANATOMY**

Study of gross anatomy providing an overview of tissues and organs of the major body systems. This self-study course is required for Nursing students who have been granted advanced credit for all of the required physiology.

Independent study (two hours lecture equivalent/four hours lab equivalent); one term

Prerequisite: Registration in the B.Sc.N. program and permission of the instructor

**HTH SCI 2BB3 HEALTH SCIENCE AND SOCIETY**

This course is concerned with the biological, environmental, behavioural, social and economic factors that determine health needs of the population. The major components to the course are: measuring health status, the determinants of health, and the provision of health care services. Offered by Web CT/Print Management Based. The Program reserves the right to cancel the course due to low enrolment.

Prerequisite: Registration in Level II of the Midwifery Education program

**HTH SCI 2C07 INTEGRATED BIOLOGICAL BASES OF NURSING PRACTICE II**

Students will integrate concepts of pathophysiology and will include principles of microbiology and pharmacology essential to the assessment and understanding of health care problems.

Lecture (two hours), two problem-based tutorials (two hours each), journal club; one term

Prerequisite: HTH SCI 1CC7

Antirequisite: HTH SCI 2AA2, 2B08, 2BB2, 2CC2, 2DD2, 2H03, 2HH3

**HTH SCI 2H03 INTRODUCTORY PHARMACOLOGY**  
An examination of the administration, distribution, action, metabolism and elimination of drugs generally and as related to specific systems. Lecture (two hours), tutorial or clinical problem (three hours); one term  
Prerequisite: HTH SCI 1AA3, 1BB3 (or 1A06), 1H03, 1HH3 (or 1H06) and registration in Level II of the B.Sc.N. (A) or (D) Stream; or permission of the instructor  
Antirequisite: HTH SCI 2B08, 2C07, 2DD2

**HTH SCI 2HH3 INTRODUCTORY MICROBIOLOGY**  
An examination of the interactions of microbes in the human body including action, responses, treatment and prevention. Lecture (two hours), tutorial or lab or clinical problem (three hours); one term  
Prerequisite: HTH SCI 1AA3, 1BB3 (or 1A06), 1H03, 1HH3 (or 1H06) and registration in Level II of the B.Sc.N. (A) or (D) Stream; or permission of the instructor  
Antirequisite: HTH SCI 2B08, 2C07, 2CC2

**HTH SCI 2I03 SOCIAL ASPECTS OF REPRODUCTION**  
An interdisciplinary course exploring birth and reproduction. Topics may include: social determinants of reproductive health, fertility and birthing rituals, reproductive ethics, policy and technologies. Two lectures, one tutorial; one term  
Prerequisite: Registration in Level II or above  
Cross-list: HEALTHST 2H03, WOMEN ST 2H03  
*This course is administered by Women's Studies.*

**HTH SCI 2L03 ANATOMY AND PHYSIOLOGY I: COMMUNICATION**  
An examination of structure-function relationships in the human body systems that communicate with each other or the environment. The systems covered include: endocrine, central nervous system, hearing, taste, smell, vision, autonomic nervous system, skin, peripheral nervous system, and locomotion (musculo-skeletal). Two lectures (one hour), clinical problem presentation (one hour), one lab (two hours); one term  
Prerequisite: Registration in Chemical Engineering and Bioengineering or Electrical and Biomedical Engineering  
Antirequisite: BIOLOGY 1J03, 3U03, 3UU3, HTH SCI 1D06, 1H03, 1H06, 2F03, KINESIOL 1A06, 1X06, 1Y03, 1YY3

**HTH SCI 2LL3 ANATOMY AND PHYSIOLOGY II: HOMEOSTASIS**  
An examination of structure-function relationships in the human body systems that are responsible for maintaining normal internal physiological conditions despite a changing environment. The systems covered include: cardiovascular, respiratory, immunology, gastro-intestinal, nutrition, uro-genital, and renal. Two lectures (one hour), clinical problem presentation (one hour), one lab (two hours); one term  
Prerequisite: Registration in Chemical Engineering and Bioengineering or Electrical and Biomedical Engineering  
Antirequisite: BIOLOGY 1J03, 3U03, 3UU3, HTH SCI 1D06, 1H06, 1HH3, 2FF3, KINESIOL 1A06, 1X06, 1Y03, 1YY3

**HTH SCI 2M03 REPRODUCTIVE PHYSIOLOGY**  
This course emphasizes intrinsic and extrinsic methods of regulation of reproduction and also provides the basis for understanding alterations from normal mechanisms including the influence of medical conditions. One tutorial (three hours); term one  
Prerequisite: HTH SCI 1D06  
Antirequisite: MIDWIF 2D03

**HTH SCI 3B03 HEALTH, SCIENCE AND SOCIETY**  
This course provides an introduction to a number of macrohealth issues including determinants of health and political, economic and social factors that influence the organization of health care systems. Nine lecture/problem-based tutorials (three hours each), guided self-study (two hours); one term  
Prerequisite: Registration in Level III of the B.Sc.N. (A), (D) or (E) Stream; or Level III or IV of the B.Sc.N. (B) Stream; or registration in Level II of the Midwifery Education program; or permission of the instructor

**HTH SCI 3C04 INTRODUCTION TO RESEARCH METHODS AND CRITICAL APPRAISAL**  
Introduction to the principles of clinical research and statistical inference, with particular emphasis on critical assessment of research evidence (both qualitative and quantitative) as presented in the health sciences literature related to health care. Problem based tutorial (three hours), guided self-study (one and one half hours) per week; one term  
Prerequisite: Normally, registration in Level III of any stream of the B.Sc.N. program; or registration in the Midwifery Education program; or the Paediatric Oncology or Adult Oncology program; or the Psychiatric-Mental Health Nursing program; or permission of the instructor  
Antirequisite: HTH SCI 3A03, 3L02, 3M03

**HTH SCI 3R03 INDEPENDENT STUDY IN A HEALTH SCIENCES TOPIC**  
A non-clinical course in which special topics will be considered in depth under the supervision of a faculty member. The plan of study must be negotiated with the faculty member.

Lecture or equivalent (three hours); one term  
Prerequisite: Registration in Level II or above of any stream of the B.Sc.N. program; and permission of the instructor; and permission of the Coordinator of Studies (Nursing)  
*Students will not normally be permitted to apply more than one independent study course in the Health Sciences toward their elective requirements for the B.Sc.N. program.*

**HTH SCI 4DD6 ADVANCED LEADERSHIP AND MANAGEMENT IN HEALTH CARE ORGANIZATIONS**  
This advanced course builds upon HTH SCI 4E06 content. It integrates theories and research in leadership and management to enhance health care provider's knowledge of key issues in today's workplace. Offered in tutorial or distance format.

Tutorial or equivalent (four hours), independent study in an organization (six hours); one term  
Prerequisite: HTH SCI 4E06  
Antirequisite: NURSING 4DD6

**HTH SCI 4E06 INTRODUCTION TO HEALTH CARE LEADERSHIP/MANAGEMENT**  
Theories and principles of leadership and management are applied to the health care disciplines. Given in both problem based tutorial format and through distance education. Enrolment in tutorial format is limited. Problem based tutorial or equivalent (four hours); independent study at a clinical site (six hours); one term  
Prerequisite: A minimum of one year clinical work experience in a health care profession or permission of the instructor  
Antirequisite: NURSING 4B06

**HTH SCI 4H03 ISSUES IN INTERNATIONAL AND INTERCULTURAL HEALTH**  
An introduction to health issues in a rural Canadian and international context including theories of: development; political economy; medical and social anthropology; and intercultural health care practice. Lecture/problem-based tutorials (three hours); one term  
Prerequisite: HTH SCI 3B03; and registration in Level III or IV of any stream of the B.Sc.N. program; and permission of the instructor  
Antirequisite: COLLAB 4H03, NURSING 4H03

**HTH SCI 4I03 LEADING EFFECTIVE TEAMS IN HEALTH CARE ORGANIZATIONS**  
This course introduces health care providers to the concepts and dynamics of teams within health care organizations. Theories and concepts related to leadership, communication and health systems are applied in the current work environment. Distance education and tutorial formats. Problem-based tutorial or equivalent (three hours); one term  
Prerequisite: Health care professional and permission of the instructor  
Antirequisite: NURSING 4I03

**HTH SCI 4L02 RESEARCH PROJECT**  
Students participate in a research study. Concepts of research design, implementation and analysis and dissemination of results are studied. Approximately two hours per week; two terms  
Prerequisite: HTH SCI 3C04 and registration in Level IV of any stream of the B.Sc.N. program; or permission of the instructor  
Antirequisite: HTH SCI 4L04

**HTH SCI 4S03 POVERTY AND HOMELESSNESS**  
This course investigates poverty and homelessness and the disproportionate number of health and social issues facing marginalized groups. It explores the issues of poverty in Canada and places specific emphasis on poverty in our local community of Hamilton Wentworth. Tutorial groups, independent reading (three hours), individual or group service learning projects (three hours); one term  
Prerequisite: HTH SCI 3B03 and registration in Level III or IV of any stream of the B.Sc.N. program; or permission of the instructor  
*Not open to students with credit in NURSING 4G03 if the topic was Poverty and Homelessness.*

**HTH SCI 4Z03 HEALTH SCIENCE CONFLICT MANAGEMENT IN HEALTH CARE ORGANIZATIONS**  
An introduction to the types and processes of conflict in health care organizations. Exploration and application of theories and principles of conflict and negotiations to situations in the health care environment. Offered in both tutorial and distance format. Tutorial (three hours); one term  
Prerequisite: A minimum of one year clinical work experience in a health care profession or permission of the instructor  
Antirequisite: NURSING 4Z03

## HEALTH STUDIES

WEB ADDRESS: <http://www.socsci.mcmaster.ca/healthst/>

## Faculty as of January 15, 2006

**Director**

Roy Cain

**Associate Professors**

Ivy Bourgeault/(Sociology) B.Sc. (Alberta) M.Sc., Ph. D. (Toronto)

**Assistant Professors**

Alina Gildiner/(Political Science) B.Sc., M.Sc., Ph.D. (Toronto)

James Gillett/(Sociology) B.A. (Calgary), M.A., Ph.D. (McMaster)

Celia Rothenberg/(Religious Studies) B.A. (Wellesley), M.A. (Oxford), Ph.D. (Toronto)

Chris Sinding/(Social Work) B.A. (Western Ontario), M.A. (McMaster), Ph.D. (Toronto)

**Adjunct Professor**

Joseph Levy/(Health Planning, York University, B.A. (Wilfred Laurier), B.P.H.E.(Waterloo), M.S.W. (Wilfred Laurier), Ph.D. (Waterloo)

**Adjunct Assistant Professor**

Colin McMullan/(Geography and Earth Sciences) B.A. (Brock), Ph.D. (McMaster)

**Associate Members**

Roy Cain/(Social Work) B.S.W., M.S.W., Ph.D. (McGill)

David Clark/(English and Cultural Studies) B.A., M.A., Ph.D. (Western Ontario)

Jeremiah E. Hurley/(Economics) B.A. (John Carroll), M.A., Ph.D. (Wisconsin-Madison)

Christina Moffat/(Anthropology) B.Sc. (Toronto), B.A., Ph.D. (McMaster)

David Wright/(History/Psychiatry) B.A., M.A. (McGill), D. Phil. (Oxford)

**Notes:**

1. HEALTHST 1A03 is available to all students.
2. HEALTHST 2C03, 2D03, 2E03, 2H03 and 3Y03 may be taken as electives by students enrolled in Level II and above of a non-Health Studies program.
3. HEALTHST 3D03, 3E03, 3F03, 3H03 and 3Y03 may be taken as electives by students enrolled in Level III and above of a non-Health Studies program. Enrolment for such students is limited and places are assigned on a first come basis.

**Courses** *If no prerequisite is listed, the course is open.***HEALTHST 1A03 INTRODUCTION TO HEALTH STUDIES**

An introduction to the key themes and questions concerning health and health care from within social sciences perspectives.

Three hours (lectures and tutorials); one term

Antirequisite: HEALTHST 1E03, 1S03, HTH SCI 3B03, SOC SCI 1H03

*Not open to students in a Nursing or Midwifery program.*

**HEALTHST 2AA3 SOCIAL IDENTITY, HEALTH AND ILLNESS**

A critical exploration of the role of class, race, gender, ability and age in patterns of health and illness.

Three hours (lectures and discussion); one term

Prerequisite: Registration in Level II or above of a Health Studies or Gerontology program

Antirequisite: HEALTHST 2A03

*This course may be taken by students enrolled in a Gerontology program. However, enrolment for such students is limited.*

**HEALTHST 2B03 RESEARCH METHODS IN HEALTH STUDIES**

A review of the major methodological approaches used in health studies research. The course will examine methods such as historical, qualitative, quantitative, and narrative.

Three hours (lectures and discussion); one term

Prerequisite: Registration in Level II or above of a Health Studies program

Antirequisite: ANTHROP 2Z03, CMST 2A03, GEO 2HR3, GERONTOL 2C03, SOCIOL 2Z03

**HEALTHST 2C03 HEALTH ECONOMICS AND ITS APPLICATION TO HEALTH POLICY**

Economic analyses of health and health care, with a special emphasis on policy issues in the Canadian health care system.

Three hours (lectures and discussion); one term

Prerequisite: Registration in Level II or above

Cross-list: ECON 2CC3

*Not open to students with credit or registration in ECON 2G03, 2X03 or 3Z03.*

*This course is administered by the Department of Economics.*

**HEALTHST 2D03 MENTAL HEALTH**

An examination of mental health and illness from different social, cultural and historical perspectives, including consideration of changing notions of diagnosis, treatment and prevention.

Three hours (lectures and discussion); one term

Prerequisite: Registration in Level II or above

Antirequisite: HISTORY 3V03

**HEALTHST 2E03 HEALTH, ILLNESS AND THE BODY**

This course draws on a range of theoretical perspectives to consider the social construction, regulation, control, and experience of the body as it relates to health and illness.

Three hours (lectures and discussion); one term

Prerequisite: One of HEALTHST 1A03, 1E03, 1S03 or SOC SCI 1H03; and registration in Level II or above

**HEALTHST 2H03 SOCIAL ASPECTS OF REPRODUCTION**

An interdisciplinary course exploring birth and reproduction. Topics may include: social determinants of reproductive health, fertility and birthing rituals, reproductive ethics, policy and technologies.

Two lectures, one tutorial; one term

Prerequisite: Registration in Level II or above

Cross-list: HTH SCI 2I03, WOMEN ST 2H03

**HEALTHST 3AA3 STATE, CIVIL SOCIETY AND HEALTH**

This course explores how states, citizens, and civil society act and interact in the definition and pursuit of health.

Three hours (lectures and discussion); one term

Prerequisite: Registration in Level III or above of a Health Studies or Gerontology program

Antirequisite: HEALTHST 3A03

*This course may be taken by students enrolled in a Gerontology program. However, enrolment for such students is limited.*

**HEALTHST 3C03 OCCUPATIONAL HEALTH AND SAFETY**

An analysis of issues and problems associated with occupational health and safety in Canada and other industrialized countries. Topics will be examined from social, political, economic, legal and medical perspectives.

Three hours (lectures and discussion); one term

Prerequisite: Registration in Level III or above of a Health Studies or Labour Studies program

Cross-list: LABR ST 3D03

*This course is administered by Labour Studies.*

**HEALTHST 3D03 DISABILITIES AND CHRONIC ILLNESS**

An examination of issues relating to disabilities and chronic illness.

Three hours (lectures and discussion); one term

Prerequisite: Registration in Level III or above

*Enrolment is limited. Priority will be given to students registered in a Health Studies program.*

**HEALTHST 3E03 ETHICAL ISSUES**

Ethical issues of current relevance to debates in health and health care. Topics will vary from year to year.

Three hours (lectures and discussion); one term

Prerequisite: Registration in Level III or above

Antirequisite: HTH SCI 3L03

*Enrolment is limited. Priority will be given to students registered in a Health Studies program.*

**HEALTHST 3F03 SELECTED TOPICS IN HEALTH STUDIES I**

Topics may vary from year to year.

Three hours (lectures and discussion); one term

Prerequisite: One of HEALTHST 1A03, 1E03, 1S03; and registration in Level III or above

*Enrolment is limited. Priority will be given to students registered in a Health Studies program.*

*HEALTHST 3F03 may be repeated, if on a different topic, to a total of six units.*

**HEALTHST 3G03 APPLIED METHODS IN HEALTH STUDIES RESEARCH**

A review of applied research methods in Health Studies. The course will consider issues in program evaluation, community needs assessments and community-based research. Students may be involved in community service learning.

Three hours (lectures and discussion); one term  
Prerequisite: Registration in Level III or above of a Health Studies program

**HEALTHST 3H03 HEALTH CONSUMERISM**

This course examines the meaning of consumerism, consumer health groups, and the impact of consumerism on health care and health policy.

Three hours (lectures and discussion); one term  
Prerequisite: Registration in Level III or above  
*Enrolment is limited. Priority will be given to students registered in a Health Studies program.*

**HEALTHST 3I03 INDEPENDENT STUDY**

Independent research supervised by a faculty member.

One term  
Prerequisite: Registration in Level III or above of a Health Studies program and permission of the Director of Health Studies

**HEALTHST 3M03 HEALTH POLICY IN A CHANGING WORLD**

This course examines major models of health care and policy systems, and the key ideas and instruments that underlie health policy in selected countries such as Canada.

Three hours (lectures and discussion); one term  
Prerequisite: Registration in Level III or above of any Health Studies or Political Science program

Cross-list: POL SCI 3M03

*This course is administered by the Department of Political Science.*

**HEALTHST 3Y03 DEATH, DISEASE AND DEGENERATION: A HISTORY OF HEALTH AND HEALTH CARE IN CANADA**

Explores the history of health and health care in Canada, from the first Western European settlements to the present day.

Two lectures one small group session (one hour); one term  
Prerequisite: Registration in Level II or above  
Cross-list: HTH SCI 3Y03, HISTORY 3Y03

*This course is administered by the Bachelor of Health Sciences (Honours) program.*

**HEALTHST 4A03 RESEARCH SEMINAR**

Systematic inquiry of a selected topic in a problem-based seminar. Students will identify a health issue, formulate questions, conduct research and present findings.

Three hours (seminar); one term  
Prerequisite: Registration in Level IV of any Health Studies program

**HEALTHST 4C03 REPRESENTATIONS OF HEALTH AND ILLNESS**

An exploration of representations of health and illness in the humanities. The focus may vary from year to year, but will examine how health and illness have been represented in literature, art, drama, or music.

Three hours (seminar); one term  
Prerequisite: Registration in Level IV of any Health Studies or Gerontology program

*Enrolment is limited.*

*This course may be taken by students enrolled in a Gerontology program. However, enrolment for such students is limited.*

**HEALTHST 4D03 HEALTH IN CROSS CULTURAL AND INTERNATIONAL PERSPECTIVES**

Examination of contemporary issues in health and illness from cross cultural and international perspectives.

Three hours (seminar); one term  
Prerequisite: Registration in Level IV of any Health Studies program

*Enrolment is limited.*

**HEALTHST 4E03 ENVIRONMENT AND HEALTH**

Models and methods for research and policy on environment and health.

Three hours (seminar); one term  
Prerequisite: Registration in Level IV of any Health Studies program

Cross-list: GEO 4HH3  
*This course is administered by the School of Geography and Earth Sciences.*

**HEALTHST 4F03 SELECTED TOPICS IN HEALTH STUDIES II**

An examination of selected topics in health studies. Topics may vary from year to year.

Three hours (seminar); one term  
Prerequisite: Registration in Level IV of any Health Studies program  
*HEALTHST 4F03 may be repeated, if on a different topic, to a total of six units.*

*Enrolment is limited.*

**HEALTHST 4G06 INDEPENDENT STUDY**

Independent research supervised by a faculty member.

Two terms

Prerequisite: Credit or registration in HEALTHST 4A03 and permission of the Director of Health Studies

**HEALTHST 4H03 DIRECTED RESEARCH IN HEALTH STUDIES**

Directed study of a research question in Health Studies under the supervision of a faculty member. A report is submitted to the supervisor upon completion of the project.

Three hours (seminar); one term  
Prerequisite: HEALTHST 4A03 and registration in Level IV of a Health Studies program; or permission of the Director of Health Studies

*Enrolment is limited.*

**HEALTHST 4J03 NARRATIVES OF ILLNESS**

This seminar explores the role that narratives of illness play in describing, shaping and interrogating the experiences of those who are "unwell."

Three hours (seminar); one term  
Prerequisite: Registration in Level IV Health Studies or Level IV Cultural Studies and Critical Theory

*Enrolment is limited.*

**HEALTHST 4L03 THE POLITICS OF CHANGE IN SOCIAL WELFARE**

An examination of how social welfare policy establishes the boundary between public and private roles, and how the boundary changes.

Three hours (seminar); one term  
Prerequisite: HEALTHST 3M03 or POL SCI 3M03 and registration in Level IV of an Honours Health Studies program

Cross-list: POL SCI 4L03

*Enrolment is limited.*

*This course is administered by the Department of Political Science.*

**HEBREW**

(SEE RELIGIOUS STUDIES, HEBREW)

**HISPANIC STUDIES**

(SEE LINGUISTICS AND LANGUAGES, HISPANIC STUDIES)

**HISTORY**

WEB ADDRESS: <http://www.humanities.mcmaster.ca/~history/>

Chester New Hall, Room 619

Ext. 24270

**Faculty as of January 15, 2006****Chair**

Virginia Aksan

**Professors**

James D. Alsop/B.A. (Winnipeg), M.A. (Western Ontario), Ph.D. (Cambridge), F.R.H.S.

J. Michael Gauvreau/B.A. (Laurentian), M.A., Ph.D. (Toronto)

Bernice M. Kaczynski/B.A. (Pittsburgh), M.Phil., Ph.D. (Yale)

H. V. Nelles/B.A., M.A., Ph.D. (Toronto)/L. R. Wilson Professor in Canadian History

John C. Weaver/B.A. (Queen's), M.A., Ph.D. (Duke)

**Adjunct Professor**

John A. Sainsbury/(Brock) B.A., M.A. (Cambridge), Ph.D. (McGill)

**Associate Professors**

Virginia Aksan/B.A. (Allegheny College), M.L.S. (California-Berkeley), M.A., Ph.D. (Toronto)

David P. Barrett/B.A., M.A., M.Phil. (Toronto), Ph.D. (London)

Kenneth Cruikshank/B.A. (Carleton), M.A., Ph.D. (York)

Ruth Frager/B.A. (Rochester), M.A., Ph.D. (York)

Evan W. Haley/A.B. (Dartmouth), Ph.D. (Columbia)

Stephen Heathorn/B.A. (Toronto), M.A. (McMaster), Ph.D. (Toronto)

Martin Horn/B.A. (Western Ontario), M.A. (McMaster), Ph.D. (Toronto)

Stephen Streeter/B.S. (Bates), M.A. (SUNY-Stonybrook), M.A. (California-Riverside), Ph.D. (Connecticut)

Pamela Swett/A.B. (*Bryn Mawr*), M.A., Ph.D. (*Brown*)  
 Wayne L. Thorpe/B.A. (*Washington*), B.A. (*Portland State*), M.A. (*Colorado*),  
 Ph.D. (*British Columbia*)  
 David Wright/B.A., M.A. (*McGill*), D. Phil. (*Oxford*)

**Assistant Professors**

Megan Armstrong/B.A. (*Toronto*), M.A. (*Queen's*), Ph.D. (*Toronto*)  
 Karen Balcom/B.A. (*Carleton*), M.A. (*Dalhousie*), Ph.D. (*Rutgers*)  
 Juanita De Barros/B.A. (*Toronto*), M.A., Ph.D. (*York*)  
 Michael Egan/B.A., M.A. (*Simon Fraser*), Ph.D. (*Washington State*)  
 Tracy McDonald/B.A., M.A., Ph.D. (*Toronto*)

**Adjunct Assistant Professors**

Andrew Bone/*(Bertrand Russell Editorial Project)*, B.A. (*Birmingham*),  
 M.A., Ph.D. (*McMaster*)  
 Kathleen E. Garay/*(Archivist, Mills Library)*, B.A. (*East Anglia*), M.A.  
 (*McMaster*), Ph.D. (*Toronto*)

**Associate Members**

Nancy B. Bouchier/*(Kinesiology)* B.A., M.A., Ph.D. (*Western Ontario*)  
 Peter J. George/*(Economics)* C.M., B.A., M.A.; Ph.D. (*Toronto*), D.U.  
 (*Ottawa*); D. Hon. C.; (*Lviv*), D. Litt. (*Nipissing*), LL.D. (*Toronto*)  
 Richard S. Harris/*(Geography and Earth Sciences)* B.A. (*Cambridge*),  
 M.A. (*Ohio State*), Ph.D. (*Queen's*)  
 Kenneth H. Norrie/*(Economics)* B.A. (*Saskatchewan*), M.Phil., Ph.D. (*Yale*)

**Department Notes:**

1. The Department of History offers six 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. Six units of Level I History are required for those students who anticipate entering B.A. or Honours programs in History, but students will be admitted to programs in History from CLASSICS 1L03 and 1LL3, cross-listed as HISTORY 1L03 and 1LL3. Students may take only 12 units of these Level I History courses.
2. Not every History course listed in this Calendar is offered every year. Students should consult the Department of History web site (<http://www.humanities.mcmaster.ca/~history/>) in March for a list of courses that will be offered in the following academic year.
3. Enrolment in any Level IV History seminar will be limited to approximately 15 students. Students must be registered in an Honours History program to enrol in any Level IV History seminar. Preference will be given in order to students according to the following categories: Level IV Honours History and Combined Honours in History; Level III Honours History and Combined Honours in History; Level III B.A. History and others (with special permission of the Department).
4. Students interested in Ancient History are advised to examine the courses in Classics offered by the Department of Classics. The following course may be applied towards degree requirements in History at Levels II and III:  
 KINESIOL 3A03 History of Physical Culture and Sports Medicine

**Courses** *If no prerequisite is listed, the course is open.***HISTORY 1A03 EUROPE FROM THE RENAISSANCE TO THE FRENCH REVOLUTION**

An examination of the principal themes and issues of European history from the Renaissance to the French Revolution.  
 Three hours (lectures and tutorials); one term

**HISTORY 1AA3 EUROPE FROM THE FRENCH REVOLUTION TO THE END OF THE SECOND WORLD WAR**

An examination of the principal themes and issues of European history from the French Revolution to the end of the Second World War.  
 Three hours (lectures and tutorials); one term

**HISTORY 1B03 THE AMERICAS AND THE WORLD**

An examination of the Americas from European contact into the nineteenth century.  
 Three hours (lectures and tutorials); one term

**HISTORY 1BB3 GLOBAL HISTORY IN THE TWENTIETH CENTURY**

An examination of global interactions of peoples and nations since 1900.  
 Three hours (lectures and tutorials); one term

**HISTORY 1L03 HISTORY AND ARCHAEOLOGY OF THE ANCIENT WORLD I**

The history of the Ancient Near East and Greece down to the end of the 5th century B.C. based on documentary sources and archaeological evidence.  
 Two lectures, one tutorial; one term  
 Cross-list: CLASSICS 1L03

*This course is administered by the Department of Classics.*

**HISTORY 1LL3 HISTORY AND ARCHAEOLOGY OF THE ANCIENT WORLD II**

The history of Greece and Rome from the 4th century B.C. to the fall of Rome based on documentary sources and archaeological evidence.  
 Two lectures, one tutorial; one term  
 Cross-list: CLASSICS 1LL3

*This course is administered by the Department of Classics.*

**HISTORY 2AA3 THE MODERN CARIBBEAN**

An examination of the nineteenth- and twentieth-century Caribbean, focusing on the end of slavery; the arrival of indentured Asian immigrants; pan-Africanism; anti-colonial movements and revolution.

Three hours (lectures and discussion); one term

Prerequisite: Registration in Level II or above

Cross-list: PEACE ST 2AA3

**HISTORY 2CC3 THE MEDIEVAL WORLD 400-1050**

The Early Middle Ages: The barbarian kingdoms to the feudal monarchies.

Three hours (lectures and discussion); one term

Prerequisite: Registration in Level II or above

Antirequisite: HISTORY 2I06

**HISTORY 2D03 EARLY LATIN AMERICA**

From the Amerindian cultures to 1823. This course will deal with the pre-Columbian civilizations; the Spanish conquest and its consequences until the wars for independence from Spain.

Three hours (lectures and discussion); one term

Prerequisite: Registration in Level II or above

Antirequisite: HISTORY 3XX3

Alternates with HISTORY 2G03.

**HISTORY 2DD3 THE MEDIEVAL WORLD 1050-1400**

The High and Late Middle Ages: Themes in European history, society and culture.

Three hours (lectures and discussion); one term

Prerequisite: Registration in Level II or above

Antirequisite: HISTORY 2I06

**HISTORY 2EE3 SCIENCE AND TECHNOLOGY IN WORLD HISTORY**

An introduction to the manner in which science and technology influence society and how society influences science and technology, paying particular attention to the transfer of knowledge and machines over time and between cultures.

Three hours (lectures and discussion); one term

Prerequisite: Registration in Level II or above

**HISTORY 2F03 WOMEN IN EUROPE TO 1650**

An exploration of the history of European women and gender during the medieval and early modern periods, focusing on the political, social, spiritual, intellectual and economic realms.

Three hours; one term

Prerequisite: Registration in Level II or above

Cross-list: WOMEN ST 2F03

Antirequisite: HISTORY 2BB6, WOMEN ST 2B06

**HISTORY 2FF3 WOMEN IN EUROPE FROM 1650**

An exploration of the history of European women and gender in the modern era, focusing on women's changing roles in the economic and political spheres and the development of new visions of the family and sexuality.

Three hours; one term

Prerequisite: Registration in Level II or above

Cross-list: WOMEN ST 2FF3

Antirequisite: HISTORY 2BB6, WOMEN ST 2B06

**HISTORY 2G03 MODERN LATIN AMERICA SINCE 1820**

Liberalism, nationalism, militarism and the various revolutions will be covered, as well as the U.S. role in Latin America and the Caribbean.

Three hours; one term

Prerequisite: Registration in Level II or above

Cross-list: PEACE ST 2G03

Antirequisite: HISTORY 3YY3, PEACE ST 3J03

Alternates with HISTORY 2D03.

**HISTORY 2HH3 MEDITERRANEAN ENCOUNTERS 1500-1800**  
 This course examines the Mediterranean region as a zone of intense cultural interaction. Particular emphasis will be given to the interaction between Christian, Jewish and Islamic societies.  
 Three hours (lectures and discussion); one term  
 Prerequisite: Registration in Level II or above  
 Cross-list: RELIG ST 2FF3

**HISTORY 2II3 MODERN GERMANY**  
 This course examines the complexities of German social and political history since 1890, including World War One, Third Reich, cold war division, questions of national identity and the peaceful revolution of 1989.  
 Three hours (lectures and discussion groups); one term  
 Prerequisite: Registration in Level II or above  
 Cross-list: PEACE ST 2II3  
 Antirequisite: HISTORY 3Q03, PEACE ST 3G03

**HISTORY 2K03 THE SOCIETY OF GREECE AND ROME**  
 A description and analysis of selected aspects of the social life of Greece and Rome. Attention will be given to subjects such as work and leisure, war and the warrior, slavery, marriage and family and the role of women.  
 Three lectures; one term  
 Prerequisite: Registration in Level II or above  
 Cross-list: CLASSICS 2K03  
*This course is administered by the Department of Classics.*

**HISTORY 2L03 CLASSICAL GREECE**  
 Greece from the rise of the city-states to Alexander, with particular attention to the political, social and cultural development in the light of literary and archaeological evidence. (No Greek or Latin required).  
 Three lectures; one term  
 Prerequisite: Registration in Level II or above  
 Cross-list: CLASSICS 2L03  
*This course is administered by the Department of Classics.*

**HISTORY 2LL3 CLASSICAL ROME**  
 Rome from the middle Republic through the Empire, with particular attention to the political, social and cultural development in the light of both literary and archaeological evidence. (No Greek or Latin required).  
 Three lectures; one term  
 Prerequisite: Registration in Level II or above  
 Cross-list: CLASSICS 2LL3  
*This course is administered by the Department of Classics.*

**HISTORY 2M03 EARLY MODERN BRITAIN, 1500-1800**  
 A thematic study of British culture, society and governance between 1500 and 1800 A.D.  
 Three hours (lectures and discussion); one term  
 Prerequisite: Registration in Level II or above  
 Antirequisite: HISTORY 2N06

**HISTORY 2MM3 BRITAIN IN THE MODERN ERA, 1800-2000**  
 The political, social, economic and cultural history of Britain over the last two centuries, with particular attention to the domestic impact of the British imperial experience.  
 Three hours (lectures and discussion); one term  
 Prerequisite: Registration in Level II or above  
 Antirequisite: HISTORY 2N06

**HISTORY 2P03 HISTORICAL INQUIRY**  
 An introduction to the systematic investigation of historical issues and problems in a small class setting. Topics will vary, representative of the interests of the department's teaching staff.  
 Three hours (seminar); one term  
 Prerequisite: Permission of the Department. Priority will be given to students registered in Level II of an Honours program in History. Students wishing to take this course must complete an application form in the History Department before March 31 to guarantee consideration for the following year.  
*Enrolment is limited. Departmental permission is required.*

**HISTORY 2Q03 IMPERIAL RUSSIA**  
 A survey of Russian history from Peter the Great to the Revolutions of 1917.  
 Three hours (lectures and discussion); one term  
 Prerequisite: Registration in Level II or above  
 Antirequisite: HISTORY 3H06

**HISTORY 2QQ3 THE SOVIET UNION**  
 A history of the Soviet Union from 1917 to the present with an emphasis on social history, culture and identity.  
 Three hours (lectures and discussion); one term  
 Prerequisite: Registration in Level II or above  
 Antirequisite: HISTORY 3H06

**HISTORY 2R03 U.S. HISTORY TO THE CIVIL WAR**  
 A survey of the political, cultural, social and economic development of the United States to 1877, from the colonial and revolutionary eras to the Civil War and Reconstruction.  
 Three hours (lectures and discussion groups); one term  
 Prerequisite: Registration in Level II or above

**HISTORY 2RR3 U.S. HISTORY SINCE THE CIVIL WAR**  
 A survey of the political, cultural, social and economic development of the United States from Reconstruction to the present.  
 Three hours (lectures and discussion groups); one term  
 Prerequisite: Registration in Level II or above

**HISTORY 2S03 WAR IN THE WEST, 1850-1945**  
 A survey of the development of warfare in the Western World from 1850 to 1945. Particular attention is paid to the two World Wars in the twentieth century.  
 Three hours; one term  
 Prerequisite: Registration in Level II or above  
 Cross-list: PEACE ST 2S03

**HISTORY 2T03 SURVEY OF CANADIAN HISTORY, BEGINNINGS TO 1885**  
 A survey of the political, cultural, social and economic development of Canada to 1885, from first nations and colonial origins to Confederation and the North West Rebellion.  
 Three hours (two lectures, one tutorial); one term  
 Prerequisite: Registration in Level II or above  
 Antirequisite: HISTORY 2J06

**HISTORY 2TT3 SURVEY OF CANADIAN HISTORY, 1885 TO THE PRESENT**  
 A survey of the political, cultural, social and economic development of modern Canada, from the North West Rebellion and nation-building era to the present.  
 Three hours (two lectures, one tutorial); one term  
 Prerequisite: Registration in Level II or above  
 Antirequisite: HISTORY 2J06

**HISTORY 2U03 HISTORICAL ORIGINS OF GLOBALIZATION, 1200-1700**  
 An introduction to interpretations of globalization, the appearance and expansion of cross-cultural trade systems, colonization and population diasporas.  
 Three hours (two lectures, one tutorial); one term  
 Prerequisite: Registration in Level II or above  
 Antirequisite: HISTORY 2O06

**HISTORY 2UU3 HISTORICAL ORIGINS OF GLOBALIZATION, 1700-1950**  
 The emergence of global economies, settlement colonies, the dispersal of flora and fauna, the spread of ideas about property and economic development, innovations in finance and communications.  
 Three hours (two lectures, one tutorial); one term  
 Prerequisite: Registration in Level II or above  
 Antirequisite: History 2O06

**HISTORY 3AA3 THE MODERN MIDDLE EAST**  
 A survey of the political and social history of the Middle East from 1800 to the present, with an emphasis on contemporary issues, such as the Islamic impulse and the Arab-Israeli conflict.  
 Three hours (lectures and discussion); one term  
 Prerequisite: Registration in Level II or above  
 Cross-list: PEACE ST 3F03

**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 or above  
 Cross-list: JAPAN ST 3B03

**HISTORY 3C03 THE LATE ROMAN REPUBLIC**  
 An examination and analysis of major themes in the political, social and economic history of Rome from the mid-second century B.C. to the assassination of Caesar.  
 Three lectures; one term  
 Prerequisite: One of HISTORY 1LL3, 2K03, 2LL3, 3CC3, 3E03; and registration in Level III or above  
 Cross-list: CLASSICS 3C03  
*Alternates with HISTORY 3CC3.*  
*Not open to students with credit in CLASSICS 3MM3 or HISTORY 3MM3 if the topic was The Late Republic.*  
*This course is administered by the Department of Classics.*

**HISTORY 3CC3 THE EARLY ROMAN EMPIRE**

An examination and analysis of major themes in the political, social and administrative history of Rome under the early emperors.

Three lectures; one term

Prerequisite: One of HISTORY 1LL3, 2K03, 2LL3, 3C03, 3E03; and registration in Level III or above

Cross-list: CLASSICS 3CC3

Antirequisite: HISTORY 3MM3

Alternates with HISTORY 3C03.

Not open to students with credit in CLASSICS 3MM3 or HISTORY 3MM3 if the topic was The Late Republic.

This course is administered by the Department of Classics.

**HISTORY 3D03 FRANCE IN ENLIGHTENMENT AND REVOLUTION**

A study of change in eighteenth-century France, with emphasis on the origins, nature and impact of the Enlightenment and the French Revolution.

Three hours (lectures and discussion); one term

Prerequisite: Six units of History and registration in Level II or above

**HISTORY 3DD3 THE JEWISH WORLD IN NEW TESTAMENT TIMES**

A study of Judaism in the Greco-Roman World. The course will explore selected questions in political history, the development of sects and parties, the role of the temple, apocalypticism and the Dead Sea Scrolls.

Two lectures, one tutorial; one term

Prerequisite: Registration in Level II or above

Cross-list: RELIG ST 3DD3

This course is administered by the Department of Religious Studies.

**HISTORY 3E03 THE ROMAN FAMILY**

The ancient Roman family, including social, economic and legal aspects.

Three lectures; one term

Prerequisite: One of HISTORY 1LL3, 2K03, 2LL3, 3C03, 3CC3; and registration in Level III or above

Cross-list: CLASSICS 3E03

Alternates with HISTORY 3EE3.

This course is administered by the Department of Classics.

**HISTORY 3EE3 THE GREEK HISTORIANS**

The study in translation of Herodotus, Thucydides and other Greek historical writers, with consideration of the evolution of their genre and their contributions to the development of historiography.

Three lectures; one term

Prerequisite: Registration in Level III or above

Cross-list: CLASSICS 3EE3

This course is administered by the Department of Classics.

**HISTORY 3F03 MEDIEVAL SOCIETY**

An examination of the aristocratic, monastic, urban and rural communities of the Middle Ages. Attention will be given to patterns of social organization as well as to such specific themes as gender, popular piety, justice and warfare.

Three hours (lectures and discussion group); one term

Prerequisite: Registration in Level II or above

**HISTORY 3G03 BUSINESS HISTORY: THE CANADIAN EXPERIENCE IN INTERNATIONAL PERSPECTIVE**

An examination of major developments in the formation of the modern corporation and the international business system, including a consideration of the impact of the business system on Canadian society.

Three hours (lectures and discussion); one term

Prerequisite: Registration in Level II or above

**HISTORY 3GG3 CHINA: THE REVOLUTIONARY CENTURY, 1895-1995**

End of the imperial system; the Republic; the rise of the Communist Party; Communist China; the varieties of revolution.

Three lectures; one term

Prerequisite: Registration in Level II or above

Antirequisite: HISTORY 2B06

**HISTORY 3I03 THE INTERNATIONAL RELATIONS OF THE EUROPEAN POWERS, 1870-1945**

An examination of the origins and course of the First World War; the failure of post-war stabilization; and the origins and course of the Second World War.

Three lectures; one term

Prerequisite: Registration in Level II or above

Cross-list: PEACE ST 3I03

**HISTORY 3II3 AMERICAN FOREIGN RELATIONS SINCE 1898**

Survey of major events and turning points of U.S. diplomatic history since the late 19th century. Emphasis on cultural dimensions of the American empire and selected historiographical controversies.

Three hours (lectures and discussion); one term

Prerequisite: Registration in Level II or above

Cross-list: PEACE ST 3II3

**HISTORY 3J03 THE UNITED STATES IN THE 1960s**

An examination of the political, social and cultural changes that occurred in the United States during the 1960s. Topics include the civil rights struggle, Black Power movement, New Left, opposition to the Vietnam War, counterculture, feminism and the conservative backlash.

Three hours (lectures and discussion); one term

Prerequisite: Registration in Level II or above

**HISTORY 3JJ3 CRIME, CRIMINAL JUSTICE AND PUNISHMENT IN MODERN HISTORY**

A study of the changing face of the institutions of criminal justice and of criminal behaviour, as revealed in statistical and conventional historical works. The focus will be on North America, Great Britain and France.

Three lectures; one term

Prerequisite: Registration in Level II or above, with a minimum of six units of History

Enrolment is limited.

**HISTORY 3K03 CANADIAN POLITICAL DEVELOPMENT SINCE 1840**

An examination of the changing structure and role of the Canadian state since the Act of Union, with particular attention to the emergence of the modern regulatory and welfare state.

Three hours (lectures and discussion groups); one term

Prerequisite: Registration in Level II or above

**HISTORY 3KK3 THE VIETNAM WAR**

The history of the First and Second Indochina Wars (1945-1973) is examined from multiple perspectives. Explores how and why the war was fought, as well as its global legacy.

Prerequisite: Registration in Level II or above

Cross-list: PEACE ST 3KK3

Antirequisite: GSCHE 4H03

**HISTORY 3L03 SOCIAL ACTIVISM, 1500-2000**

A thematic study of community activism in Europe and North America. Students will be exposed to the religious, socio-economic and political contexts of social activism and the historical theory and practice of community-based actions

Three hours; one term

Prerequisite: Registration in Level II or above

Cross-list: PEACE ST 3L03

**HISTORY 3LL3 THE HELLENISTIC AGE**

The successors of Alexander, the world of the monarchies and their absorption into the Roman Empire. Political, cultural and social achievements in the light of modern historical research will be emphasized.

Three hours (lectures and discussion groups); one term

Prerequisite: One of HISTORY 1L03, 1LL3, 2L03

Cross-list: CLASSICS 3LL3

This course is administered by the Department of Classics.

**HISTORY 3MM3 TOPICS IN ANCIENT HISTORY**

Studies of Roman history and institutions during the Republic of the Empire. Consult the Department for the topic to be offered.

Three lectures; one term

Prerequisite: One of HISTORY 1LL3, 2K03, 2L03, 2LL3

Cross-list: CLASSICS 3MM3

HISTORY 3MM3 may be repeated, if on a different topic, to a total of six units.

This course is administered by the Department of Classics.

**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: Registration in Level II or above



**HISTORY 3NN3 CANADA'S REVOLUTIONS: 1939-1982**

An intensive treatment, through the lenses of society, ideology and politics, of the *revolutionary* experience of the post war decades. The course will examine the country's transition from a prevailing conservative liberalism premised on community solidarity to a liberal democracy which exalts individual rights. Three hours (lectures and discussion); one term  
Prerequisite: Registration in Level II or above

**HISTORY 3O03 SLAVERY IN THE ATLANTIC WORLD**

An examination of slavery in the Americas, from the fifteenth to the nineteenth centuries. Topics to be examined include plantations and labour regimes; gender, slave health; slave resistance; Afro-creole cultures; emancipation. Three hours (lectures and discussion); one term  
Prerequisite: Registration in Level II or above  
Cross-list: PEACE ST 3O03

**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 or above  
*Offered in alternate years.*

**HISTORY 3PP3 THE INDUSTRIAL REVOLUTION IN BRITAIN, 1780-1914**

A survey of the economic and social history of Britain from the early stages of the industrial revolution to the outbreak of the First World War. Three hours (lectures and discussion); one term  
Prerequisite: Registration in Level II or above

**HISTORY 3QQ3 THE SOVIET UNION THROUGH FILM**

Soviet history through the prism of Soviet film as a primary source from 1924 to the present.

Three hours (lectures and discussion); one term

Prerequisite: Registration in Level II or above

**HISTORY 3RR3 WAR AND SOCIETY IN 20TH-CENTURY BRITAIN**

Imperialism and Society in Britain: the impact of World War I and World War II on the British Empire.

Three hours (lectures and discussion groups); one term

Prerequisite: Registration in Level II or above

Cross-list: PEACE ST 3RR3

**HISTORY 3SS3 ASPECTS OF THE CULTURAL HISTORY OF ENGLAND, 1500-1688**

An introduction to courtly, urban and rural culture from pre-Reformation humanism through to the Restoration era, with emphasis upon social, political and religious influences.

Three hours (lectures and discussion groups); one term

Prerequisite: Registration in Level II or above

**HISTORY 3T03 EARLY MODERN FRANCE, 1450-1789**

France was without question one of the most powerful polities in early modern Europe and serves as a useful focal point for understanding the emergence of absolutism, colonization, imperialism, urbanization and changing gender and social roles.

Three hours (lectures and discussion groups); one term

Prerequisite: Registration in Level II or above

**HISTORY 3UU3 HISTORY OF THE FUTURE**

A study of the history of how human technological capacity in interaction with social ethics has driven imagination of the future and helped shape the future imagined.

Three hours (lectures and discussion groups); one term

Prerequisite: Registration in Level II or above

**HISTORY 3V03 MADNESS IN THE AGE OF REASON: MENTAL ILLNESS AND SOCIETY FROM 1750 TO THE PRESENT DAY**

An exploration of the history of madness from the rise of the asylum to the present day.

Three hours (lectures and discussion); one term

Prerequisite: Registration in Level II or above

Antirequisite: HEALTHST 2D03

**HISTORY 3VV3 WAR AND SOCIETY IN EARLY MODERN BRITAIN 1485-1815**

A thematic study of the nature of British warfare and its relationship to society during the period when Britain developed as a major military and naval power.

Three hours (lectures and discussion groups); one term

Prerequisite: Registration in Level II or above

Cross-list: PEACE ST 3VV3

**HISTORY 3W03 WOMEN IN CANADA AND THE U.S. TO 1920**

This course examines key areas of women's history, such as indigenous cultures, slavery, immigration, religion, *witchcraft*, the family; sexuality, paid and unpaid labour and the first wave of the women's movement.

Three hours (lectures and discussion); one term

Prerequisite: Registration in Level II or above

Cross-list: WOMEN ST 3G03

Antirequisite: HISTORY 3X03

**HISTORY 3WW3 WOMEN IN CANADA AND THE U.S. FROM 1920**

This course examines key areas of women's history, such as the impact of the Great Depression and the Second World War, the civil rights movement, the sexual revolution and the second wave of the women's movement.

Three hours (lectures and discussion); one term

Prerequisite: Registration in Level II or above

Cross-list: WOMEN ST 3GG3

Antirequisite: HISTORY 3X03

**HISTORY 3Y03 DEATH, DISEASE AND DEGENERATION: A HISTORY OF HEALTH AND HEALTH CARE IN CANADA**

Explores the history of health and health care in Canada, from the first Western European settlements to the present day.

Two lectures one small group session (one hour); one term

Prerequisite: Registration in Level II or above

Cross-list: HEALTHST 3Y03, HTH SCI 3Y03

*This course is administered by the Bachelor of Health Sciences (Honours) program.*

**HISTORY 3Z03 JUDAISM, THE JEWISH PEOPLE AND THE BIRTH OF THE MODERN WORLD**

On the lures and threats of the modern world from the early eighteenth to the early twentieth 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: Registration in Level II or above

Cross-list: RELIG ST 3Z03

Antirequisite: RELIG ST 2X03

*This course is administered by the Department of Religious Studies.*

**HISTORY 3ZZ3 JUDAISM AND THE JEWISH PEOPLE IN THE TWENTIETH CENTURY**

Jews and Judaism in a century of catastrophe and renewal. The progress of Emancipation; Jews in Canada and the U.S.; the Jewish catastrophe in Europe; the Jewish identities in literature and the arts.

Two lectures, one tutorial; one term

Prerequisite: Registration in Level II or above

Cross-list: RELIG ST 3ZZ3

Antirequisite: RELIG ST 2XX3

*This course is administered by the Department of Religious Studies.*

**Note:**

Level IV seminars are open only to students registered in Levels III and IV of an Honours History program. Enrolment will be limited to approximately 15 students per seminar. The Department is able to offer only a selection of the seminars listed below every year. Information on courses may be obtained from the Department. Seminar places will be allotted each March for the succeeding session; early application to the Department is essential.

**HISTORY 4A06 RACISM AND HUMAN RIGHTS IN POST-CONFEDERATION CANADA**

This course examines ethnic and racist prejudices and discrimination in Canada including attitudes towards immigrants from Asia and Europe, African Canadian and Indigenous peoples. It will also explore the efforts of human rights advocates.

Seminar (two hours); two terms

Prerequisite: One of HISTORY 2J06, 2TT3 or 2UU3; and registration in Level III or IV of an Honours program in History

*Enrolment is limited. Departmental permission required.*

**HISTORY 4AA6 EARLY MODERN BRITAIN, 1500-1800**

Selected topics in the political, religious, intellectual, and social life of the British peoples, 1500-1800.

Seminar (two hours); two terms

Prerequisite: One of HISTORY 2M03, 2N06 or 3SS3; and registration in Level III or IV of any Honours program 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: One of HISTORY 2J06, 2T03, 2TT3 or 3NN3; and registration in Level III or IV of any Honours program in History

*Enrolment is limited. Departmental permission required.*

**HISTORY 4BB6 MODERN JAPAN**

Japan from the Meiji Restoration to the post-war resurgence, with emphasis on political developments and social change.

Seminar (two hours); two terms

Prerequisite: HISTORY 3B03 and registration in Level III or IV of any Honours program in History; or JAPAN ST 3B03 (HISTORY 3B03) with a grade of at least B- and registration in Level III or IV of the Japanese Studies program

*Enrolment is limited. Departmental permission required.*

**HISTORY 4C06 MODERN EUROPEAN CULTURE IN CRISIS**

An examination of European intellectual and cultural history from the late nineteenth to the mid-twentieth centuries. Themes include the encounter with modernity; the intersection of culture and politics; the impact of two world wars; and the response of intellectuals, artists and scientists to ideological polarization.

Seminar (two hours); two terms

Prerequisite: One of HISTORY 2C06, 2FF3, 2I13, 2QQ3, 2S03, 3H06, 3HH3, 3I03, 3Q03, 3QQ3, 3R03; and registration in Level III or IV of any Honours program in History

*Enrolment is limited. Departmental permission required.*

**HISTORY 4D06 ANCIENT CIVILIZATIONS**

A thematic study of selected civilizations in the ancient world.

Seminar (two hours); two terms

Prerequisite: One of HISTORY 2I06, 2L03, 2LL3, 3LL3, 3MM3; and registration in Level III or IV of any Honours program in History

*Enrolment is limited. Departmental permission required.*

**HISTORY 4E06 THE LEGACY OF THE FIRST  
WORLD WAR ON BRITISH SOCIETY**

This course examines the social, political and cultural consequences of the First World War on Britain, both at the time of its fighting and long after the fighting had ended.

Seminar (two hours); two terms

Prerequisite: One of HISTORY 2MM3, 2N06, 3PP3 or 3RR3; and registration in Level III or IV of any Honours program in History

*Enrolment is limited. Departmental permission required.*

**HISTORY 4F06 HEALTH AND MEDICINE IN  
THE MODERN WESTERN WORLD**

An examination of public health and medicine in the Modern Western World, with particular emphasis on Britain and North America, c.1760-1945. Topics will include: the impact of infectious diseases on First Nations' society; urban sanitary reform; the emergence of the medical profession; and the rise of universal health insurance.

Seminar (two hours); two terms

Prerequisite: HISTORY 3V03 or 3Y03; and registration in Level III or IV of any Honours program in History

*Enrolment is limited. Departmental permission required.*

**HISTORY 4G06 MODERN CHINA**

Aspects of the political, social and cultural history of nineteenth- and twentieth-century China.

Seminar (two hours); two terms

Prerequisite: HISTORY 2GG3 or 3GG3; and registration in Level III or IV of any Honours program in History

*Enrolment is limited. Departmental permission required.*

**HISTORY 4GG6 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 2EA3, 2EB3, 3A03, 3AA3; and registration in Level III or IV of any Honours program in History

*Enrolment is limited. Departmental permission required.*

**HISTORY 4I06 WOMEN AND SOCIAL MOVEMENTS  
IN THE NINETEENTH- AND  
TWENTIETH-CENTURY UNITED STATES**

Women's involvement in social movements such as anti-lynching, unionization, feminism and civil rights is used to discuss power, social change, race, femininity, masculinity, and class in U.S. history.

Seminar (two hours); two terms

Prerequisite: One of HISTORY 2FF3, 2R03, 2RR3 or 3WW3; and registration in Level III or IV of an Honours program in History

*Not open to students with credit in HISTORY 4J06 if taken in the 2000, 2002 or 2003 academic years.*

*Enrolment is limited. Departmental permission required.*

**HISTORY 4J06 THE UNITED STATES SINCE 1865**

Seminar (two hours); two terms

Prerequisite: One of HISTORY 2R03, 2RR3 or 3FF3; and registration in Level III or IV of any Honours program in History

*Enrolment is limited. Departmental permission required.*

**HISTORY 4JJ6 U.S. FOREIGN RELATIONS**

Topics in the history of the United States Foreign relations in the modern era.

Seminar (two hours); two terms

Prerequisite: One of HISTORY 2RR3, 3FF3, 3I13 or 3KK3; and registration in Level III or IV of any Honours program in History

*Enrolment is limited. Departmental permission required.*

**HISTORY 4K06 ENVIRONMENT AND ENVIRONMENTALISM IN  
MODERN NORTH AMERICA, 1890-1990**

Explores how different social groups in the United States and Canada confronted the sometimes adverse impact of urban and industrial growth on the physical environment of their communities.

Seminar (two hours); two terms

Prerequisite: Registration in Level III or IV of any Honours program in History

*Enrolment is limited. Departmental permission is required.*

**HISTORY 4N06 SOCIETY AND CULTURE IN  
THE ATLANTIC WORLD**

An examination of selected themes in the history of the Atlantic world from the sixteenth to the nineteenth centuries. Topics may include race, gender and class; slavery and emancipation; revolution and the transfer of revolutionary ideas.

Prerequisite: One of HISTORY 2AA3, 2D03, 2M03, 2R03, 2UU3, 3O03; and registration in Level III or IV of any Honours program in History

*Enrolment is limited. Departmental permission required.*

**HISTORY 4O06 RUSSIA AND REVOLUTION**

The Soviet experiment from 1917 to the death of Stalin and beyond with special emphasis on the issue of identity.

Seminar (two hours); two terms

Prerequisite: One of HISTORY 2Q03, 2QQ3, 3H06, 3QQ3; and registration in Level III or IV of any Honours program 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 2C06, 2FF3, 2I13, 2QQ3, 2S03, 3H06, 3HH3, 3I03, 3Q03, 3QQ3 or 3R03; and registration in Level III or IV of any Honours program in History

*Enrolment is limited. Departmental permission required.*

**HISTORY 4Q06 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 2I06, 2L03, 2LL3, 3F03, 3LL3, 3MM3, 3UU3, 3VV3; and registration in Level III or IV of any Honours program in History

*Enrolment is limited. Departmental permission required.*

**HISTORY 4R06 REVOLUTIONS IN THE HISTORY  
OF SCIENCE AND TECHNOLOGY**

An examination of the historiographies of science and technology, with special focus on science and technology's social functions and interactions.

Seminar (two hours); two terms

Prerequisite: One of HISTORY 2EE3, 2HH3 or 3UU3

Antirequisite: HISTORY 4M06

*Enrolment is limited. Departmental permission required.*

**HISTORY 4S06 EUROPEAN REFORMATIONS**

This seminar course examines religion as a powerful cultural influence in Europe during the sixteenth century. Students will study the major Catholic and Protestant religious reform movements as well as the interaction of Christian and non-Christian traditions.

Seminar (two hours); two terms

Prerequisite: One of HISTORY 2CC3, 2DD3, 2F03, 2HH3, 2I06, 3F03, 3T03

*Enrolment is limited. Departmental permission required.*

**HISTORY 4U06 INDEPENDENT RESEARCH**

A reading and/or research program under the supervision of one member of the Department. A major paper is required, as well as a formal oral examination.

Prerequisite: Registration in Level IV of any Honours program in History with a CA of at least 9.0; and permission of the Department

*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: One of HISTORY 2J06, 2R03, 2RR3, 2T03 or 2TT3; and registration in Level III or IV of any Honours program in History

*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: One of HISTORY 2C06, 2S03 3I03, 3Q03 or 3R03; and registration in Level III or IV of any Honours program in History

*Enrolment is limited. Departmental permission required.*

**HUMANITIES (GENERAL)****COURSES If no prerequisite is listed, the course is open.****HUMAN 2C03 CRITICAL THINKING**

This course aims to improve skills in analyzing and evaluating arguments and presentations found in everyday life and academic contexts, and to improve critical judgement.

Two lectures; one tutorial; one term

Prerequisite: Registration in Level II or above

Cross-list: CMST 2W03

Antirequisite: ARTS&SCI 1B06, PHILOS 2R03

*HUMAN 2C03 is administered by the Department of Philosophy.*

**HUMAN 3W03 APPLIED HUMANITIES I**

Students gain applied experience in a field related to a Humanities discipline by applying skills and knowledge acquired in undergraduate studies in practical areas such as research projects, pedagogy and work placements. Students participate in defining learning goals and experiences.

Prerequisite: Registration in Level III or IV of any Honours program offered by the Faculty of Humanities. Students must contact the Dean's Office, CNH-112, for information on opportunities that are available for the coming year.

*Enrolment is limited. Permission of the Associate Dean is required.*

**HUMAN 4W03 APPLIED HUMANITIES II**

Students gain applied experience in a field related to a Humanities discipline by applying skills and knowledge acquired in undergraduate studies in practical areas such as research projects, pedagogy and work placements. Students participate in defining learning goals and experiences.

Prerequisite: Registration in Level III or IV of any Honours program offered by the Faculty of Humanities. Students must contact the Dean's Office, CNH-112, for information on opportunities that are available for the coming year.

*Enrolment is limited. Permission of the Associate Dean is required.*

**INDIGENOUS STUDIES**

WEB ADDRESS: <http://www.mcmaster.ca/indigenous/default.htm>

Hamilton Hall, Room 103

Ext. 27426

**Director**

D.J. Martin-Hill/B.A., M.A., Ph.D. (McMaster)

**Committee of Instructors**

T. Deer, *Mohawk Language Instructor*

R. Hill/M.A. (SUNY)

N. General

J. Longboat

T. McCarthy/B.A., M.A. (Western Ontario), Ph.D. (McMaster)

A. Darnay, *Ojibwe Language Instructor*/B.A. (McMaster), B.Ed. (Nipissing), B.A. (Algoma)

P. Hess/B.A. (McMaster)

**Associate Elders**

W. Cooke, *Ojibwe*

A. General, *Confederacy Chief, Six Nations*

N. General, *Faithkeeper, Six Nations*

**President's Committee on Indigenous Issues****Co-Chairs**

T. Deer (Six Nations Community Representative)

P. Daenzer (McMaster University Representative)

**INDIGENOUS STUDIES ...****Courses If no prerequisite is listed, the course is open.****INDIG ST 1A03 INTRODUCTION TO INDIGENOUS STUDIES**

An introduction to Indigenous peoples' world views from pre-contact to the Indian Act of 1876. Indigenous history and philosophy will be examined along with the issues of representation and colonialism.

Three hours (lectures and seminars); one term

Antirequisite: INDIG ST 1A06

**INDIG ST 1AA3 INTRODUCTION TO CONTEMPORARY INDIGENOUS STUDIES**

This course will explore the relationship between Indigenous peoples and mainstream society in the twentieth-century with regard to governmental policy, land claims, economic development, and self-determination.

Three hours (lectures and seminars); one term

Antirequisite: INDIG ST 1A06

**INDIG ST 2A03 INDIGENOUS PEOPLES' SPIRITUALITY**

This course will examine the spirituality-based knowledge of Aboriginal peoples across North America. The philosophies, world view, sacred ways of knowing and relationship to the natural world will be explored.

Three hours (lectures and seminars); one term

Prerequisite: INDIG ST 1A03, 1AA3; or one of CAYUGA 1Z03, MOHAWK 1Z03, OJIBWE 1Z03; or permission of the instructor

Antirequisite: INDIG ST 2A06

**INDIG ST 2AA3 INDIGENOUS KNOWLEDGE AND METHODOLOGY**

This course will explore the basis of Indigenous knowledge and how that translates into theory and methodology. It explores a range of interdisciplinary approaches based on current work of Indigenous scholars redefining the field of Indigenous research.

Three hours (lectures and seminars); one term

Prerequisite: INDIG ST 1A03, 1AA3; or one of CAYUGA 1Z03, MOHAWK 1Z03, OJIBWE 1Z03; or permission of the instructor

Antirequisite: INDIG ST 2A06

**INDIG ST 2B03 HISTORY OF INDIGENOUS PEOPLES' SOVEREIGNTY**

An examination of North America Indigenous People's political and economic history in the pre-contact, early contact, and colonial eras within a post-colonial context. Topics will include: self-determination, resource management, land claims, and economic development.

Three hours (lectures and seminars); one term

Prerequisite: INDIG ST 1A03, 1AA3; or permission of the instructor

**INDIG ST 2C03 CONTEMPORARY INDIGENOUS SOCIETIES AND ISSUES: SELECTED TOPICS**

2006-2007 Topic: TBA

A review of the geographic, cultural and demographic composition of Inuit, First Nations and Metis, and of the major current developments on land, cultural integrity, treaties, economic development, community social development and self-government.

Three hours (lectures and seminars); one term

Prerequisite: INDIG ST 1A03, 1AA3; or permission of the instructor

*INDIG ST 2C03 may be repeated, if on a different topic, to a total of six units.***INDIG ST 2D03 TRADITIONAL INDIGENOUS ECOLOGICAL KNOWLEDGE**

This course is a study of the ecological teachings of Indigenous peoples and of their relationships with the natural environment in historical and contemporary times.

Three hours (lectures and seminars); one term

Prerequisite: INDIG ST 1A03, 1AA3; or permission of the instructor

*Not open to students with credit in INDIG ST 3CC3, if the topic was Traditional Indigenous Ecological Knowledge.***INDIG ST 3C03 STUDY OF IROQUOIS FIRST NATIONS IN CONTEMPORARY TIMES**

An intensive examination of the Iroquois Confederacy and its attempts to maintain its culture, socio-political systems and economic independence.

Three hours (lectures and seminars); one term

Prerequisite: Six units of Level II Indigenous Studies or permission of the instructor

**INDIG ST 3CC3 CONTEMPORARY INDIGENOUS SOCIETIES: SELECTED TOPICS**

2006-2007 Topic: TBA

An intensive examination of selected political, economic, or social problems faced by selected Indigenous peoples.

Three hours (lectures and seminars); one term

Prerequisite: Six units Level II Indigenous Studies or permission of the instructor

*INDIG ST 3CC3 may be repeated, if on a different topic, to a total of six units.***INDIG ST 3D03 CONTEMPORARY NATIVE LITERATURE IN CANADA**

A study of significant works by Native writers who give voice to their experience in Canada. Issues to be examined include appropriation of voice, Native identity, women in Indigenous societies, and stereotyping.

Three hours (lectures and seminars); one term

Prerequisite: Six units of Level II Indigenous Studies or six units of Level II English or permission of the instructor

Cross-list: CSCT 3W03, ENGLISH 3W03, PEACE ST 3W03

**INDIG ST 3E03 CONTEMPORARY NATIVE LITERATURE IN THE UNITED STATES**

A study of contemporary works by Native writers in the United States. Native representations of voice, identity, gender, and popular culture will be examined.

Three hours (lectures and seminars); one term

Prerequisite: Six units of Level II Indigenous Studies or six units of Level II English or permission of the instructor

Cross-list: CSCT 3X03, ENGLISH 3X03, PEACE ST 3X03

**INDIG ST 3G03 INDIGENOUS CREATIVE ARTS AND DRAMA: SELECTED TOPICS**

2006-2007 Topic: TBA

The creative processes of Indigenous cultures are studied through the examination of selected forms of artistic expression, which may include art, music, dance and/or drama.

Three hours (lectures and seminars); one term

Prerequisite: Six units of Level II Indigenous Studies or permission of the instructor

*INDIG ST 3G03 may be repeated, if on a different topic, to a total of nine units.***INDIG ST 3H03 INDIGENOUS MEDICINE I - PHILOSOPHY**

This course will examine the Aboriginal concepts of health and wellness. The wholistic traditional approach will be used in the classroom as well as in visits by elders, medicine people and class trips to places of health, wellness and healing.

Three hours (lectures and seminars); one term

Prerequisite: Six units of Level II Indigenous Studies or permission of the instructor

*Not open to students with credit in INDIG ST 3CC3, if the topic was Traditional Approaches to Healing and Wellness.***INDIG ST 3HH3 INDIGENOUS MEDICINE II - PRACTICAL**

This course will examine the concept of traditional medicines, their histories and their connection to Aboriginal philosophies of wellness (studied in Part I); procedures for procurement and use of the medicines will be addressed and emphasis will be placed on the reasons for efficacy.

Three hours (lectures and seminars); one term

Prerequisite: Six units of Level II Indigenous Studies or permission of the instructor

*Not open to students with credit in INDIG ST 3CC3, if the topic was Traditional Approaches to Healing and Wellness.***INDIG ST 3K03 INDIGENOUS HUMAN RIGHTS**

A study of government policies and their impact on Indigenous Peoples, specifically Indian Affairs in Canada and the United States. Topics will include individual and collective rights of Indigenous Peoples and the conceptual problems which arise in a Westernized justice system.

Three hours (lectures and seminars); one term

Prerequisite: Six units of Level II Indigenous Studies or permission of the instructor

**INDIG ST 3L03 INDIGENOUS INDEPENDENT STUDY**

In consultation with the Director of Indigenous Studies, students will research an approved topic, on the basis of materials outside normally available course offerings. A major paper will be required.

Prerequisite: Registration in Level II or III of the Combined B.A. in Indigenous Studies program or permission of the Director

**CAYUGA ...****COURSES** *If no prerequisite is listed, the course is open.***CAYUGA 1Z03 INTRODUCTION TO CAYUGA LANGUAGE AND CULTURE**

This course will study the Cayuga language, in its spoken and written forms, in the context of Iroquoian cultural traditions, values, beliefs and customs.

Three hours (lecture and seminars); one term

Antirequisite: CAYUGA 1Z06

*This course is administered by and offered at Six Nations Polytechnic, Ohsweken, Ontario.***CAYUGA 2Z03 INTERMEDIATE CAYUGA**

This course expands on the vocabulary and the oral skills for the Cayuga language. In addition, the course reviews the written component of the language.

Three hours (lecture and seminars); one term

Prerequisite: CAYUGA 1Z03 or 1Z06

Antirequisite: CAYUGA 2Z06

*This course is administered by and offered at Six Nations Polytechnic, Ohsweken, Ontario.***MOHAWK ...****COURSES** *If no prerequisite is listed, the course is open.***MOHAWK 1Z03 INTRODUCTION TO MOHAWK LANGUAGE AND CULTURE**

This course will study the Mohawk language, in its spoken and written forms, in the context of Iroquoian cultural traditions, values, beliefs and customs.

Three hours (lecture and seminars); one term

Antirequisite: MOHAWK 1Z06

**MOHAWK 2Z03 INTERMEDIATE MOHAWK**

This course expands on the vocabulary and the oral skills for the Mohawk language. In addition, the course reviews the written component of the language.

Three hours (lecture and seminars); one term

Prerequisite: MOHAWK 1Z03 or 1Z06

Antirequisite: MOHAWK 2Z06

**OJIBWE ...****COURSES** *If no prerequisite is listed, the course is open.***OJIBWE 1Z03 INTRODUCTION TO OJIBWE LANGUAGE AND CULTURE**

This course will study the Ojibwe language, in its spoken and written forms, in the context of Ojibwe cultural traditions, values, beliefs and customs.

Three hours (lecture and seminars); one term

Antirequisite: OJIBWE 1Z06

**OJIBWE 2Z03 INTERMEDIATE OJIBWE**

This course expands on the vocabulary and the oral skills for the Ojibwe language. In addition, the course reviews the written component of the language.

Three hours (lecture and seminars); one term

Prerequisite: OJIBWE 1Z03 or 1Z06

Antirequisite: OJIBWE 2Z06

**INQUIRY****Note:**

These Level I courses unite the expertise of the Faculties' scholars and researchers with the University's distinctive inquiry-based approach to instruction. Students examine a key research question, as a class of no more than 25, in smaller groups, or in combination with other classes that are examining the same question in a section led by a different instructor.

**Courses** *If no prerequisite is listed, the course is open.***INQUIRY 1HU3 INQUIRY IN THE HUMANITIES**

This introduction to the systematic investigation of an issue develops skills that will serve students well in their university careers. Students learn how to formulate questions, gather and interpret evidence, and reach well-considered conclusions, using, as content, a topic central to research in the Faculty of Humanities.

Three hours; one term

Prerequisite: Registration in Humanities I or Music I

*Enrolment is limited.*

**INQUIRY 1SC3 INQUIRY IN SCIENCE I**

This introduction to the systematic investigation of an issue develops skills that will serve students well in their university careers. Students learn how to formulate questions, gather and interpret evidence, and reach well-considered conclusions, using, as content, a variety of Science-based topics. The choice of topics is guided by the students' interest.

One hour, term one; Two hours, term two

Prerequisite: Registration in Science I or Mathematics and Statistics I

*Enrolment is limited.*

**INQUIRY 1SS3 INQUIRY IN THE SOCIAL SCIENCES**

The systematic investigation of any subject requires a set of widely applicable and transferrable skills. Students learn how to formulate questions, gather and interpret evidence, and reach well-considered conclusions. The content theme will be drawn from Social Sciences issues and will vary depending upon the subject expertise of the instructor.

Three hours; one term

Prerequisite: Registration in Social Sciences I or Kinesiology I

*Enrolment is limited.*

*Not open to students with credit in INQUIRY 1HU3, 1SC3.*

**Note:**

The following courses are upper level Inquiry Courses offered by the Science Faculty. Each course deals with the systematic investigation of broad themes from various areas of science. Students will work in small groups using an interdisciplinary approach. Normally, only one of the following courses may be taken to satisfy program requirements for Inquiry Courses. However, students who are not able to register for three units of Inquiry in their own department may take a maximum of two of the following courses to meet program requirements.

**INQUIRY 3S03 TEACHING INQUIRY (PEER TUTORING)**

This course provides an opportunity to learn about the teaching of inquiry through practical experience as a peer tutor working closely with an Inquiry instructor, and through projects investigating some aspects of inquiry in more detail.

Peer tutoring responsibilities, weekly seminars; two terms

Prerequisite: Credit in three units of an Inquiry course and permission of the instructor

Antirequisite: HTH SCI 4X03, INQUIRY 4S03, SCIENCE 2L03, SOC SCI 2L03

**INQUIRY 4SB3 INQUIRY IN SCIENCE II (BIOLOGY)**

Three hours (seminars and discussion); one term

Prerequisite: At least three units of Biology and registration in Level IV of an Honours program in the Faculty of Science other than Biology

*Enrolment is limited.* See the heading *Limited Enrolment Courses* in the *Faculty of Science* section of the Calendar.

**INQUIRY 4SC3 INQUIRY IN SCIENCE II (CHEMISTRY)**

Three hours (seminars and discussion); one term

Prerequisite: At least three units of Chemistry and registration in Level IV of an Honours program in the Faculty of Science other than Chemistry *Enrolment is limited.* See the heading *Limited Enrolment Courses* in the *Faculty of Science* section of the Calendar.

**INQUIRY 4SF3 INQUIRY IN SCIENCE II (MATHEMATICS AND STATISTICS)**

Three hours (seminars and discussion); one term

Prerequisite: At least three units of Mathematics or Statistics and registration in Level IV of an Honours program in the Faculty of Science other than Mathematics or Statistics

*Enrolment is limited.* See the heading *Limited Enrolment Courses* in the *Faculty of Science* section of the Calendar.

**INQUIRY 4SG3 INQUIRY IN SCIENCE II (PHYSICS AND ASTRONOMY)**

Three hours (seminars and discussion); one term

Prerequisite: At least three units of Physics and registration in Level IV of an Honours program in the Faculty of Science other than Physics

*Enrolment is limited.* See the heading *Limited Enrolment Courses* in the *Faculty of Science* section of the Calendar.

**INQUIRY 4SH3 INQUIRY IN SCIENCE II (PSYCHOLOGY)**

Three hours (seminars and discussion); one term

Prerequisite: At least three units of Psychology and registration in Level IV of an Honours program in the Faculty of Science other than Psychology

*Enrolment is limited.* See the heading *Limited Enrolment Courses* in the *Faculty of Science* section of the Calendar.

**INQUIRY 4SI3 INQUIRY IN SCIENCE II (RADIATION AND LIFE)**

Three hours (seminars and discussion); one term

Prerequisite: Registration in Level IV of an Honours program in the Faculty of Science

*Enrolment is limited.* See the heading *Limited Enrolment Courses* in the *Faculty of Science* section of the Calendar.

**INQUIRY 4SZ3 INQUIRY IN SCIENCE II (PHOENIX: OUT OF THE ASHES AND INTO THE ATOMIC AGE)**

This course will study the short and long term impact of nuclear weapons testing and use, upon humans and the environment. Students will visit critical sites where nuclear weapons were developed and detonated. The travel portion of the course will run for 10-12 days (dependent on available travel schedules) and will involve group discussions and field experiences. Students will be required to pay incidental fees over and above the normal tuition fees set by the Unit to cover travel costs.

Prerequisite: Registration in Level IV of any Honours program in the Faculty of Science

*Enrolment is limited.* See the heading *Limited Enrolment Courses* in the *Faculty of Science* section of the Calendar.

**ITALIAN**

(SEE LINGUISTICS AND LANGUAGES, ITALIAN)

**JAPANESE AND JAPANESE STUDIES**

(SEE LINGUISTICS AND LANGUAGES, JAPANESE)

**JEWISH STUDIES**

(SEE INTERDISCIPLINARY MINORS AND THEMATIC AREAS)

**KINESIOLOGY**

WEB ADDRESS: <http://mcmaster.ca/kinesiology/>

Ivor Wynne Centre, Room 203

Ext. 24462

**Faculty as of January 15, 2006****Chair**

Neil McCartney

**Associate Chair (Undergraduate Program)**

Nick Cipriano

**Professors**

Cameron J. Blimkie/B.A., B.P.E. (McMaster), M.A., Ph.D. (Western Ontario)  
 Digby Elliott/B.Sc., M.Sc., Ph.D. (Waterloo), Senior Canada Research  
 Chair, Motor Control in Special Populations  
 Audrey Hicks/B.P.E., M.Sc., Ph.D. (McMaster)  
 Sue Inglis/B.P.E., M.A. (Alberta), Ph.D. (Ohio State)  
 Timothy D. Lee/B.H.K., M.A. (Windsor), Ph.D. (Louisiana State)  
 Neil McCartney/B.Ed. (Exeter), Ph.D. (McMaster)  
 Digby G. Sale/B.P.H.E. (Toronto), M.A. (Western Ontario), Ph.D.  
 (McMaster)  
 Janet L. Starkes/B.A. (Western Ontario), M.Sc., Ph.D. (Waterloo)  
 Philip G. White/B.Sc. (London), Cert.Ed. (Carnegie), M.Sc., Ph.D. (Waterloo)

**Associate Professors**

Nancy B. Bouchier/B.A., M.A., Ph.D. (Western Ontario)  
 Nick Cipriano/B.P.H.E., M.Sc. (Lakehead)  
 James J. Dowling/B.H.K., M.H.K. (Windsor), Ph.D. (Waterloo)  
 Martin J. Gibala/B.H.K. (Windsor), M.Sc. (McMaster), Ph.D. (Guelph)  
 Robert J. Henderson/B.P.E. (McMaster), M.A., Ph.D. (Alberta)  
 Kathleen A. Martin Ginis/B.Sc. (Toronto), M.A. (Western Ontario), Ph.D.  
 (Waterloo)  
 Stuart M. Phillips/B.Sc., M.Sc. (McMaster), Ph.D. (Waterloo)  
 David C. Wilson/Cert.Ed. (St. Paul's College), B.Ed. (Bristol), M.A. (York)

**Assistant Professors**

Barry Bartlett/B.P.H.E. (Toronto), M.A. (Western Ontario), CATA (C)  
 Steven Bray/B.A., M.A. (Western Ontario), Ph.D. (Waterloo)  
 James Lyons/B.A., M.Sc. (McMaster), Ph.D. (Simon Fraser)  
 Maureen J. MacDonald/B.Sc. (Acadia), M.Sc., Ph.D. (Waterloo)

**Associate Members**

Vicki Galea/(Rehabilitation Science) B.Sc., M.Sc. (Waterloo), Ph.D.  
 (McMaster)  
 Markad V. Kamath/(Medicine) B. Eng. (Mysore), M.S., Ph.D. (Indian Inst.  
 of Tech., Madras), Ph.D. (McMaster)  
 Robert S. McKelvie/(Medicine) B.Sc., M.Sc., M.D. (Western Ontario),  
 Ph.D. (McMaster)  
 Michael Pierrynowski/(Rehabilitation Science) B.Sc., M.Sc. (Waterloo),  
 Ph.D. (Simon Fraser)  
 Mark A. Tarnopolsky/(Medicine) B.P.E., M.D., Ph.D., F.R.C.P. (C),  
 (McMaster)  
 Jean Wessel/(Rehabilitation Science) B.Sc., (McGill) M.H.Sc. (McMaster)  
 Ph.D. (Alberta)  
 Laurie Wishart/(Rehabilitation Science) Dip.P&OT, B.Sc. (Toronto), M.Sc.,  
 Ph.D. (McMaster)

**Department Notes:**

1. Kinesiology students may not register in Level III or IV Kinesiology courses until all required Level I and II Kinesiology courses have been successfully completed.
2. Not all Level III and IV Kinesiology courses are offered each year. Enrolment in some Level III and IV Kinesiology courses is limited.
3. KINESIOL 1Y03 and 1Y13 are available to non-Kinesiology students. Enrolment is limited.
4. The following courses are available for elective credit for students enrolled in Level III or above of a non-Kinesiology program: KINESIOL 3DD3, 3F03, 3JJ3, 3L03, 3M03, 3P03, 3SS3, 3T03, 3Y03, 4D03, 4G03, 4M03, 4T03 and 4Z03. Enrolment for such students is limited and places are assigned on a first come basis.
5. Kinesiology students who previously completed KINESIOL 4P03 may use this course to satisfy Psychology requirements for Kinesiology students pursuing a Minor in Psychology.
6. KINESIOL 2G03 and 3SS3 may be used to satisfy Health Studies requirements for Kinesiology students pursuing a Minor in Health Studies.
7. KINESIOL 4SS3 may be used to satisfy Gerontology requirements for Kinesiology students pursuing a Minor in Gerontology.
8. Some Level III and IV Kinesiology courses may require current CPR/First Aid certification. Students are responsible for checking course outlines and ensuring this requirement is met.

**Courses**

All courses are open only to Kinesiology students unless otherwise specified. (See Notes 3 and 4 above.)

**KINESIOL 1A06 HUMAN ANATOMY AND PHYSIOLOGY**

An introduction to the anatomy and physiology of the skeletal, articular, muscular, nervous; endocrine, cardiovascular, respiratory, digestive, and urinary systems including a regional and systemic approach to examine the functional anatomy of the upper and lower extremities. Three hours (lectures), two hours (labs/tutorials); two terms  
 Prerequisite: Registration in Kinesiology I  
 Antirequisite: BIOLOGY 1J03, 2A03, HTH SCI 1D06, 1H03, 1H06, 1HH3, 2F03, 2FF3, 2L03, 2LL3, KINESIOL 1X06, 1Y03, 1YY3  
 Not open to students with credit or registration in BIOLOGY 4G06.

**KINESIOL 1E03 PSYCHOMOTOR BEHAVIOUR**

The behavioural and psychological principles underlying motor control and motor learning. Three hours (lectures, labs); one term  
 Prerequisite: Registration in Kinesiology I

**KINESIOL 1H03 SPORT, HUMAN MOVEMENT AND CULTURE**

Critical examination of contemporary issues and problems of sport in Canadian Society. Three hours (lectures); one term  
 Prerequisite: Registration in Kinesiology I  
 Antirequisite: KINESIOL 2B03, SOC10L 2T03

**KINESIOL 1KL0 INTRODUCTION TO KINESIOLOGY**

This course gives insight to the study of Kinesiology at McMaster University. Lectures focus on faculty research and teaching interests. One hour; one term  
 Prerequisite: Registration in Kinesiology I  
 Antirequisite: KINESIOL 1FL0

**KINESIOL 1Y03 HUMAN ANATOMY AND PHYSIOLOGY I**

An introduction to the anatomy and physiology of the skeletal, articular, muscular, and nervous systems including a regional approach to examine the functional anatomy of the upper and lower extremities. Three hours (lectures), two hours (labs/tutorials); one term  
 Completion of Biology U is strongly recommended.  
 Antirequisite: BIOLOGY 1J03, 2A03, HTH SCI 1D06, 1H03, 1HH3, 2F03, 2FF3, 2L03, 2LL3, KINESIOL 1A06, 1X06  
 Not open to students registered in a Kinesiology program, Science I, the Bachelor of Health Sciences (Honours) program or to students with credit or registration in BIOLOGY 4G06.  
 Enrolment is limited.

**KINESIOL 1YY3 HUMAN ANATOMY AND PHYSIOLOGY II**

A systemic approach to the examination of the endocrine, cardiovascular, respiratory, digestive, and urinary systems with a regional approach to examine the functional anatomy of the upper and lower extremities. Three hours (lectures), two hours (labs/tutorials); one term  
 Prerequisite: KINESIOL 1Y03  
 Antirequisite: BIOLOGY 1J03, 2A03, HTH SCI 1D06, 1H03, 1HH3, 2F03, 2FF3, 2L03, 2LL3, KINESIOL 1A06, 1X06  
 Not open to students registered in a Kinesiology program, Science I, the Bachelor of Health Sciences (Honours) program or to students with credit or registration in BIOLOGY 4G06.  
 Enrolment is limited.

**KINESIOL 2A03 BIOMECHANICS**

An introduction to mechanical principles and concepts as applied to human physical activity and the musculoskeletal system. Three hours (lectures, lab); one term  
 Prerequisite: KINESIOL 1A06 and registration in Level II of a Kinesiology program

**KINESIOL 2C06 PHYSIOLOGY OF EXERCISE**

The effects of exercise on the physiological systems, and the application of physiological principles to human exercise performance. Three hours (lectures, labs); two terms  
 Prerequisite: KINESIOL 1A06 and registration in Level II of a Kinesiology program

**KINESIOL 2G03 HEALTH PSYCHOLOGY**

An introduction to health psychology issues including stress, exercise, weight control and diet, health promotion, addictions and coping with illness. Three hours (lectures); one term  
 Prerequisite: Registration in Level II of a Kinesiology program  
 Antirequisite: HTH SCI 2J03

**KINESIOL 2H03 HISTORY AND PHILOSOPHY OF KINESIOLOGY**

A study of the origins and development of modern Kinesiology including an examination of the evolution of Kinesiology subdisciplines and areas of allied professional practise such as physical education and sports medicine. Three hours (lectures, tutorials); one term  
 Prerequisite: Registration in Level II of a Kinesiology program  
 Antirequisite: KINESIOL 1D03

**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/seminar); one term

Prerequisite: Registration in Level III or above of any Kinesiology, Health Studies or History program

**KINESIOL 3AA3 BIOMECHANICS II**

Study of kinematics and kinetics of human movement, including electromyography, fluid and tissue mechanics with applications.

Three hours (lectures, lab); one term

Prerequisite: KINESIOL 1A06, 2A03 and registration in Level III or above of a Kinesiology program

Antirequisite: KINESIOL 2A06

**KINESIOL 3B03 PHYSICAL ACTIVITY FOR CHALLENGED POPULATIONS**

An introduction to special populations, together with an examination of issues related to integration, design, and objectives of special physical activity programming.

Three hours (lectures); one term

Prerequisite: KINESIOL 1A06, 2G03

Corequisite: KINESIOL 3BP0

*Students who do not successfully complete the required KINESIOL 3BP0 placement will forfeit credit in KINESIOL 3B03.*

**KINESIOL 3BP0 SPECIAL POPULATIONS PLACEMENT**

This placement is designed to supplement the student's classroom learning of the issues involving physical activity for special populations. Students design and/or implement physical activity programs in a variety of community settings.

Prerequisite: Registration in Level III or above of a Kinesiology program

Corequisite: KINESIOL 3B03

*This placement must be completed in conjunction with KINESIOL 3B03. Students who do not successfully complete this placement will forfeit credit in KINESIOL 3B03.*

**KINESIOL 3C03 STATISTICS AND RESEARCH DESIGN**

Research design and descriptive and inferential statistics in Kinesiology.

Three hours (lectures, labs); one term

Prerequisite: Registration in Level III or above of a Kinesiology program

**KINESIOL 3D03 GROWTH, MATURATION AND PHYSICAL ACTIVITY**

Growth, development and maturation changes underlying morphologic and functional development of selected physiological systems which influence human exercise capacity during childhood.

Three lectures, debates and applied case study assignment; one term

Prerequisite: KINESIOL 1A06, 2C06

**KINESIOL 3DD3 FOUNDATIONS OF OUTDOOR EXPERIENTIAL EDUCATION**

An analysis of curricular programs in O.E.E. including, environmental, earth, and eco-political education; expeditionary and adventure based learning; eco-psychology and eco-tourism.

Prerequisite: Registration in Level III or above

Antirequisite: KINESIOL 4DD3

*This course may be taken as elective credit by undergraduates in Level III or above of a non-Kinesiology program. However, enrolment for such students is limited.*

**KINESIOL 3E03 NEURAL CONTROL OF HUMAN MOVEMENT**

Neuromuscular control underlying human movement. Topics include basic neurophysiology, mechanisms of sensation, reflexes, voluntary movement and theories of motor control.

Three hours (lectures); one term

Prerequisite: KINESIOL 1A06, 1E03 and registration in Level III or above of a Kinesiology program; or PSYCH 2F03 and registration in Level III or above of an Honours Psychology program and permission of the instructor.

**KINESIOL 3F03 MANAGEMENT CONCEPTS AND PROGRAM DESIGN**

Combining theory and practice, the course provides an introduction to various work environments related to Kinesiology. An examination of organizational structure, management skills, and new project/program design.

Three hours (lectures, seminars, group project); one term

Prerequisite: Registration in Level III or above

*This course may be taken as elective credit by undergraduates in Level III or above of a non-Kinesiology program. However, enrolment for such students is limited.*

**KINESIOL 3JJ3 HISTORY OF MODERN DANCE**

A survey of trends in modern dance including forerunners, pioneers, second generation, post-moderns, and new dance. Students attend performances and participate in workshops.

Three hours (lectures, practical); one term

Prerequisite: Registration in Level III or above

*This course may be taken as elective credit by undergraduates in Level III or above of a non-Kinesiology program. However, enrolment for such students is limited.*

**KINESIOL 3K03 SPORTS INJURIES**

Common injuries suffered in sport and physical activity will be discussed under the following headings: mechanism of injury, prevention, recognition and care, tissue healing, basic taping techniques, basic support techniques and emergency care.

Two lectures, one lab; one term

Prerequisite: KINESIOL 1A06, 2C06

*(Approximately \$40.00 will be charged for supplies used in labs.)*

*Enrolment is limited. Priority will be given to Level IV Kinesiology students.*

**KINESIOL 3KP0 SPORTS INJURIES PLACEMENT**

This placement is designed to provide practical experience in sports injuries in a variety of clinical settings.

Prerequisite: Registration in Level III or above of a Kinesiology program; and a grade of at least B- in KINESIOL 3K03; and valid CPR/First Aid certification; and permission of the instructor

**KINESIOL 3L03 ORGANIZATIONAL BEHAVIOUR AND APPLICATIONS TO KINESIOLOGY**

An examination of concepts and issues of organizational behaviour in a variety of work environments. Topics include communications, leadership, conflict management, individuals and groups at work.

Three hours (lectures and seminars); one term

Prerequisite: KINESIOL 3F03

Antirequisite: COMMERCE 2BA3

*This course may be taken as elective credit by undergraduates in Level III or above of a non-Kinesiology program. However, enrolment for such students is limited.*

**KINESIOL 3M03 FOUNDATIONS OF ATHLETIC COACHING**

An examination of the coaching process with emphasis placed on the behavioural aspects. Topics include leadership styles and decision making, motivation in sport, ethics in coaching, group cohesion and psychological considerations for youth in sport.

Three hours (lectures); one term

Prerequisite: Registration in Level III or above

*This course may be taken as elective credit by undergraduates in Level III or above of a non-Kinesiology program. However, enrolment for such students is limited.*

**KINESIOL 3MP3 COMMUNITY LEADERSHIP IN SPORT AND PHYSICAL ACTIVITY**

This placement course provides the essential links between classroom knowledge and professional practice. Working with special needs populations, children, adolescents, adults and the elderly, students will experience the challenges faced by community agencies that deliver sport and physical activity programs.

Placement experience equivalent to one day per week (60 hrs.), seminars; one term

Prerequisite: Credit or registration in KINESIOL 3M03 and registration in Level III or above

Antirequisite: KINESIOL 3MP0, SOC SCI 3MP3

*Not open to students with credit or registration in KINESIOL 4EE3 if the placement is in the area of coaching or leadership. Enrolment is limited.*

**KINESIOL 3P03 SPORT AND SOCIAL DEVELOPMENT**

Macro-analysis of sport and culture, considering the place of sport and leisure in cultural transmission and cultural change.

Three hours (lectures and discussion); one term

Prerequisite: One of KINESIOL 1H03, 2B03, SOCIOL 1A06; and registration in Level III or above

Antirequisite: SOCIOL 2T03

*Not open to students with credit or registration in SOCIOL 3J03 if the topic was Sociology of Sport.*

*This course may be taken as elective credit by undergraduates in Level III or above of a non-Kinesiology program. However, enrolment for such students is limited.*

**KINESIOL 3SS3 BODY, MIND, SPIRIT**

An exploration of the relationship between body, mind and spirit from the standpoint of eastern and western religious and philosophical thought with special reference to current perspectives on human potential. Course work includes experiential workshops.

Three hours (lectures and seminars); one term

Prerequisite: Registration in Level III or above

*This course may be taken as elective credit by undergraduates in Level III or above of a non-Kinesiology program.*

*Enrolment is limited.*

**KINESIOL 3T03 DANCE PERFORMANCE**

An in-depth practical experience in performing, choreographing and teaching aimed at experienced dancers. The course will have a focus on creative modern dance and dance composition but will also include an introduction to other styles such as jazz and ballet.

Four hours (seminars and labs); one term

Prerequisite: Registration in Level III or above

*This course may be taken as elective credit by undergraduates in Level III or above of a non-Kinesiology program.*

*(Approximate cost of field component is \$30.00.)*

*Enrolment is limited.*

**KINESIOL 3Y03 HUMAN NUTRITION AND METABOLISM**

An in-depth analysis of human nutrition and metabolism, with an emphasis on the impact of diet on human physical performance in both healthy and disease states.

Three hours (lectures and labs); one term

Prerequisite: Either KINESIOL 1A06 or 1X06, or both KINESIOL 1Y03 and 1YY3; and registration in Level III or above

Antirequisite: KINESIOL 4Y03

*This course may be taken as elective credit by undergraduates in Level III or above of a non-Kinesiology program. However, enrolment for such students is limited.*

**KINESIOL 4A06 ADVANCED BIOMECHANICS**

In-depth study of the mechanics of human movement including the topics of multi-linked segment analysis in 3-D, fluid resistance, optimization, movement simulation and individual muscle force estimation with applications to occupational biomechanics, injury and rehabilitation.

Three hours (lectures, labs); two terms

Prerequisite: KINESIOL 2A03, 3AA3

**KINESIOL 4B03 PHYSICAL ACTIVITY AND CORONARY HEART DISEASE**

An examination of the role of physical activity in the prevention and rehabilitation of coronary heart disease.

Three lectures; one term

Prerequisite: KINESIOL 1A06, 2C06

**KINESIOL 4C03 INTEGRATIVE PHYSIOLOGY OF HUMAN PERFORMANCE**

A detailed analysis of the physiological factors that regulate human physical performance. Emphasis is placed on the body's integrative response to exercise, including the control of energy demand and supply.

Three hours (lectures, labs); one term

Prerequisite: KINESIOL 2C06

*Enrolment is limited.*

**KINESIOL 4CC3 NEUROMUSCULAR EXERCISE PHYSIOLOGY**

Neuromuscular physiology of strength, power, and speed performance, including adaptations to training and training methods.

Three hours (lectures, labs); one term

Prerequisite: KINESIOL 2C06

*Enrolment is limited.*

**KINESIOL 4D03 OUTDOOR EDUCATION**

An examination of skills, pedagogy and perspectives of outdoor (expeditionary) education. This course involves a nine day field component before classes start.

Three hours (lectures, tutorials, field experiences); one term

Prerequisite: Registration in Level III or above of a Kinesiology program; or registration in Level III or above of a non-Kinesiology program and permission of the instructor

*This course may be taken as elective credit by undergraduates in Level III or above of a non-Kinesiology program.*

*(Approximate cost of field component is \$380.00.)*

*Enrolment is limited.*

**KINESIOL 4EE3 ADVANCED PLACEMENT**

Students take part in a supervised practical experience that links classroom knowledge to professional practice. Placements are offered in aging, cardiac rehabilitation, sports injuries, dance, management, outdoor education, special needs populations and teaching and coaching. Placement experience equivalent to one day per week (60 hrs.), seminars; one term

Prerequisite: One of KINESIOL 3B03, 3F03, 3JJ3, 3K03, 3M03, 4B03, 4D03, 4I03, 4JJ3, 4SS3; and registration in Level IV of a Kinesiology program; and permission of the supervising instructor

*Students may complete only one of KINESIOL 4EE3 and 4X06.*

**KINESIOL 4F03 SELECTED TOPICS IN KINESIOLOGY**

Each year the Department of Kinesiology offers a number of different courses under this category reflecting topics of contemporary interest with emphasis upon current theory and research. Students are advised to contact the Department of Kinesiology, Undergraduate Office, for descriptions of the courses offered during the current academic year.

Three hours (lectures); one term

Prerequisite: Registration in Level III or above of a Kinesiology program

*Enrolment is limited for some topics.*

**KINESIOL 4FF3 SELECTED TOPICS IN KINESIOLOGY II**

As per KINESIOL 4F03

Three hours (lectures); one term

Prerequisite: Registration in Level III or above of a Kinesiology program

*Enrolment is limited.*

**KINESIOL 4G03 PEDAGOGY OF CONTEMPORARY AND TRADITIONAL WILDERNESS TRAVEL**

An examination of Canadian winter travel skills (traditional and contemporary), travel literature and pedagogy of travel guiding. Part of the course requirement is a mandatory five-day traditional winter travel experience during the February mid-term recess.

Three hours (lectures, tutorials, field experiences); one term

Prerequisite: KINESIOL 4D03 and registration in Level III or above

*This course may be taken as elective credit by undergraduates in Level III or above of a non-Kinesiology program.*

*(Approximate cost of field component is \$80.00)*

*Enrolment is limited.*

**KINESIOL 4I03 EXERCISE PSYCHOLOGY**

This course examines the interaction of psychological factors and participation in physical activity with a focus on research, promotion and maintenance of exercise participation and health outcomes.

Three hours (lectures); one term

Prerequisite: KINESIOL 2G03 and registration in Level III or above of a Kinesiology program

*Enrolment is limited.*

**KINESIOL 4J03 FUNCTIONAL ANATOMY**

A hands-on applied study of functional anatomy for independent learners. The focus is on palpating the structures of the osseous, articular, muscular, and supportive systems and testing their functions.

Four hours (labs, located in IWC/224); one term

Prerequisite: KINESIOL 2C06, 3K03 and registration in Level III or above of a Kinesiology program

*(Approximately \$35.00 will be charged for supplies used in labs.)*

*Enrolment is limited. Priority will be given to Level IV Kinesiology students.*

*Not open to students with credit in KINESIOL 4FF3 if the topic was Functional Anatomy.*

**KINESIOL 4K03 ADVENTURES IN PERCEPTION AND ACTION**

The examination of perception and action of everyday skills is discussed using a problem-based approach. The emphasis is on the discovery of principles through the generation of research methods and hypothesis testing.

Three hours (lectures, labs); one term

Prerequisite: KINESIOL 1E03 and registration in Level III or above of a Kinesiology program

**KINESIOL 4KK3 FUNDAMENTALS OF REHABILITATION**

This course will outline the basic principles of rehabilitation and explore the more common techniques and modalities. Application of principles will be explored in a number of impairments including: acquired brain injury, amputee, spinal cord injury, neuromuscular disease, stroke, etc.

Three hours (lectures, lab); one term

Prerequisite: KINESIOL 1A06, 2C06 and registration in Level III or above of a Kinesiology program

*Enrolment is limited. Priority will be given to Level IV Kinesiology students.*

**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

Prerequisite: Registration in Level III or above

*This course may be taken as elective credit by undergraduates in Level III or above of a non-Kinesiology program.*

*Enrolment is limited.*



**LABOUR STUDIES**WEB ADDRESS: <http://socserv.mcmaster.ca/labourstudies/>

Kenneth Taylor Hall, Room 717

Ext. 24692

**Faculty as of January 15, 2006****Director**

Charlotte Yates

**Professors**Wayne Lewchuk/(Economics) B.A., M.A. (Toronto), Ph.D. (Cambridge)  
Charlotte A. B. Yates/(Political Science) B.A. (Winnipeg), M.A. (Queen's), Ph.D. (Carleton)**Associate Professors**Donna Baines/(Social Work) B.S.W. (Calgary), M.S.W. (Carleton), Ph.D. (Toronto)  
Robert H. Storey/(Sociology) B.A. (Toronto), M.A. (Dalhousie), Ph.D. (Toronto)  
Donald M. Wells/(Political Science) B.A. (Western Ontario), M.A. (British Columbia), Ph.D. (Toronto)**Assistant Professors**David Goutor/(History) B.A., M.A., Ph.D. (Toronto)  
Greg McElligott/(Political Science) B.A., M.A. (Carleton), Ph.D. (York)**Associate Members**Patricia M. Daenzer/(Social Work) B.A., B.S.W. (York), M.S.W., Ph.D. (Toronto)  
Robert J. O'Brien/(Political Science) B.A. (Carleton), M.Sc. (London), Ph.D. (York)  
Joseph B. Rose/(Commerce) B.B.A. (Adelphi), M.B.A. (California), Ph.D. (SUNY-Buffalo)/(Industrial Relations)  
Pamela Sugiman/(Sociology) B.A., M.A., Ph.D. (Toronto)**Note:**

The following courses may be taken for elective credit by qualified students registered in any program, however, enrolment for such students is limited and permission of the instructor is required.

LABR ST 2A03	Unions
LABR ST 2C03	Theoretical Foundations of the Labour Movement
LABR ST 2E03	Work, Workers and Unions: Challenges and Possibilities
LABR ST 3A03	Economics of Labour Market Issues
LABR ST 3C03	Labour Law and Policy
LABR ST 3D03	Occupational Health and Safety
LABR ST 3E03	Women, Work and Unionism
LABR ST 3F03	Selected Topics in Labour Studies
LABR ST 3G03	Economic Restructuring and Work Organization
LABR ST 3J03	Independent Study
LABR ST 3W03	Technologies at Work: Past, Present, Future

The Honours B.A. Program and the B.A. Program in Labour Studies are supervised and coordinated by an interdisciplinary Labour Studies Committee.

**Labour Studies Committee****Chair**Charlotte Yates/(Labour Studies/Political Science)  
Donna Baines/(Labour Studies/Social Work)  
David Goutor/(Labour Studies)  
Wayne Lewchuk/(Economics/Labour Studies)  
Greg McElligott/(Labour Studies/Political Science)  
Robert Storey/(Labour Studies/Sociology)  
Donald Wells/(Labour Studies/Political Science)**Courses** *If no prerequisite is listed, the course is open.***LABR ST 1A03 AN INTRODUCTION TO THE CANADIAN LABOUR MOVEMENT**An examination of the impact of economic, social, cultural and political factors on the historical evolution, structure and actions of the Canadian working class and labour movement.  
Lectures and discussions; one term**KINESIOL 4N03 ATHLETIC COACHING: TRAINING AND PLANNING PERSPECTIVES**

An analysis of factors that facilitate sport performance at the elite level. Topics include periodization, talent identification, environmental factors, optimal arousal and scouting.

Three hours (lectures); one term

Prerequisite: KINESIOL 3M03 and registration in Level III or above of a Kinesiology program

**KINESIOL 4Q03 PAEDIATRIC EXERCISE PHYSIOLOGY**

Physiologic aspects of physical activity in children and adolescents in health and disease.

Two lectures, one lab; one term

Prerequisite: KINESIOL 2C06, 3D03

**KINESIOL 4R03 INDEPENDENT RESEARCH**

Investigation of a selected theoretical or applied problem mutually acceptable to instructor and student.

Prerequisite: Registration in Level IV of a Kinesiology program with a minimum C.A. of 8.5 and permission of the instructor  
Antirequisite: KINESIOL 4RR6**KINESIOL 4RR6 THESIS**

Independent project involving a research topic under the supervision of a faculty member. The project involves a literature review, design of methodology, data collection, analysis and a research report or equivalent appropriate to the sub-discipline.

Prerequisite: Registration in Level IV of a Kinesiology program with a minimum C.A. of 8.5; and permission of the instructor; and co-registration or completion of KINESIOL 3C03  
Antirequisite: KINESIOL 4R03**KINESIOL 4S03 PHYSICAL ACTIVITY IN CHRONIC HEALTH IMPAIRMENTS**

Focus on specific health impairments prevalent in our society and the various benefits/risks of physical activity in these populations.

Three hours (two lectures, one seminar); one term

Prerequisite: KINESIOL 3B03, 3BP0

**KINESIOL 4SS3 HUMAN AGING: BIOLOGICAL AND LIFESTYLE INFLUENCES**

The interrelationship between biological processes of aging and associated lifestyle factors (e.g. exercise/inactivity) will be explored in various human systems.

Three hours (lectures); one term

Prerequisite: KINESIOL 1A06, 2C06, 2G03

**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: One of KINESIOL 1H03, 2B03, SOCIOL 2Q06; and registration in Level III or above

*This course may be taken as elective credit by undergraduates in Level III or above of a non-Kinesiology program. However, enrolment for such students is limited.***KINESIOL 4V03 HUMAN FACTORS AND ERGONOMICS**

The abilities and limitations of human performance are examined with respect to how individuals interact with objects in their environment.

Three hours (lectures, labs); one term

Prerequisite: KINESIOL 1A06, 1E03, 2A03

**KINESIOL 4X06 THEORY AND PRACTICE IN EXERCISE REHABILITATION**

Provides students with in-depth experiences working in health promotion and rehabilitation settings with a variety of special populations. Students explore exercise and lifestyle issues through an experiential component, seminars and research

Three hours (seminars, lab); two terms

Prerequisite: Registration in Level IV of a Kinesiology program with a minimum C.A. of 7.0; and credit or registration in two of KINESIOL 3B03, 4B03, 4I03, 4S03, 4SS3  
*Students may complete only one of KINESIOL 4EE3 and 4X06.***KINESIOL 4Z03 SELECTED TOPICS IN SPORT MANAGEMENT**

A senior level seminar course related to management theory and practice in sport, recreation and physical activity.

Three hours (seminars and presentations); one term

Prerequisite: One of KINESIOL 3F03, 3L03 or COMMERCE 2BA3; and registration in Level III or above

*This course may be taken as elective credit by undergraduates in Level III or above of a non-Kinesiology program. However, enrolment for such students is limited.*

**LABR ST 1C03 VOICES OF WORK, RESISTANCE AND CHANGE**

An examination of how work is shaped by gender, race, class and culture in a global world; how workplace cultures of community and resistance are built; and their effect on our experience of work.

Lectures and discussion; one term

Antirequisite: LABR ST 2D03

**LABR ST 2A03 UNIONS**

Examines unions' structure, internal decision making and economic, political and social environment. Students explore collective bargaining, political action, union democracy, diversity and renewal by simulating internal union life and participating in a union convention.

Lecture and group work/simulation; one term

Prerequisite: Registration in a Labour Studies program or permission of the instructor

Antirequisite: LABR ST 2A06

**LABR ST 2B03 SOCIAL WELFARE I: GENERAL INTRODUCTION**

Purpose, values underlying development of social welfare programs; Canada's social security system in historical perspective.

Lectures and discussion; one term

Prerequisite: Registration in a Labour Studies program

Cross-list: SOC WORK 2B03

*Students in a Labour Studies program must register for this course as LABR ST 2B03.*

*This course is administered by the School of Social Work.*

**LABR ST 2BB3 SOCIAL WELFARE: ANTI-OPPRESSIVE POLICIES AND PRACTICES IN SOCIAL WORK**

Exploration and analysis of systematic patterns of oppression, their relationships to social policies and practice and the implications for social work through a variety of instruction including experiential exercises. Topics could include: race, gender, disability, sexual orientation.

Exercises, lectures and discussion; one term

Prerequisite: Registration in a Labour Studies Program

Cross-list: SOC WORK 2BB3

*Students in a Labour Studies program must register for this course as LABR ST 2BB3.*

*This course is administered by the School of Social Work.*

**LABR ST 2C03 THEORETICAL FOUNDATIONS OF THE LABOUR MOVEMENT**

An examination of political, sociological and economic explanations of labour behaviour in industrial society. The focus will be on attempts to explain why labour has tended to organize as well as the different strategies which labour has pursued to achieve its goals.

Lectures and discussion; one term

Prerequisite: Registration in a Labour Studies program or permission of the instructor

Antirequisite: LABR ST 1B03

**LABR ST 2E03 WORK, WORKERS AND UNIONS: CHALLENGES AND POSSIBILITIES**

An examination of how technology, government regulation and social and political activism influence how work is organized in the 21st century.

Lectures and discussion; one term

Prerequisite: Registration in a Labour Studies program or permission of the instructor

Antirequisite: LABR ST 1Z03

**LABR ST 2G03 LABOUR AND GLOBALIZATION**

An examination of key themes in the political economy of contemporary 'globalization' with particular emphasis on implications for worklife, working class politics and democracy. An introduction to major international economic institutions and processes associated with globalization and emerging forms of labour internationalism that contest globalization.

Lectures and discussion; one term

Prerequisite: LABR ST 1Z03

Prerequisite (Beginning 2007-2008): LABR ST 1C03

*Enrolment is limited. Priority is given to students registered in a Labour Studies program.*

**LABR ST 3A03 ECONOMICS OF LABOUR MARKET ISSUES**

This course applies economic analysis to issues of importance in the labour market. Topics vary and may include: women in the Canadian labour market; discrimination in hiring and promotion; unemployment; job loss and workplace closing; work sharing.

Prerequisite: ECON 1A06 or both ECON 1B03 and 1BB3 and registration in a Labour Studies program; or permission of the instructor

Cross-list: ECON 2A03

*This course is administered by the Department of Economics.*

**LABR ST 3B03 ECONOMICS OF TRADE UNIONISM AND LABOUR**

Topics will include the economics of the labour market, the impact of trade unions on the labour market, economic theories of strikes, trade unions and the state.

Lectures and discussion; one term

Prerequisite: ECON 1A06 or both ECON 1B03 and 1BB3; and registration in a Labour Studies program

Cross-list: ECON 2T03

*This course is administered by the Department of Economics.*

**LABR ST 3C03 LABOUR LAW AND POLICY**

An analysis of the concepts and fundamentals of Canadian labour law and an analysis of Canadian labour policy.

Lectures; one term

Prerequisite: LABR ST 2A03 or 2A06, and registration in a Labour Studies program; or permission of the instructor

Cross-list: COMMERCE 4BF3

*Generally offered in alternate years.*

**LABR ST 3D03 OCCUPATIONAL HEALTH AND SAFETY**

An analysis of issues and problems associated with occupational health and safety in Canada and other industrialized countries. Topics will be examined from social, political, economic, legal and medical perspectives.

Lectures and discussion; one term

Prerequisite: Registration in a Health Studies or Labour Studies program or permission of the instructor

Cross-list: HEALTHST 3C03

*Generally offered in alternate years.*

**LABR ST 3E03 WOMEN, WORK AND UNIONISM**

An examination of the historical and contemporary relations between women and work, and women and unionism. Topics will include the evolution and structure of the gender division of labour, women and the labour market, and the relationship of women to the labour movement.

Lectures and discussion; one term

Prerequisite: LABR ST 2A03 and registration in a Labour Studies program; or permission of the instructor

*Generally offered in alternate years.*

**LABR ST 3F03 SELECTED TOPICS IN LABOUR STUDIES**

Topics of current interest to students in Labour Studies, with emphasis on current theory and research. Students should consult the Labour Studies Office concerning the topics to be examined.

Three hours (seminar); one term

Prerequisite: LABR ST 2A03 or 2A06, and registration in a Labour Studies program; or permission of the instructor

*LABR ST 3F03 may be repeated, if on a different topic, to a total of six units.*

*Generally offered in alternate years.*

**LABR ST 3G03 ECONOMIC RESTRUCTURING AND WORK ORGANIZATION**

Analysis of transformations in work organization and labour markets in selected advanced capitalist societies; evaluation of labour strategies in the context of neoliberalism and globalization.

Lectures and discussion; one term

Prerequisite: LABR ST 2A03 or 2A06, and registration in a Labour Studies program; or permission of the instructor

Antirequisite: LABR ST 3AA3

**LABR ST 3H03 FIELD PLACEMENT METHODS**

An inquiry course that exposes students to research ethics and strategies in preparation for Level IV thesis or field work. Emphasizes working with data in a real world context. Students will learn on-line research skills and how to use Power Point and other presentation strategies.

Lectures and discussion; one term

Prerequisite: Registration in Level III or above of an Honours Labour Studies program

Antirequisite: LABR ST 4A09

**LABR ST 3J03 INDEPENDENT STUDY**

Independent study of a research problem to be arranged between student and instructor. It is incumbent on the student to secure arrangements with the supervising instructor and present a written proposal to the Director for approval prior to registration.

One term

Prerequisite: Registration in Level III or IV of an Honours Labour Studies program and permission of the Director

**LABR ST 3W03****TECHNOLOGIES AT WORK:  
PAST, PRESENT, FUTURE**

An inquiry based course exploring the evolution of work, how workplaces are organized in relation to technologies today, and the possible impact of technology on work in the future. It will explore the nature of work in manufacturing, the service sector and the public sector.

Lectures, discussion and inquiry report; one term

Prerequisite: Registration in Level III or above of a Labour Studies program

Antirequisite: ENGSOCY 3X03

Offered in alternate years.

Enrolment is limited.

**LABR ST 4A06****RESEARCH AND FIELD EXPERIENCE**

Students will either write an honours thesis or participate in a field experience (a placement in a labour union, government agency or other appropriate organization). Enrolment in the field experience option is limited; students must apply to the Labour Studies Office by March 1.

Two terms

Prerequisite: Registration in Level IV of an Honours Labour Studies program

Antirequisite: LABR ST 4A09

**LABR ST 4C03****PUBLIC SECTOR COLLECTIVE BARGAINING**

This course examines unionization and collective bargaining for employees in the public, and para-public sectors. The topics covered include the origin and growth of public sector unions, models of public sector bargaining, legal aspects of bargaining rights and impasse resolution, bargaining issues and bargaining outcomes, and empirical studies of the effectiveness of dispute resolution procedures.

Lectures and discussion; one term

Prerequisite: COMMERCE 4BC3 and registration in Level III or IV of a Labour Studies program

Cross-list: COMMERCE 4BG3

This course is administered by the School of Business.

**LABR ST 4E03****COMPARATIVE LABOUR SYSTEMS**

A discussion of labour policies, politics, unionization and industrial relations in several selected countries in Europe, Latin America and possibly including Japan. Topics will include government labour market policy, labour law, union objectives and strategies and the impact that unions have on the respective national political-economies.

Lectures and seminar discussion; one term

Prerequisite: Registration in Level III or IV of a Labour Studies program or permission of the instructor

Antirequisite: COMMERCE 4BH3, LABR ST 4D03

**LATIN**

(SEE CLASSICS, LATIN)

**LINGUISTICS**

(SEE LINGUISTICS AND LANGUAGES, LINGUISTICS)

**LINGUISTICS AND LANGUAGES**

WEB ADDRESS: <http://www.humanities.mcmaster.ca/~modlang/>

Togo Salmon Hall, Room 613

Ext. 24388

**Faculty as of January 15, 2006****Acting Chair**

Robert McNutt/B.Sc. (New Brunswick), Ph.D. (M.I.T.)

**Professors**

John J. Colarusso/B.A. (Cornell), M.A. (Northwestern), Ph.D. (Harvard)

Nina Kolesnikoff/M.A. (Moscow State), Ph.D. (Alberta)

Magda Strojinska/M.A. (Warsaw), Ph.D. (Edinburgh)

**Associate Professors**

Iris Bruce/M.A., Ph.D. (Toronto)

María del C. Cerezo/B.A. (Puerto Rico), M.A. (McGill), Ph.D. (Toronto)

Floriglio Minelli/B.A., M.A. (Western Ontario), Ph.D. (Brown)

Jean Wilson/B.A. (McMaster), B.Ed., M.A., Ph.D. (Toronto)

**Assistant Professors**

Catherine Anderson/B.A., (McMaster), Ph.D. (Northwestern)

Vittorina Cecchetto/B.A., M.A., Ph.D. (Toronto)

Paolo Chirumbolo/M.A., Ph.D. (Toronto)

Tsuneko Iwai/B.A., M.Ed., Ph.D. (Toronto)

Anna L. Moro/B.A., M.A., Ph.D. (Toronto)

Gabriele Mueller/Ph.D. (UWE, Bristol)

Diana Spoklene/M.A. (New Brunswick), Ph.D. (Alberta)

Antonio Velasquez/B.A. (Waterloo), M.A., Ph.D. (Toronto)

Marzena Walkowiak/M.A., Ph.D. (Toronto)

**Lecturer**

Franco Gallippi/M.A. (Toronto)

**Department Notes:**

1. The Department of Linguistics and Languages administers all courses in German, Hispanic Studies, Italian, Japanese, Linguistics, Polish, and Russian. For information and counselling, please contact the departmental office, Togo Salmon Hall, Room 613.
2. All language courses are taught and assessed in the original language, except GERMAN 3NN3, 4G03, 4J03 and ITALIAN 2B03.
3. Not all courses are offered on an annual basis. Students should consult the timetable for available courses.

**GERMAN ...**

Courses and programs in German are administered within the Department of Linguistics and Languages of the Faculty of Humanities. For information and counselling, please contact the departmental office, Togo Salmon Hall, Room 613.

**Notes:**

1. Students should note that the Department has classified its German language courses under the following categories:
  - Introductory Level Language Course**  
GERMAN 1Z06
  - Intermediate Level Language Courses**  
GERMAN 1B03, 1BB3, 2Z03, 2ZZ3
  - Advanced Level Language Courses**  
GERMAN 3Z03, 3ZZ3, 4CC3, 4Z03
2. Not all courses are offered on an annual basis. Students should consult the timetable for available courses.
3. Courses cross-listed with other programs (GERMAN 3NN3, 4G03, 4J03) will use English as the language of classroom instruction. Students taking these courses for credit in German will be required to do all their reading, writing and film viewing in German.
4. Students may be required to take a placement test in the Department of Linguistics and Languages to assess their proficiency in the language.

**Courses** *If no prerequisite is listed, the course is open.***GERMAN 1B03 INTERMEDIATE GERMAN I**

A course designed to expand German linguistic skills through practice in reading, writing, listening and speaking, promoting intercultural learning and international awareness. Course uses Web CT and multimedia technology. Four hours; one term

Prerequisite: Grade 12 U or M equivalent

Antirequisite: GERMAN 2Z03, 2ZZ3

Not open to students with credit or registration in GERMAN 1BB3.

The Department reserves the right to place students in the course most appropriate to their abilities.

**GERMAN 1BB3 INTERMEDIATE GERMAN II**

Through integrated and interactive practice in reading, writing, listening and speaking, this course is intended to serve as a foundation for the advanced study of German language and culture. The sequels to this course are GERMAN 3Z03 and 3ZZ3.

Four hours; one term

Prerequisite: GERMAN 1B03

Antirequisite: GERMAN 2ZZ3

**GERMAN 1Z06 BEGINNER'S INTENSIVE GERMAN**

Formerly: German 1Z03 and 1ZZ3

This course enables students to communicate effectively and accurately in German. Using multimedia resources, students acquire the basics of German grammar and develop language skills in order to master everyday situations. The course is enhanced by the use of WebCT and multimedia technology. The sequel to this course is GERMAN 2Z03.

Four hours; two terms

Antirequisite: Grade 12 U or M equivalent; GERMAN 1ZZ3

*Students who have credit in GERMAN 1Z03, but not in GERMAN 1ZZ3, will be permitted to take GERMAN 1Z06; however, they must relinquish credit in GERMAN 1Z03 to do so.*

*The Department reserves the right to place students in the course most appropriate to their abilities.*

*Enrolment is limited.*

#### **GERMAN 2AA3 INTRODUCTION TO GERMAN STUDIES**

This course provides the foundation for work in German literature and in the broader field of German Studies. Theoretical approaches combined with the analysis of specific cultural texts, forms and practices will allow students to experience the 'pleasure of the text' and help them to develop analytical and research tools.

Three hours; one term

Prerequisite: GERMAN 1BB3 or 2ZZ3, (or concurrent registration in GERMAN 2Z03 or 2ZZ3)

#### **GERMAN 2CC3 GERMANY THROUGH THE AGES: CULTURE AND SOCIETY**

An interdisciplinary look at the historical events, cultural phenomena, and personalities which have shaped German culture and society until World War II. Topics include: Medieval and Romantic Heritage, the Golden Twenties, Nationalism and National Socialism, the Holocaust.

Three hours; one term

Prerequisite: GERMAN 1BB3 or 2ZZ3 (or concurrent registration in GERMAN 2Z03 or 2ZZ3)

#### **GERMAN 2Z03 INTERMEDIATE GERMAN I**

The course is designed to further expand German linguistic skills through integrated and interactive practise in reading, writing, listening and speaking. The course is enhanced by the use of WebCT and multimedia technology. The sequel to this course is GERMAN 2ZZ3.

Three hours; one term

Prerequisite: GERMAN 1Z06 or 1ZZ3

Antirequisite: GERMAN 1B03

*Not open to students with credit or registration in GERMAN 2ZZ3.*

*The Department reserves the right to place students in the course most appropriate to their abilities.*

#### **GERMAN 2ZZ3 INTERMEDIATE GERMAN II**

Through integrated and interactive practice in reading, writing, listening and speaking, this course is intended to serve as a foundation for the advanced study of German language, literature and culture. The course is enhanced by the use of WebCT and multimedia technology. The sequels to this course are GERMAN 3Z03 and 3ZZ3.

Three hours; one term

Prerequisite: GERMAN 2Z03

Antirequisite: GERMAN 1BB3

*The Department reserves the right to place students in the course most appropriate to their abilities.*

#### **GERMAN 3B03 GLOBALIZATION AND AUTONOMY IN EIGHTEENTH-CENTURY GERMANY**

The course examines the relationship between globalization and autonomy using the text of several authors. Topics include: identity construction, growing urbanism, cultural production and gender issues.

Three hours; one term

Prerequisite: GERMAN 2AA3 or 2CC3

*Offered in alternate years.*

#### **GERMAN 3C03 GERMAN CULTURE AFTER 1945**

This course will explore the culture of modern Germany from 1945 to the present. Students will study important cultural developments by examining selected texts from literature, film and other forms of cultural expression.

Three hours; one term

Prerequisite: GERMAN 2AA3 or 2CC3

#### **GERMAN 3NN3 WOMEN IN GERMAN LITERATURE AND CULTURE**

This course explores the rich literary and cultural history of women writers, filmmakers and artists from the early Middle Ages to the present in German-speaking Europe. (See Note 3 above.)

Three hours; one term

Prerequisite: Registration in Level II or above

Cross-list: COMP LIT 3NN3, WOMEN ST 3NN3

*Offered in alternate years.*

#### **GERMAN 3Z03 ADVANCED GERMAN I**

This course is designed to further develop accuracy and complexity in oral and written expression in German using authentic German language material taken from a variety of sources. The sequels to this course are GERMAN 3ZZ3 and 4Z03.

Three hours; one term

Prerequisite: GERMAN 1BB3 or 2ZZ3

Antirequisite: GERMAN 3E03

*The Department reserves the right to place students in the course most appropriate to their abilities.*

#### **GERMAN 3ZZ3 ADVANCED GERMAN II**

This course further develops accuracy and complexity in reading, writing, speaking and listening using authentic texts from German-speaking countries. It provides students with an advanced understanding of contemporary issues in Germany. Strong emphasis will be on in-class discussions and oral participation. The sequel to the course is GERMAN 4Z03.

Three hours; one term

Prerequisite: GERMAN 3Z03

Antirequisite: GERMAN 3G03

*Priority is given to students in a program requiring German. Students with native or near native fluency may be required to register in an appropriate alternative.*

*The Department reserves the right to place students in the course most appropriate to their abilities.*

*Enrolment is limited.*

#### **GERMAN 4CC3 TRANSLATION: TECHNIQUES AND PRACTICE**

This course offers practice in the translation of literary and non-literary texts. (English to German and German to English). The practical component will be complemented by an overview of electronic and on-line translation aids, as well as different theories and techniques of translation in Western Culture.

Three hours; one term

Prerequisite: One of GERMAN 3E03, 3G03, 3Z03, 3ZZ3 or 4Z03

#### **GERMAN 4FF3 GERMAN FOLKLORE AND FAIRY TALES**

The course will examine elements of folklore and the supernatural in fairy tales from various periods: tales from German Romanticism, and modern twentieth-century (parodic) rewritings of the tradition. The boundaries between *oral folk literature* and *literature*, as well as between children's and adult literature, will also be examined.

Three lectures; one term

Prerequisite: GERMAN 2AA3 or 2CC3

*Alternates with GERMAN 4HH3.*

#### **GERMAN 4G03 BERLIN/VIENNA: THE CULTURAL LIFE OF A CITY**

Students will embark on an interdisciplinary journey into the cultural history of a city from the 19th century to the present. Through literary texts, songs, films, works of art and architecture we will examine varied representations of the city in high and popular culture. (See Note 3 above.)

Three hours; one term

Prerequisite: Registration in Level III or IV

Cross-list: COMP LIT 4G03

*Offered on an irregular rotation basis.*

#### **GERMAN 4H03 THE HOLOCAUST IN GERMAN FILM AND FICTION**

This course will examine the moral, philosophical and cultural legacy of the holocaust as represented through the artistic imagination. Literary texts and films will involve key issues: truthfulness, politicization, marginalization, universalization, trivialization, abstraction, aestheticization, Holocaust, etc.

Three hours; one term

Prerequisite: GERMAN 2AA3 or 2CC3

*Offered on an irregular rotation basis.*

#### **GERMAN 4HH3 GERMAN LANGUAGE THROUGH THE AGES**

The course follows the development of the German language from its Indo-European origins to the present situation in three German speaking countries. Selected texts from different epochs, as well as visual materials on the linguistic and social history of the German language will be studied.

Three lectures; one term

Prerequisite: Nine units of German above Level I

*Alternates with GERMAN 4FF3.*

#### **GERMAN 4II3 INDEPENDENT STUDY**

The student will prepare, under the supervision of a faculty member, a research paper involving independent study in an area where the student has already demonstrated competence.

Prerequisite: 12 units of German above Level I and permission of the Department

**GERMAN 4J03 THE SPLIT-SCREEN - RECONSTRUCTING NATIONAL IDENTITIES IN WEST AND EAST GERMAN CINEMA**

This course examines German film texts of the post-war period and their representation of West and East German identities. Films will be discussed within the context of important political, social, and cultural developments at the time of the films' production. (See Note 3 above.)

Two hours; plus one film screening per week; one term

Prerequisite: Six units of German above Level I

Cross-list: COMPLIT 4J03; THTR&FLM 4J03

Offered on an irregular rotation basis.

**GERMAN 4K03 FRANZ KAFKA AND 'MINOR LITERATURE' IN CONTEMPORARY GERMAN CULTURE**

Students will inquire into some of the reasons for Kafka's popularity in contemporary culture and examine how themes of marginality, power, and identity - central to Kafka's work - reemerge in contemporary German Jewish and Turkish writing.

Three lectures; one term

Prerequisite: GERMAN 2AA3 or 2CC3

Offered on an irregular rotation basis.

**GERMAN 4Z03 GERMAN LANGUAGE AND CULTURE**

This course further develops students' language proficiency and their cultural knowledge/competency. Students study various aspects of contemporary German society and focus on developing advanced reading, writing and speaking skills.

Three hours; one term

Prerequisite: GERMAN 3G03 or 3ZZ3

**HISPANIC STUDIES ...**

Courses and programs in Hispanic Studies are administered within the Department of Linguistics and Languages of the Faculty of Humanities. For information and counselling, please contact the departmental office, Togo Salmon Hall, Room 613.

**Notes:**

1. Students should note that the Department has classified its Hispanic language courses under the following categories:

**Introductory Level Language Course**

HISPANIC 1Z06

**Intermediate Level Language Courses**

HISPANIC 1A03, 1AA3, 2D03, 2DD3, 2Z03, 2ZZ3

**Advanced Level Language Courses**

HISPANIC 3X03, 3Y03, 4XX3, 4YY3

2. Not all courses are offered on an annual basis. Students should consult the timetable for available courses.

3. Students may be required to take a placement test in the Department of Linguistics and Languages to assess their proficiency in the language.

4. Students are advised to pay particular attention to prerequisites for upper-level literature courses.

**Courses If no prerequisite is listed, the course is open.****HISPANIC 1A03 INTERMEDIATE SPANISH I**

First part of an intensive review of grammatical structures in Spanish. Emphasis will be on composition, expansion of vocabulary and oral practice. Written works in the original will be studied. The sequel to this course is HISPANIC 1AA3.

Four hours; one term

Prerequisite: Grade 12 U or M equivalent

Antirequisite: HISPANIC 2D03, 2DD3, 2Z03, 2ZZ3

Not open to students with credit or registration in HISPANIC 1AA3.

Not open to native speakers of Spanish.

The Department reserves the right to place students in the course most appropriate to their abilities.

**HISPANIC 1AA3 INTERMEDIATE SPANISH II**

Second part of an intensive review of grammatical structures in Spanish. Emphasis will be on composition, expansion of vocabulary and oral practice. Written works in the original will be studied. The sequel to this course is HISPANIC 3X03.

Four hours; one term

Prerequisite: HISPANIC 1A03

Antirequisite: HISPANIC 2D03, 2DD3, 2ZZ3

Not open to native speakers of Spanish.

The Department reserves the right to place students in the course most appropriate to their abilities.

**HISPANIC 1Z06 BEGINNER'S INTENSIVE SPANISH**

Formerly: HISPANIC 1Z03 and 1ZZ3

This course gives students the ability to express themselves reasonably well in Spanish and acquire the basics of Spanish grammar and considerable reading skill. Small tutorial groups will ensure maximum participation by each student. This course is enhanced by a Computer Assisted Language Learning (CALL) module. The sequel to this course is HISPANIC 2Z03.

Four hours; two terms

Antirequisite: Grade 12 U or M equivalent, HISPANIC 1ZZ3, 2D03, 2DD3  
Not open to native speakers of Spanish.

Students who have credit in HISPANIC 1Z03, but not in HISPANIC 1ZZ3, will be permitted to take HISPANIC 1Z06; however, they must relinquish credit in HISPANIC 1Z03 to do so.

The Department reserves the right to place students in the course most appropriate to their abilities.

Enrolment is limited.

**HISPANIC 2C03 CONTEMPORARY SPANISH-AMERICAN CULTURE**

Using a multidisciplinary approach involving fiction, cinema, music, art, and other cultural expressions, this course explores some of the issues that shape and define Spanish-America today.

Three hours; one term

Prerequisite: One of HISPANIC 1AA3, 1Z06 or 2DD3

**HISPANIC 2D03 INTENSIVE SPANISH FOR NATIVE SPEAKERS I**

First part of a course designed to meet the needs of native Spanish-speaking students who have little or no formal training in Spanish. Emphasis on grammar and composition. The sequel to this course is HISPANIC 2DD3.

Three hours; one term

Antirequisite: HISPANIC 1A03, 1AA3, 1Z06, 2Z03, 2ZZ3

**HISPANIC 2DD3 INTENSIVE SPANISH FOR NATIVE SPEAKERS II**

Second part of a course designed to meet the needs of native Spanish-speaking students who have little or no formal training in Spanish. Emphasis on grammar and composition.

Three hours; one term

Prerequisite: HISPANIC 2D03

Antirequisite: HISPANIC 1A03, 1AA3, 1Z06, 2Z03, 2ZZ3

**HISPANIC 2L03 INTRODUCTION TO SPANISH AMERICAN LITERATURE**

A survey of Spanish American literature from the fifteenth century to the present. The most significant cultural currents and representative writers will be studied to understand the development of literary genres and the cultural, political and social context in which they flourished.

Three lectures; one term

Prerequisite: HISPANIC 1AA3; or HISPANIC 2C03 and 2Z03

**HISPANIC 2X03 CONTEMPORARY SPAIN**

Drawing on literature, film, art, popular culture and mass media, the course will explore the culture of modern and contemporary Spain, from the emancipation of the last colonies to the formation of the European Union, from avant-garde aesthetics to the Movida madrileña, Barcelona's new architecture and Gehry's Guggenheim in Bilbao.

Three lectures; one term

Prerequisite: One of HISPANIC 1AA3, 1Z06 or 2DD3

**HISPANIC 2XX3 SPAIN IN THE WESTERN TRADITION**

Drawing on literature, history, philosophy and the visual arts, this course will explore some of Spain's unique and enduring contributions to the Western tradition.

Three lectures; one term

Prerequisite: HISPANIC 1AA3; or HISPANIC 2X03 and 2Z03

**HISPANIC 2Z03 INTERMEDIATE SPANISH I**

First part of an intensive review of the grammatical structures of Spanish. Emphasis will be on composition, expansion of vocabulary and oral practice. Written works in the original will be studied. The sequel to this course is HISPANIC 2ZZ3.

Four hours; one term

Prerequisite: HISPANIC 1Z06 or 1ZZ3

Antirequisite: HISPANIC 1A03, 1AA3, 2D03, 2DD3

Not open to native speakers of Spanish.

The Department reserves the right to place students in the course most appropriate to their abilities.

**HISPANIC 2ZZ3 INTERMEDIATE SPANISH II**

Second part of an intensive review of grammatical structures of Spanish. Emphasis will be on composition, expansion of vocabulary and oral practice. Written works in the original will be studied. The sequel to this course is HISPANIC 3X03.

Four hours; one term

Prerequisite: HISPANIC 2Z03

Antirequisite: HISPANIC 1AA3, 2D03, 2DD3

Not open to native speakers of Spanish.

The Department reserves the right to place students in the course most appropriate to their abilities.

**HISPANIC 3X03 LANGUAGE PRACTICE I**

In this course different styles of writing and communication will be examined and practiced: literary, journalistic, academic, etc.

Three hours; one term

Prerequisite: One of HISPANIC 1AA3, 2DD3 or 2ZZ3

Antirequisite: HISPANIC 3A03, 3DD3

**HISPANIC 3Y03 SPANISH TRANSLATION**

A course designed to introduce the student to the basic principles of translation from Spanish to English and from English to Spanish. Practice will be given in comprehension and précis writing.

Three hours; one term

Prerequisite: One of HISPANIC 1AA3, 2DD3 or 2ZZ3

Antirequisite: HISPANIC 4G03

**HISPANIC 4D03 HUMOUR IN LATIN AMERICAN LITERATURE**

This course will study different theories of humour and its techniques and functions in representative literary texts from Latin America.

Three hours; one term

Prerequisite: HISPANIC 2L03 and nine units of Hispanic Studies above Level I

**HISPANIC 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.

Prerequisite: 12 units of Hispanic Studies above Level I and permission of the Department

**HISPANIC 4L03 SPAIN'S GREAT MYTHS: DON QUIJOTE AND DON JUAN**

An examination of the original texts and of the subsequent interpretations and adaptations of two of Spain's most enduring creations: one presents all the dramatic paradigms of life, the other embodies eternal conflicts that centre on the purpose of life itself.

Three hours; one term

Prerequisite: 12 units of Hispanic Studies above Level I

Offered on an irregular rotation basis.

**HISPANIC 4M03 HEROES AND ANTI-HEROES IN SPANISH LITERATURE**

The course will examine these two concepts in works ranging from *Poema de Mio Cid* - the quintessential Spanish hero - to *Celestina* - the bawd - and the picaresque, from *Don Quijote* to the tragedy of the ignoble.

Three hours; one term

Prerequisite: 12 units of Hispanic Studies above Level I

Offered on an irregular rotation basis.

**HISPANIC 4N03 THE SPANISH AMERICAN SHORT STORY**

This course will study the Spanish American Short Story from the 19th century to the present, its development, themes and formal aspects.

Three hours; one term

Prerequisite: HISPANIC 2L03 and nine units of Hispanic Studies above Level I

Not open to students with credit in HISPANIC 4S03, TOPICS IN SPANISH-AMERICAN LITERATURE, if the topic was *The Spanish American Short Story*.

Offered on an irregular rotation basis.

**HISPANIC 4P03 THE BOOM GENERATION AND THEIR SHORT STORIES**

This course will study the concept "Boom" and the short stories of four of its members: Donoso, Cortázar, Vargas Llosa and García Márquez. It will also examine the relation between the short stories and the novels of these authors.

Three hours; one term

Prerequisite: HISPANIC 2L03 and nine units of Hispanic Studies above Level I

Not open to students with credit in HISPANIC 4S03, TOPICS IN SPANISH-AMERICAN LITERATURE, if the topic was *The Boom Generation*.

Offered on an irregular rotation basis.

**HISPANIC 4Q03 SPANISH AND LATIN AMERICAN CULTURE THROUGH CINEMA**

This course is designed to provide students with the background necessary to analyse and interpret Spanish and Latin American culture through cinema. Films will be studied within their social and political context.

Three hours; one term

Prerequisite: HISPANIC 2C03 or 2L03; and nine units of Hispanic Studies above Level I

Offered on an irregular rotation basis.

**HISPANIC 4R03 WOMEN WRITERS OF LATIN AMERICA**

Emphasis will be on women writers of the 19th and 20th centuries. Selected readings will be analysed to explore how women have employed literary strategies to represent themselves and others within their oppressive socio-cultural milieu.

Three hours; one term

Prerequisite: HISPANIC 2C03 or 2L03; and nine units of Hispanic Studies above Level I

Offered on an irregular rotation basis.

**HISPANIC 4V03 REPRESENTATIVE DRAMATISTS OF 20TH-CENTURY SPAIN**

Recurrent themes such as exile, political oppression, issues of gender identity, race and feminism will be examined in major important works written by men and women from Spain.

Three hours; one term

Prerequisite: HISPANIC 2X03 or 2XX3; and nine units of Hispanic Studies above Level I

Offered on an irregular rotation basis.

**HISPANIC 4XX3 LANGUAGE PRACTICE II**

With emphasis on precision, conciseness and other pertinent aspects of written communication, students will prepare business documents such as letters, memos, application forms and résumés and will develop related vocabulary.

Three hours; one term

Prerequisite: HISPANIC 3X03

**HISPANIC 4YY3 ADVANCED TRANSLATION**

Practice in the translation into Spanish of a specialized nature (example: administration, business, medical, etc.); leading to the study of comparative aspects of stylistics and syntax.

Three hours; one term

Prerequisite: HISPANIC 3Y03

**ITALIAN ...**

Courses and programs in Italian are administered within the Department of Linguistics and Languages of the Faculty of Humanities. For information and counselling, please contact the departmental office, Togo Salmon Hall, Room 613.

**Notes:**

- Students should note that the Department has classified its Italian language courses under the following categories:  
**Introductory Level Language Courses**  
 ITALIAN 1Z06, 1ZZ6  
**Intermediate Level Language Courses**  
 ITALIAN 1A03, 1AA3, 2Z03, 2ZZ3  
**Advanced Level Language Courses**  
 ITALIAN 3A03, 3D03, 4A03, 4B03
- Not all courses are offered on an annual basis. Students should consult the timetable for available courses.
- ITALIAN 2B03 will use English as the language of classroom instruction. Students taking this course for credit in Italian will be required to do all their reading, writing and film viewing in Italian.
- Students may be required to take a placement test in the Department of Linguistics and Languages to assess their proficiency in the language.

**Courses** *If no prerequisite is listed, the course is open.***ITALIAN 1A03 INTERMEDIATE ITALIAN I**

An intensive review of certain grammatical structures of Italian and an introduction to composition, together with oral practice. The sequel to this course is ITALIAN 1AA3.

Four hours; one term

Prerequisite: Grade 12 U or M equivalent or other equivalent or permission of the Department

Antirequisite: ITALIAN 2Z03

Not open to students with credit or registration in ITALIAN 1AA3.

The Department reserves the right to place students in the course most appropriate to their abilities.

**ITALIAN 1AA3 INTERMEDIATE ITALIAN II**

An intensive review of those grammatical structures not studied previously, together with oral practice. Selected written works in the original will also be studied. The sequel to this course is ITALIAN 3A03.

Four hours; one term

Prerequisite: ITALIAN 1A03

Antirequisite: ITALIAN 2ZZ3

*The Department reserves the right to place students in the course most appropriate to their abilities.*

**ITALIAN 1Z06 BEGINNER'S INTENSIVE ITALIAN**

Formerly: ITALIAN 1C03 and 1CC3

This course gives students the ability to express themselves reasonably well in Italian and acquire the basics of Italian 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. The sequel to this course is ITALIAN 2Z03.

Four hours; two terms

Antirequisite: Grade 12 U or M equivalent, ITALIAN 1CC3, 1DD3, 1ZZ3

*Students who have credit in ITALIAN 1C03, but not in ITALIAN 1CC3, will be permitted to take ITALIAN 1Z06; however, they must relinquish credit in ITALIAN 1C03 to do so.*

*The Department reserves the right to place students in the course most appropriate to their abilities.*

Enrolment is limited.

**ITALIAN 1ZZ6 BEGINNER'S INTENSIVE ITALIAN FOR DIALECT SPEAKERS**

An intensive beginner's course designed for students with no formal training in Standard Italian, but who understand an Italian dialect or Standard Italian. The course covers the basics of Italian grammar and gives students the opportunity to practise the spoken language.

Four hours; two terms

Antirequisite: ITALIAN 1Z06 or Grade 12 U or M equivalent

*Students who have credit in ITALIAN 1C03, but not in ITALIAN 1CC3, will be permitted to take ITALIAN 1ZZ6; however, they must relinquish credit in ITALIAN 1C03 to do so.*

*The Department reserves the right to place students in the course most appropriate to their abilities.*

**ITALIAN 2B03 ITALY THROUGH THE CAMERA LENS**

This course takes the student on a journey through fifty years of Italian cinematic history using nine movies (in Italian, with subtitles) that represent some of the most critical moments related to Italian culture in post WWII period. (See Note 3 above.)

Four hours; one term

Prerequisite: Registration in Level II or above

Cross-list: THTR&FLM 2I03

**ITALIAN 2F03 INTRODUCTION TO THE STUDY OF LITERATURE: IL NEOREALISMO**

An introduction to the study of literature in Italian, focusing on the neorealist movement in literature and also in cinema. The course explores principal themes in connection to the socio-historical and political context.

Three lectures; one term

Prerequisite: ITALIAN 1AA3 or 2Z03 (or concurrent registration in ITALIAN 2Z03)

**ITALIAN 2I03 ITALY THROUGH THE AGES I: THE ORIGINS TO THE RENAISSANCE**

A survey of representative works in Italian literature and culture from its origins to the Renaissance.

Three hours; one term

Prerequisite: ITALIAN 1AA3 or 2Z03 (or concurrent registration in ITALIAN 2Z03)

**ITALIAN 2Z03 INTERMEDIATE ITALIAN I**

An intensive review of certain grammatical structures of Italian and an introduction to composition, together with oral practice. The sequel to this course is ITALIAN 2ZZ3.

Four hours; one term

Prerequisite: One of ITALIAN 1CC3, 1DD3 or 1Z06

Antirequisite: ITALIAN 1AA3, 2ZZ3

*The Department reserves the right to place students in the course most appropriate to their abilities.*

**ITALIAN 2ZZ3 INTERMEDIATE ITALIAN II**

An intensive review of those grammatical structures not studied previously, together with oral practice. Selected written works in the original will also be studied. The sequel to this course is ITALIAN 3A03.

Four hours; one term

Prerequisite: ITALIAN 2Z03

Antirequisite: ITALIAN 1AA3

*The Department reserves the right to place students in the course most appropriate to their abilities.*

**ITALIAN 3A03 ADVANCED GRAMMAR PRACTICE**

This course is designed to improve the student's written and oral proficiency through exercises, compositions, and analysis of texts. The sequel to this course is ITALIAN 3D03.

Three hours; one term

Prerequisite: One of ITALIAN 1AA3, 2ZZ3

**ITALIAN 3D03 COMPOSITION AND STYLISTICS I**

An introduction to the study of Italian stylistics through an intensive and systematic analysis of Italian clause, sentence and discourse structure in the written and spoken language. The sequel to this course is ITALIAN 4A03.

Three hours; one term

Prerequisite: ITALIAN 3A03

**ITALIAN 3I03 ITALY THROUGH THE AGES II: FROM THE BAROQUE TO THE 20TH CENTURY**

A continuation of Italian 2I03. Along with a study of representative literary texts from the Baroque to the 20th century, the course will also consider fundamental aspects of Italian culture (history, figurative arts, music).

Three hours; one term

Prerequisite: ITALIAN 2I03

Antirequisite: ITALIAN 4Y03

**ITALIAN 3X03 CONTEMPORARY ITALY: THE IMAGE OF ITALY TODAY**

A study of current trends, literature, new directions, and art in Italy today, in the framework of the European consciousness and market.

Three lectures; one term

Prerequisite: ITALIAN 2F03 or 2I03

*Offered in alternate years.*

**ITALIAN 3Y03 CULTURE AND SOCIETY IN RENAISSANCE ITALY**

An exploration of Italian culture in the Renaissance and its impact on the development of modern European thought. Students will be introduced to Renaissance ideas on politics, history, society, the artist and the scientist through the study of representative works.

Three lectures; one term

Prerequisite: ITALIAN 2F03 or 2I03

Antirequisite: ITALIAN 4R03

*Offered in alternate years.*

**ITALIAN 4A03 COMPOSITION AND STYLISTICS II**

An advanced course in composition and stylistics designed to develop the student's skills in critical writing and oral expression. The sequel to this course is ITALIAN 4B03.

Three hours; one term

Prerequisite: ITALIAN 3D03

Antirequisite: ITALIAN 4M03

**ITALIAN 4B03 INTRODUCTION TO TRANSLATION**

A course designed to introduce the students to the basic techniques of translation from English to Italian and from Italian to English, including comparative stylistics. Translation materials will be selected from contemporary literary and journalistic sources.

Three hours; one term

Prerequisite: ITALIAN 4A03

**ITALIAN 4I03 INDEPENDENT STUDY**

The student will prepare, under the supervision of a faculty member, a research paper involving independent study in an area where the student has already demonstrated competence.

Prerequisite: 12 units of Italian above Level I and permission of the Department

**ITALIAN 4X03 LOVE AND LIFE IN THE MIDDLE AGES**

An exploration of Italian life and culture in the Middle Ages through the study of the *dolce stil nuovo* and selected works by Dante, Petrarch and Boccaccio.

Three lectures; one term

Prerequisite: ITALIAN 2F03 or 2I03

Antirequisite: ITALIAN 3RR3

*Offered in alternate years.*

**ITALIAN 4XX3 DANTE'S WORLD**

An exploration of Dante's *Commedia* in the context of medieval culture, politics and philosophy. The course will also consider the impact of the *Commedia* on Western thought.

Three lectures; one term

Prerequisite: ITALIAN 2F03 or 2I03

Antirequisite: ITALIAN 3R03

*Offered in alternate years.*

**ITALIAN 4YY3****RISORGIMENTO:  
THE ROMANTIC QUEST FOR A NATION**

A study of Italian civilization and culture during the 19th century, focusing on the fundamental issues of Italian unification. Exponential artistic, cultural and literary representatives of the period will be examined.

Three lectures; one term  
Prerequisite: ITALIAN 2F03 or 2I03  
*Offered in alternate years.*

**JAPANESE ...**

Japanese courses are administered within the Department of Linguistics and Languages of the Faculty of Humanities. The Combined Honours in Japanese Studies and Another Subject Program is coordinated by an interdisciplinary Committee of Instruction. For information and counselling, please contact the departmental office, Togo Salmon Hall, Room 613.

**Note:**

Not all courses are offered on an annual basis. Students should consult the timetable for available courses.

**Courses** *If no prerequisite is listed, the course is open.***JAPANESE 1Z06 BEGINNER'S INTENSIVE JAPANESE**

Formerly: JAPANESE 1Z03 and 1ZZ3

An introduction to spoken and written Japanese focusing on developing proficiency in the skills of listening, speaking, reading and writing. Kanji (Chinese characters) will be introduced. Acquisition of basic grammar, *hiragana* and *katakana* scripts, and oral communication skills will be emphasized. Open to students with no prior background in Japanese. The sequel to this course is JAPANESE 2Z03.

Four hours; two terms  
Antirequisite: JAPANESE 1Z03, 1ZZ3  
*Students who have credit in JAPANESE 1Z03, but not in JAPANESE 1ZZ3, will be permitted to take JAPANESE 1Z06; however, they must relinquish credit in JAPANESE 1Z03 to do so.*  
*The Department reserves the right to place students in the course most appropriate to their abilities.*  
*Enrolment is limited.*

**JAPANESE 2Z03 INTERMEDIATE INTENSIVE JAPANESE I**

This course develops students' communicative skills in Japanese through conversational exercises, creative writing and other practices. Emphasis will be placed upon refining the knowledge of grammar and expanding vocabulary. The sequel to this course is JAPANESE 2ZZ3.

Four hours; one term  
Prerequisite: A grade of at least B- in JAPANESE 1Z06 or 1ZZ3  
*Not open to students with credit in JAPANESE 2ZZ3.*  
*The Department reserves the right to place students in the course most appropriate to their abilities.*  
*Enrolment is limited.*

**JAPANESE 2ZZ3 INTERMEDIATE INTENSIVE JAPANESE II**

This course further develops and consolidates the students' communicative skills in Japanese through conversational exercises, creative writing and other exercises. The sequel to this course is JAPANESE 3A03.

Four hours; one term  
Prerequisite: JAPANESE 2Z03  
*The Department reserves the right to place students in the course most appropriate to their abilities.*  
*Enrolment is limited.*

**JAPANESE 3A03 ADVANCED INTENSIVE JAPANESE I**

This course continues the study of written and spoken Japanese with particular attention devoted to the development of the following language skills: conversational practice based on situational drills; reading skills based on selected literary materials; writing short essays; and continued study of *Kanji*. The sequel to this course is JAPANESE 3AA3.

Four hours; one term  
Prerequisite: JAPANESE 2ZZ3  
*The Department reserves the right to place students in the course most appropriate to their abilities.*  
*Enrolment is limited.*

**JAPANESE 3AA3 ADVANCED INTENSIVE JAPANESE II**

Emphasis is given to the development of situational conversational skills, advanced reading skills and essay writing skills. The sequel to this course is JAPANESE 4Z03.

Three hours; one term  
Prerequisite: JAPANESE 3A03  
*The Department reserves the right to place students in the course most appropriate to their abilities.*  
*Enrolment is limited.*

**JAPANESE 3B03 BUSINESS JAPANESE I**

A study of Japanese language in a context of culture, values and customs of the Japanese business world. Emphasis on oral and aural proficiency in Japanese.

Three hours; one term  
Prerequisite: JAPANESE 2ZZ3  
*Enrolment is limited.*

**JAPANESE 3CC3 BUSINESS JAPANESE II**

A continuation of JAPANESE 3B03. This course focuses on a further study of Japanese language in a context of Japanese business practices, values and customs. Oral and aural proficiency are emphasized.

Three hours; one term  
Prerequisite: JAPANESE 3B03  
*Offered in alternate years.*  
*Enrolment is limited.*

**JAPANESE 4A03 ADVANCED READINGS IN  
CURRENT AFFAIRS IN JAPANESE**

This course will further develop students' comprehensive skills in Japanese through readings of a variety of topics on current affairs. Readings of magazines will be combined with discussions on videos.

Three hours; one term  
Prerequisite: JAPANESE 3AA3  
*Enrolment is limited.*

**JAPANESE 4Z03 ADVANCED ORAL PRACTICE IN JAPANESE**

This course will further develop students' spoken discourse skills through viewing of videos, group discussions and cooperative group activities. Emphasis will be on overall communicative competence in oral Japanese.

Three hours; one term  
Prerequisite: JAPANESE 3AA3  
*Enrolment is limited.*

**JAPANESE STUDIES ...****Courses** *If no prerequisite is listed, the course is open.***JAPAN ST 2A03 JAPANESE COMMUNICATION**

This course looks at the Japanese language from sociolinguistic and pragmatic points of view identifying the unique characteristics of the target culture that lie behind its use. Such knowledge is invaluable in solving problems of intercultural communication.

Three hours; one term  
Prerequisite: Registration in Level II or above  
Cross-list: CMST 2AA3  
*Alternates with JAPAN ST 2F03.*

**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; or ECON 1B03, 1BB3  
Cross-list: ECON 2C03  
*This course is administered by the Department of Economics.*

**JAPAN ST 2F03 THE CONTEMPORARY JAPANESE FILM**

This course examines the development of Japanese films since the Second World War, including contemporary feature films and animations, exploring the rich legacy of directors such as Akira Kurosawa, Kon Ichikawa, Juzo Itami and Masayuki Suo, and animation directors such as Hayao Miyazaki and Isao Takahata.

Three hours; one term  
Prerequisite: Registration in Level II or above  
Cross-list: THTR&FLM 2H03  
*Alternates with JAPAN ST 2A03.*

**JAPAN ST 2P06 JAPANESE CIVILIZATION**

Introduction to Japanese history, society, and culture through a study of religious traditions, literature, and art of Japan.

Two lectures, one tutorial; two terms  
Prerequisite: Registration in Level II or above  
Cross-list: RELIG ST 2P06  
*This course is administered by the Department of Religious Studies.*

**JAPAN ST 3B03 MODERN JAPAN**

A survey of 19th- and 20th-century Japan, with emphasis on political developments, social change, and Japan's relations with East Asia and the West.

Three lectures; one term  
Prerequisite: Registration in Level II or above  
Cross-list: HISTORY 3B03  
*This course is administered by the Department of History.*



**JAPAN ST 3E03 JAPANESE RELIGION**  
A study of Japanese religion and how it functions in Japanese society. Topics will include Shinto, shamanism, Ancestor Worship, Japanese Buddhism and the New Religions of Japan.  
Two lectures, one tutorial; one term  
Prerequisite: Registration in Level II or above. One of RELIG ST 1B06, 2MM6 or JAPAN ST 2P06 is recommended.  
Cross-list: RELIG ST 3E03

*This course is administered by the Department of Religious Studies.*

**JAPAN ST 3H03 STORYTELLING IN EAST ASIAN RELIGIONS**  
An in-depth study of selected examples of story literature in China and Japan with attention to the way religion is represented in them.  
Two lectures, one tutorial; one term  
Prerequisite: Registration in Level II or above  
Cross-list: RELIG ST 2F03

*This course is administered by the Department of Religious Studies.*

**JAPAN ST 3S03 THE EAST ASIAN RELIGIOUS TRADITION**  
Readings in East Asian religious texts in translation will centre around themes such as culture vs. nature, virtue vs. power, social responsibility vs. personal cultivation, bookish learning vs. meditation.  
Two lectures, one tutorial; one term

Prerequisite: Registration in Level III or above

Cross-list: ARTS&SCI 3S03, RELIG ST 3S03

*This course is administered by the Department of Religious Studies.*

**JAPAN ST 3UU3 BUDDHISM IN EAST ASIA**  
An examination of myth, history, doctrine, monastic culture, and ritual practice in East Asian Buddhism.  
Two lectures, one tutorial; one term

Prerequisite: Registration in Level II or above

Cross-list: RELIG ST 3UU3

*This course is administered by the Department of Religious Studies.*

**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 the Combined Honours in Japanese Studies program and permission of the Director

**JAPAN ST 4B03 GUIDED READING IN JAPANESE STUDIES**  
Independent study on an approved topic. A research essay and/or final examination will be required.  
One term

Prerequisite: Registration in Level III or IV of the Combined Honours in Japanese Studies program and permission of the Director

**JAPAN ST 4S03 JAPANESE BUSINESS**  
An introduction to Japan's business system. The approach is integrative, as the course examines Japan's economic history, culture, politics, industrial policy, management practices, advertising and doing business with Japan.  
Prerequisite: Registration in a Commerce, Engineering and Management or Japanese Studies program  
Cross-list: COMMERCE 4SF3

*This course is administered by the School of Business.*

## LINGUISTICS ...

Linguistics courses and programs are administered within the Department of Linguistics and Languages of the Faculty of Humanities. For information and counselling, please contact the departmental office, Togo Salmon Hall, Room 613.

### Note:

Not all courses are offered on an annual basis. Students should consult the timetable for available courses.

**Courses** *If no prerequisite is listed, the course is open.*

**LINGUIST 1A03 INTRODUCTION TO LINGUISTICS I**  
This course provides an introduction to the field of linguistics, the scientific study of language. The focus will be on language structure, specifically the core areas of phonetics, phonology and morphology. Topics covered will be exemplified not only through English, but through a wide variety of languages.  
Two lectures, one tutorial; one term

**LINGUIST 1AA3 INTRODUCTION TO LINGUISTICS II**  
This course is a continuation of LINGUIST 1A03, and completes the introduction to linguistics. Emphasis will be placed on syntax, semantics, typology, historical linguistics and applied linguistics.  
Two lectures, one tutorial; one term

Prerequisite: LINGUIST 1A03

**LINGUIST 2A03 THE MAKING OF THE EUROPEAN LINGUISTIC LANDSCAPE**  
The history of language use in Europe from antiquity to the present day. The course will illustrate the different functions of language in social life and the growth of national, standardized idioms. It will also serve as an introduction to the history of linguistics as a discipline.  
Three lectures; one term

Prerequisite: Registration in Level II or above

Cross-list: CMST 2U03

Antirequisite: ANTHROP 2AL3

*This course is administered by the Department of Linguistics and Languages.*

**LINGUIST 2AA3 HISTORICAL LINGUISTICS: THE DEVELOPMENT OF INDO-EUROPEAN LANGUAGES**

The phonetic, morphological, syntactic and lexical structures of Indo-European languages and the role of these features in the genesis and development of the Indo-European-based languages of Europe.  
Three lectures; one term

Prerequisite: LINGUIST 1A03, 1AA3

Antirequisite: ANTHROP 2AA3

**LINGUIST 2E03 THE NATURE OF TEXTS: FROM SLANG TO FORMAL DISCOURSE**

This course introduces students to the field of discourse analysis and investigates a variety of styles and registers from the conversational to the literary and from the journalistic to the academic.  
Three hours; one term

Prerequisite: Registration in Level II or above

Cross-list: CMST 2E03

*This course is administered by the Department of Linguistics and Languages.*

**LINGUIST 2L03 PHONETICS**  
A study of the sounds of language and human articulatory capabilities.  
Three lectures; one term

Prerequisite: LINGUIST 1A03

Cross-list: ANTHROP 2L03

*This course is administered by the Department of Linguistics and Languages.*

**LINGUIST 2LL3 INTRODUCTION TO LINGUISTIC TYPOLOGY**  
The study of diversity in the languages of the world, language universals and the parameters of cross-linguistic analysis of grammatical systems.  
Three hours (lectures and discussion); one term

Prerequisite: LINGUIST 1A03, 1AA3

Cross-list: ANTHROP 2LL3

*Offered in alternate years.*

*This course is administered by the Department of Linguistics and Languages.*

**LINGUIST 3A03 PHONOLOGY**  
A study of the patterns of distinctive sounds in the world's languages.  
Three lectures; one term

Prerequisite: LINGUIST 2L03

Cross-list: ANTHROP 3A03

Antirequisite: ANTHROP 2M03, LINGUIST 2M03

*This course is administered by the Department of Linguistics and Languages.*

**LINGUIST 3B03 PSYCHOLINGUISTICS**  
The study of perception, production and acquisition of language. Special attention is paid to methods of psycho- and neurolinguistic research and to their connection with theoretical linguistics.  
Three hours; one term

Prerequisite: LINGUIST 1A03 and 1AA3 (or 1A06); or PSYCH 2H03

Cross-list: PSYCH 3BB3

*Alternates with LINGUIST 3C03.*

*This course is administered by the Department of Linguistics and Languages.*

**LINGUIST 3C03 CHILD LANGUAGE ACQUISITION**  
Language behaviour and development in children, from birth to school age. The course examines how data from children's language acquisition can inform linguistic theory.  
Three hours; one term

Prerequisite: LINGUIST 1A03; and LINGUIST 1AA3 or PSYCH 2H03

Cross-list: PSYCH 3C03

*Alternates with LINGUIST 3B03.*

**LINGUIST 3I03 SYNTAX**  
The study of sentence structure in many languages. The emphasis is on using empirical data to test theoretical proposals.  
Three hours; one term

Prerequisite: LINGUIST 1A03, 1AA3

Cross-list: ANTHROP 3I03

*This course is administered by the Department of Linguistics and Languages.*

## 250 LINGUISTICS AND LANGUAGES

### LINGUIST 3I13 SEMANTICS

The study of patterns of meaning in language; a critical survey of theories and issues.

Three hours; one term

Prerequisite: ANTHROP 3I03 or LINGUIST 3I03

Cross-list: ANTHROP 3I13

Offered in alternate years.

This course is administered by the Department of Linguistics and Languages.

### LINGUIST 3M03 MORPHOLOGY

The study of word formation in the languages of the world; a critical survey of current theories and issues.

Three lectures; one term

Prerequisite: LINGUIST 1A03, 1AA3

Cross-list: ANTHROP 3M03

Offered in alternate years.

This course is administered by the Department of Linguistics and Languages.

### LINGUIST 3P03 PRAGMATICS

A discussion of the problems confronting the linguist in the study of text and discourse at the level beyond the sentence. The course will deal with the interaction between grammar and situational factors.

Three lectures; one term

Prerequisite: LINGUIST 1A03, 1AA3; or FRENCH 2H03

Cross-list: CMST 3V03

Antirequisite: ANTHROP 3PL3

Offered in alternate years.

This course is administered by the Department of Linguistics and Languages.

### LINGUIST 3X03 INTRODUCTION TO SOCIOLINGUISTICS

An introduction to sociolinguistics with particular emphasis on the social situation of the major European languages. Topics covered include linguistic variation (regional, social, situational), language and gender, language and disadvantage/power, language choice, language change, pidgin and creole languages.

Three lectures; one term

Prerequisite: LINGUIST 1A03, 1AA3

Cross-list: CMST 3G03

Antirequisite: ANTHROP 3X03

This course is administered by the Department of Linguistics and Languages.

### LINGUIST 4B03 APPLIED LINGUISTICS

The course is designed to acquaint the student with the contributions that the linguist, psycholinguist, sociolinguist can make to second language learning and teaching.

Three hours; one term

Prerequisite: LINGUIST 1A03, 1AA3 and six units of Linguistics above Level I

Cross-list: CMST 4G03

Antirequisite: ANTHROP 4BL3

This course is administered by the Department of Linguistics and Languages.

### LINGUIST 4D03 COMPUTERS AND LINGUISTIC ANALYSIS

This course studies the linguistic applications of computer technology in general, and language processing in particular, including parsers and machine translation.

Two lectures, one lab; one term

Prerequisite: LINGUIST 1A03, 1AA3 and six units of Linguistics above Level I

Cross-list: CMST 4I03

Offered in alternate years.

This course is administered by the Department of Linguistics and Languages.

### LINGUIST 4E03 TESL (TEACHING ENGLISH AS A SECOND LANGUAGE): METHODOLOGICAL CONSIDERATIONS

This course will look at the phenomenon of TESL not only in the Canadian context but also worldwide. There will also be a detailed investigation of the dominant teaching methodologies associated with TESL.

Seminar (two hours); one term

Prerequisite: LINGUIST 1A03, 1AA3 and six units of Linguistics above Level I

Offered on an irregular rotation basis.

### LINGUIST 4I03 IMMIGRANT CONTACT LANGUAGES AND THE CREATION OF A NEW IDENTITY

This course will look at the genesis, characteristics and usage patterns of "immigrant contact languages" and the characteristics of the resultant "hyphenated" identity (i.e. Spanglish - Latino; Italo-Canadian).

Seminar (two hours); one term

Prerequisite: LINGUIST 1A03, 1AA3 and six units of Linguistics above Level I

Offered on an irregular rotation basis.

### LINGUIST 4I13 INDEPENDENT STUDY

The student will prepare, under the supervision of a faculty member, a research paper involving independent study in an area where the student has already demonstrated competence.

Prerequisite: 18 units of Linguistics above Level I and permission of the Department

### LINGUIST 4LB3 ADVANCED PHONETICS, PHONOLOGY AND MORPHOLOGY

This course examines advanced issues in phonetics, phonology and morphology, seeking to evaluate current theory and to address data that fall beyond the explanatory capacities of those paradigms. The course is data oriented, with material taken from several languages of the Caucasus.

Three lectures; one term

Prerequisite: Nine units of Linguistics or Linguistic Anthropology above Level I

Cross-list: ANTHROP 4LB3

Antirequisite: ANTHROP 4LA3, LINGUIST 4LA3

This course is administered by the Department of Linguistics and Languages.

### LINGUIST 4LC3 ADVANCED SYNTAX AND SEMANTICS

This course examines advanced issues in syntax and semantics, seeking to evaluate current theory and to address data that fall beyond the explanatory capacities of those paradigms. The course is data oriented, with material taken from several languages of the Caucasus.

Three lectures; one term

Prerequisite: Nine units of Linguistics or Linguistic Anthropology above Level I

Cross-list: ANTHROP 4LC3

Antirequisite: ANTHROP 4LA3, LINGUIST 4LA3

This course is administered by the Department of Linguistics and Languages.

### LINGUIST 4M03 PIDGINS AND CREOLES

A survey of the structure (grammar and vocabulary), genesis, evolution and social history of the languages that developed as a result of European expansion to Africa, the Americas, Asia and the Pacific. Emphasis will be placed on the Atlantic (Caribbean and West African) creoles.

Seminar (two hours); one term

Prerequisite: LINGUIST 3X03

Offered on an irregular rotation basis.

### LINGUIST 4N03 ENGLISH AS A GLOBAL LANGUAGE

This course explores issues arising from the status of English as a language of international communication, including: the rise of English as a global language, world Englishes, linguistic power, consequences for multilingual societies, especially minority languages.

Seminar (two hours); one term

Prerequisite: LINGUIST 3X03

Offered on an irregular rotation basis.

### LINGUIST 4R03 CROSS-CULTURAL COMMUNICATION

Students will explore the links between language and culture and learn skills necessary to be intermediaries between cultures. Topics include: communication between genders, the cognitive role of metaphor, language and perception, emotions across cultures, culture and advertising, body language and cultural stereotyping.

Seminar (two hours); one term

Prerequisite: LINGUIST 1A03, 1AA3 and six units of Linguistics above Level I; or permission of the Department

Cross-list: CMST 4R03

Not open to students with credit in LINGUIST 4BB3, TOPICS IN THE APPLICATION OF LINGUISTICS, if the topic was Cross-Cultural Communication.

Offered on an irregular rotation basis.

### LINGUIST 4S03 INTERPERSONAL COMMUNICATION

This course offers an introduction to contemporary interpersonal communication theories and research. Topics include: small group communication, persuasive communication, argumentation strategies, conflict resolution and computer mediated, intercultural, international and political communication.

Seminar (two hours); one term

Prerequisite: LINGUIST 1A03, 1AA3 and six units of Linguistics above Level I; or permission of the Department

Cross-list: CMST 4S03

Not open to students with credit in LINGUIST 4BB3, TOPICS IN THE APPLICATION OF LINGUISTICS, if the topic was Interpersonal Communication.

Offered on an irregular rotation basis.

**LINGUIST 4SL3 SLP PRACTICUM**

Observation in a professional speech pathology environment or involvement in a relevant research project, and completion of a paper related to experience. Experience must be approved by the Department prior to the commencement of the course.

One term  
Prerequisite: Registration in Level IV of the Honours Linguistic Cognitive Science program and permission of the Department

**LINGUIST 4T03 FORENSIC LINGUISTICS**

This course examines issues arising from the language-law interface, including: speaker/author identification; interpretation and transcription of police interrogations, witness statements, trial discourse; written legal language.

Seminar (two hours); one term  
Prerequisite: LINGUIST 3X03  
Cross-list: CMST 4T03

*Not open to students with credit in LINGUIST 4BB3, TOPICS IN THE APPLICATION OF LINGUISTICS, if the topic was Forensic Linguistics. Offered on an irregular rotation basis.*

**LINGUIST 4TE3 TESL PRACTICUM**

Observation and instruction in a TESL classroom and completion of a paper based on experience. Experience must be approved by the Department prior to the commencement of the course.

One term  
Prerequisite: Registration in Level IV of the Honours Linguistic Cognitive Science program and permission of the Department

**LINGUIST 4XX3 TOPICS IN LINGUISTIC THEORY**

Issues in different aspects of Linguistic Theory and Advanced Philology. Consult the Department for the topic to be offered.

Seminar (two hours); one term  
Prerequisite: LINGUIST 1A03, 1AA3 and six units of Linguistics above Level I  
Cross-list: ANTHROP 4XX3

*LINGUIST 4XX3 may be repeated, if on a different topic, to a total of six units. Offered in alternate years. This course is administered by the Department of Linguistics and Languages.*

**LINGUIST 4Z03 TOPICS IN PSYCHOLINGUISTICS**

Topics include: First Language Acquisition; Brain and Language. Consult the Department for the topic to be offered.

Seminar (two hours); one term  
Prerequisite: Any Level III course in Linguistics; or PSYCH 3BB3 or 3UU3  
Cross-list: PSYCH 4Z03

*LINGUIST 4Z03 may be repeated, if on a different topic, to a total of six units. Offered in alternate years. This course is administered by the Department of Linguistics and Languages.*

**LINGUIST 4ZZ3 APPROACHES TO DISCOURSE**

This course offers an overview of different approaches to the analysis of discourse, including speech act theory, interactional sociolinguistics, ethnography of communication, pragmatics, conversation analysis, and critical discourse analysis.

Three hours (lectures and discussion); one term  
Prerequisite: Registration in Level III or IV of a program in Communication Studies or Linguistics or permission of the Program Counsellor for Communication Studies  
Cross-list: CMST 4L03

*Enrolment is limited to 25 students. This course is administered by Communication Studies.*

**POLISH ...**

Courses in Polish are administered within the Department of Linguistics and Languages of the Faculty of Humanities. For information and counselling, please contact the departmental office, Togo Salmon Hall, Room 613.

**Notes:**

- Students should note that the Department has classified its Polish language courses under the following categories:  
**Introductory Level Language Courses**  
 POLISH 2A03, 2AA3  
**Intermediate Level Language Courses**  
 POLISH 3A03, 3AA3  
**Advanced Level Language Courses**  
 POLISH 4A03, 4AA3
- POLISH 2A03 and 2AA3 are open only to students with no prior knowledge of Polish. Students with some knowledge of written and oral Polish are advised to enrol in POLISH 3A03 or 3AA3. Students with a good command of Polish should enrol in POLISH 4A03 or 4AA3.

**COURSES** *If no prerequisite is listed, the course is open.*

**POLISH 2A03 BEGINNER'S POLISH I**

An introduction to basic conversational and written Polish, teaching the skills of listening, speaking, and writing. The sequel to this course is POLISH 2AA3.

Four hours; one term  
Antirequisite: POLISH 1Z03  
*Not open to students with a prior knowledge of Polish.*

*The Department reserves the right to place students in the course most appropriate to their abilities. Enrolment is limited.*

**POLISH 2AA3 BEGINNER'S POLISH II**

A course designed to further the student's command of oral and written Polish. The sequel to this course is POLISH 3A03.

Four hours; one term  
Prerequisite: One of POLISH 1Z03, 2A03 or permission of the Department  
Antirequisite: POLISH 1ZZ3

*The Department reserves the right to place students in the course most appropriate to their abilities. Enrolment is limited.*

**POLISH 3A03 INTERMEDIATE POLISH I**

This course concentrates on the study of Polish grammar and develops skills for conversation, reading and writing. The sequel to this course is POLISH 3AA3.

Four hours; one term  
Prerequisite: One of POLISH 1ZZ3, 2AA3  
Antirequisite: POLISH 2Z06

*The Department reserves the right to place students in the course most appropriate to their abilities. Enrolment is limited.*

**POLISH 3AA3 INTERMEDIATE POLISH II**

This course concentrates on the study of grammatical structures and rules of composition. It develops written and oral skills. The sequel to this course is POLISH 4A03.

Four hours; one term  
Prerequisite: POLISH 3A03  
Antirequisite: POLISH 2Z06

*The Department reserves the right to place students in the course most appropriate to their abilities. Enrolment is limited.*

**POLISH 4A03 ADVANCED POLISH I**

This course focuses on the study of more advanced syntax, composition and conversation, using short modern texts and films.

Three hours; one term  
Prerequisite: POLISH 3AA3

*The Department reserves the right to place students in the course most appropriate to their abilities. Enrolment is limited.*

**POLISH 4AA3 ADVANCED POLISH II**

This course focuses on the study of stylistic variation of different text types and on translation practice to and from Polish.

Three hours; one term  
Prerequisite: POLISH 4A03

*The Department reserves the right to place students in the course most appropriate to their abilities. Enrolment is limited.*

**RUSSIAN ...**

Courses in Russian are administered within the Department of Linguistics and Languages of the Faculty of Humanities. For information and counselling, please contact the departmental office, Togo Salmon Hall, Room 613.

**Note:**

- Students should note that the Department has classified its Russian language courses under the following categories:  
**Introductory Level Language Courses**  
 RUSSIAN 2A03, 2AA3  
**Intermediate Level Language Courses**  
 RUSSIAN 3A03, 3AA3  
**Advanced Level Language Courses**  
 RUSSIAN 4B03, 4BB3

**Courses** *If no prerequisite is listed, the course is open.***RUSSIAN 2A03 INTENSIVE BEGINNER'S RUSSIAN I***Formerly: RUSSIAN 1Z03*

Designed for students with no prior knowledge of Russian, the course covers basic Russian vocabulary and grammatical structures, while emphasizing spoken Russian. This course is enhanced by CALL (Computer-Assisted Language Learning) module. The sequel to this course is RUSSIAN 2AA3.

Four hours; one term

Antirequisite: Grade 12 U or M equivalent, RUSSIAN 1Z03

*Not open to students with credit or registration in RUSSIAN 2AA3 or credit in RUSSIAN 1ZZ3. The Department reserves the right to place students in the course most appropriate to their abilities.*

**RUSSIAN 2AA3 INTENSIVE BEGINNER'S RUSSIAN II***Formerly: RUSSIAN 1ZZ3*

This course consists of an intensive study of Russian vocabulary and grammar, with further emphasis on spoken Russian and enhancement by CALL (Computer-Assisted Language Learning) module. The sequel to this course is RUSSIAN 3A03.

Four hours; one term

Prerequisite: RUSSIAN 1Z03 or 2A03

Antirequisite: Grade 12 U or M equivalent, RUSSIAN 1ZZ3

*The Department reserves the right to place students in the course most appropriate to their abilities.*

**RUSSIAN 3A03 INTERMEDIATE RUSSIAN I***Formerly: RUSSIAN 2Z03*

This course continues the study of Russian grammar with emphasis on extending skills for conversation, reading and writing. Video film and interactive computer software will be used to supplement traditional printed materials. The sequel to this course is RUSSIAN 3AA3.

Four hours; one term

Prerequisite: RUSSIAN 1ZZ3 or 2AA3

Antirequisite: RUSSIAN 2C06, 2Z03

*Not open to students with credit or registration in RUSSIAN 3AA3 or credit in RUSSIAN 2ZZ3.*

*The Department reserves the right to place students in the course most appropriate to their abilities.*

**RUSSIAN 3AA3 INTERMEDIATE RUSSIAN II***Formerly: RUSSIAN 2ZZ3*

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. The sequel to this course is RUSSIAN 4B03 (formerly RUSSIAN 3G03).

Four hours; one term

Prerequisite: RUSSIAN 2Z03 or 3A03

Antirequisite: RUSSIAN 2C06, 2ZZ3

*The Department reserves the right to place students in the course most appropriate to their abilities.*

**RUSSIAN 4B03 ADVANCED LANGUAGE PRACTICE I***Formerly: RUSSIAN 3G03*

The course focuses on the structure of a simple sentence. Reading, writing and conversational skills are developed through the reading and discussion of narrative texts and the writing of short composition. The sequel to this course is RUSSIAN 4BB3 (formerly RUSSIAN 3H03).

Three hours; one term

Prerequisite: One of RUSSIAN 2C06, 2ZZ3, 3AA3

Antirequisite: RUSSIAN 3C06, 3G03

*The Department reserves the right to place students in the course most appropriate to their abilities.*

**RUSSIAN 4BB3 ADVANCED RUSSIAN GRAMMAR AND STYLISTICS***Formerly: RUSSIAN 3H03*

This course focuses on the study of the compound and complex sentences. Emphasis will be on the reading of selected texts, advanced composition, and stylistics.

Three hours; one term

Prerequisite: RUSSIAN 3G03, 4B03

Antirequisite: RUSSIAN 3C06, 3H03

*The Department reserves the right to place students in the course most appropriate to their abilities.*

**MANUFACTURING TECHNOLOGY**

John Hodgins Engineering Building, Room A410

Ext. 27013

Students currently in the Bachelor of Technology Degree Program in Manufacturing Engineering Technology should contact the School of Technology for advice on course selection and continuation in the degree program.

**MATERIALS SCIENCE AND ENGINEERING**WEB ADDRESS: <http://mse.mcmaster.ca/>

John Hodgins Engineering Building, Room 357

Ext. 24295

**Faculty as of January 15, 2006****Chair**

Kenneth S. Coley

**Distinguished University Professors**

J. David Embury/B.Sc. (Manchester), Ph.D. (Cambridge), F.R.S.C., P.Eng.  
Gary R. Purdy/M.Sc. (Alberta), Ph.D. (McMaster), D.H.C. (Grenoble),  
F.C.I.M., F.R.S.C., P.Eng.

**Professors**

Gianluigi Botton/B.Eng.Phys., Ph.D. (Ecole Polytechnique)  
Gordon A. Irons/B.A.Sc. (Toronto), Ph.D. (McGill), F.C.I.M., P.Eng.,  
Dofasco Chair in Ferrous Metallurgy  
Gyan P. Johari/B.Sc., M.Sc., Ph.D. (Gorakhpur), D.H.C. (Lyon), F.R.S.C.  
Adrian Kitai/B.Sc. (McMaster), Ph.D. (Cornell), P.Eng.  
Anthony Petric/B.A.Sc. (Toronto), Ph.D. (Ecole Polytechnique), P.Eng.  
David S. Wilkinson/B.A.Sc. (Toronto), Ph.D. (Cambridge), F.C.I.M.,  
F.A.Cer.S., P.Eng.  
Gu Xu/M.Sc., Ph.D. (Pittsburgh), D.E.S. (Columbia)  
Shiping Zhu/B.Eng. (Zhejiang), Ph.D. (McMaster) P.Eng.

**Adjunct Professors**

Yves Brechet/D.E.A. (Ecole Polytechnique), Ph.D. (Grenoble)  
Michael J. Graham/B.Sc., Ph.D. (Liverpool)  
T.R. Holder/B.Sc., Ph.D., (Leeds)  
Zygmunt J. Jakubek/M.S. (Cracow), Ph.D. (M.I.T.)  
David J. Lyoyd/B.Sc., Ph.D., (Wales)  
Beng S. Ong/B.Sc. (Nanyang), Ph.D. (McGill)  
Zoran D. Popovic/Dipl.Eng., M.Sc. (Belgrade), Ph.D. (McMaster)  
Barry A. Strathdee/B.A.Sc., Ph.D. (Toronto), P.Eng.  
S.V. Mani Subramanian/B.Sc. (Banaras), M.Met., Ph.D. (Sheffield)

**Associate Professors**

Kenneth S. Coley/B.Sc. (Strathclyde), Ph.D., D.I.C. (Imperial College,  
London)  
David S. Conochie/B.E., M.Eng.Sci. (Melbourne), Ph.D. (London), D.I.C.  
(Imperial College, London)  
Dmitri V. Malakhov/B.Sc. (Moscow), M.Sc., Ph.D. (Novosibirsk, Russia)  
Marek Niewczas/M.Sc., Ph.D. (Krakow)  
Nikolas Provas/M.Sc., Ph.D. (McGill)  
Igor Zhitomirsky/M.Sc. (State University, Kalinin), Ph.D. (Karpov Institute,  
Moscow)

**Assistant Professor**

Hatem S. Zurub/B.Eng., Ph.D. (McMaster)

**Associate Members**

Kari Dalnoki-Veress/(Physics) B.Sc., M.Sc., Ph.D. (Guelph)  
John E. Greedan/(Chemistry) B.A. (Bucknell), Ph.D. (Tufts), F.C.I.C.  
Mohamed Hamed/(Mechanical Engineering) B.A.Sc., Ph.D. (Alexandria)  
Adam P. Hitchcock/(Chemistry) B.Sc. (McMaster), Ph.D. (British  
Columbia), F.C.I.C.  
Joseph McDermid/(Mechanical Engineering) B.Sc. (Queen's), M.Eng.,  
Ph.D. (McGill)  
Kalai Saravanamuttu/(Chemistry) B.Sc., Ph.D. (McGill)  
Sumanth Shankar/(Mechanical Engineering) B.Tech (Varanasi), Ph.D.  
(Worcester)

**COURSES** *If no prerequisite is listed, the course is open.*

**MATLS 1M03 STRUCTURE AND PROPERTIES OF MATERIALS**  
 An introduction to the structure of both crystalline and amorphous solids; the physical and chemical basis for properties exhibited by materials; an overview of material properties including mechanical, electrical, magnetic and thermal behaviour.  
 Three lectures, one tutorial; second term  
 Prerequisite: Registration in any program in the Faculties of Engineering or Science  
 Antirequisite: ENGINEER 2E03, 2O03, 2O04, MATLS 1A03, 2O03

**MATLS 2B03 THERMODYNAMICS OF MATERIALS**  
 Thermodynamics of gases and critical phenomena. The three laws of thermodynamics applied to materials processing. An introduction to statistical thermodynamics.  
 Three lectures, one tutorial; first term  
 Prerequisite: CHEM 1A03 or 1E03  
 Antirequisite: ENG PHYS 2H04, MATLS 2B06, PHYSICS 2H04

**MATLS 2D03 SOLUTION THERMODYNAMICS**  
 Thermodynamic activity in solid and liquid systems: Gibbs energy of solutions; binary phase diagrams; equilibrium constant; reaction equilibria in gases; Ellingham diagrams.  
 Three lectures, one tutorial; second term  
 Prerequisite: CHEM 1A03 or 1E03; and MATLS 2B03  
 Antirequisite: MATLS 2B06

**MATLS 2H04 MEASUREMENTS AND COMMUNICATION**  
 Basic experimental, simulation and data collection skills relating to materials structure and properties. Written and presentation skills development through lab report writing, assignments and plant visits.  
 Two three hour laboratories or tutorials per week; both terms  
 Prerequisite: One of COMP SCI 1MA3, 1MC3 or ENGINEER 1D04; and CHEM 1A03 or 1E03; and registration in a program administered by the Department of Materials Science and Engineering  
 Antirequisite: MATLS 2H03

**MATLS 2X03 CRYSTALLINE STRUCTURE OF MATERIALS**  
 Crystal geometry, point groups, space groups, x-ray diffraction methods for the determination of crystalline structures and chemical compositions, electron and neutron diffraction methods, microanalysis, crystalline defects, physical properties of crystals, crystal growth; phase analysis, phase diagrams, phase transitions, protein crystallography.  
 Two lectures, one lab (three hours); first term  
 Prerequisite: Completion of Science I or Engineering I  
 Antirequisite: MATLS 2X02

**MATLS 3A03 COMPUTATIONAL THERMODYNAMICS**  
 Thermodynamic modelling. Principles of computational thermodynamics and its applications. Thermo-Calc. Fortran programming. TQ interface and its incorporation into problem-oriented programs.  
 Two lectures, one tutorial during the first half of the term, one lecture, two tutorials during the second half of the term; second term  
 Prerequisite: One of MATLS 3C03, 3C04 or registration in a program administered by the Department of Materials Science and Engineering

**MATLS 3B03 MATERIALS PRODUCTION**  
 Surface science and technology related to the preparation of fine particles of minerals, metals and ceramics for industrial production. Application of electrochemistry for diverse materials processing, such as electrometallurgy, thin film production and anodizing.  
 Three lectures; second term  
 Prerequisite: MATLS 2B06; or MATLS 2B03 and 2D03

**MATLS 3C04 THERMODYNAMICS OF MULTICOMPONENT SYSTEMS**  
 Reaction equilibria in solution; stability diagrams; ternary phase diagrams; aqueous and high temperature electrochemistry; use of computerized thermodynamic databases.  
 Three lectures, one lab (three hours) every other week, one tutorial; first term  
 Prerequisite: MATLS 2D03  
 Antirequisite: MATLS 3C03, 3D03

**MATLS 3E04 MASS TRANSFER**  
 Phenomenological and mechanistic approaches to diffusion; boundary conditions; diffusion in fluids and solids; point defects in solids.  
 Three lectures, two tutorials; second term.  
 Prerequisite: One of ENGINEER 2O03, MATLS 1A03 or 1M03; and either MATH 2M06 or both MATH 2A03 and 2C03

**MATLS 3F03 HIGH-TEMPERATURE MATERIALS PRODUCTION**  
 Fundamentals of processing, building on a knowledge of heat and mass transfer. High temperature processing of materials, focusing on heat sources, solid state processing of powders and liquid state processing, high temperature production routes for most important metals.  
 Three lectures, one tutorial (one hour); second term.  
 Prerequisite: MATLS 2D03  
 Antirequisite: MATLS 4B04

**MATLS 3M03 MECHANICAL BEHAVIOUR OF MATERIALS**  
 How materials are made strong, tough, ductile, formable. How to prevent failures. Materials selection using computer databases.  
 Two lectures, one tutorial and/or laboratory; first term  
 Prerequisite: ENGINEER 2P04 and one of ENGINEER 2O03, MATLS 1A03, 1M03, 2O03; or permission of the department  
 Antirequisite: ENGINEER 3P03, MATLS 3P03

**MATLS 3N03 COMPUTATIONAL MODELLING IN MATERIALS ENGINEERING**  
 Introduction to numerical modeling of heat and mass transfer processes, microstructure development in alloys, interface properties and simple atomic and molecular modelling.  
 Three lectures; second term  
 Prerequisite: MATLS 1M03, 3T04; or registration in a program administered by the Department of Materials Science and Engineering  
 Antirequisite: MATLS 4E04

**MATLS 3Q03 MATERIALS FOR ELECTRONIC APPLICATIONS**  
 Fundamental properties of materials used in electronic applications, operation of devices and fabrication methods of electronic circuits and packaging. Includes description of dielectric, magnetic and optoelectronic properties.  
 Three lectures; second term  
 Prerequisite: One of ENGINEER 2E03, 2O03 or MATLS 1M03

**MATLS 3T04 PHASE TRANSFORMATIONS**  
 Review of thermodynamics, binary phase diagrams and solid state diffusion. Role of interfaces; solidification, diffusional and martensitic transformations; welding; oxidation. Metallographic examination will be featured in laboratory work.  
 Three lectures or tutorial, one lab (three hours); first term  
 Prerequisite: One of ENGINEER 2O03, MATLS 1M03, 2X02 or 2X03

**MATLS 4A02 SEMINARS AND INDUSTRIAL PRACTICE**  
 Seminars and discussions by technical personnel from industry. Corresponding plant visits made by the class and reported both in written and oral form. Workshops on: Statistical Process Control; ISO 9000; Industrial Health and Safety; Entrepreneurship.  
 One seminar/tutorial/plant visit (three hours); both terms.  
 Prerequisite: Registration in the final level of a program administered by the Department of Materials Science and Engineering

**MATLS 4C03 MODERN IRON AND STEELMAKING**  
 Theory and practice of iron making. New processes for reduced energy consumption and pollution. Thermodynamics and kinetics of steelmaking. Steel refining. Casting, including new near net shape technologies. Specialty steelmaking.  
 Three lectures; second term  
 Prerequisite: CHEM ENG 2A04, MATLS 3E04  
 Corequisite: MATLS 4B04  
*Offered on an irregular rotation basis.*  
*Offered in 2006-2007.*  
*Not offered in 2007-2008.*

**MATLS 4D03 MATERIALS AND THE ENVIRONMENT**  
 The environments experienced by engineering materials in service, and economic methods for ensuring their survival. The basic science of high temperature oxidation and aqueous corrosion leads to an appreciation of methods for corrosion control.  
 Three lectures; first term  
 Prerequisite: MATLS 2D03; and MATLS 3E04 or 3T04 (which may be taken concurrently)  
*Offered on an irregular rotation basis.*  
*Offered in 2006-2007.*  
*Not offered in 2007-2008.*

**MATLS 4F03 SYNTHESIS AND APPLICATIONS OF NANOMATERIALS**

Introduction to synthesis routes for nanomaterials, bottom-up and top-down approaches, specific properties of materials at the nanoscale including carbon nanotubes, nanoparticles and quantum dots.  
Three lectures; second term

Prerequisite: Registration in Level IV of a program in Honours Chemistry, Engineering Physics, Materials Engineering or Honours Materials Science  
Antirequisite: MATLS 4F04

**MATLS 4G03 CHARACTERIZATION OF NANOMATERIALS**

Interaction of electrons and photons with matter. Imaging methods with electron microscopy, scanning probe techniques; x-ray photoelectron spectroscopy and X-ray absorption analysis with high spatial resolution.  
Three lectures; first term

Prerequisite: Registration in Level III or IV of a program in Chemical Engineering, Honours Chemistry, Engineering Physics, Materials Engineering or Honours Materials Science

Antirequisite: MATLS 4G02

Offered on an irregular rotation basis.

Offered in 2006-2007.

Not offered in 2007-2008.

**MATLS 4H03 THIN FILM SCIENCE AND ENGINEERING**

Deposition and fabrication techniques, surfaces, growth mechanisms, epitaxy, kinetic effects in thin films, defects and properties of thin films. Materials for packaging.

Three lectures; first term

Prerequisite: Registration in Level IV of Materials Science or Materials Engineering

Offered on an irregular rotation basis.

Offered in 2006-2007 and 2007-2008.

**MATLS 4I03 SUSTAINABLE MATERIALS PROCESSING**

Sustainable development, traditional economic growth, materials cycles, methods for measuring environmental impact, life cycle analysis, waste treatment technologies and recycling technologies. Assessment will consist of a combination of individual assignments and a group project.  
Two lectures, one tutorial (one hour); second term

Prerequisite: MATLS 3B03; and MATLS 3F03 or 4B04

Offered on an irregular rotation basis.

Offered in 2006-2007 and 2007-2008.

**MATLS 4J04 MATERIALS SELECTION IN DESIGN AND MANUFACTURING**

Overview of materials properties, materials selection charts, performance indices, case studies with simple and complex design constraints, fabrication process selection.

Three lectures, one tutorial (one hour); first term

Prerequisite: ENGINEER 2P04; and CHEM ENG 2A04 or MECH ENG 3R03

**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 8.0; and registration in the final level of a Materials Engineering program or Level IV of Honours Materials Science.

**MATLS 4L02 MATERIALS MANUFACTURING LABORATORY**

A sequence of experiments based on processing methods used in the metal and ceramic industries. Structure-property relationships are assessed at each step of the processing route.

One lecture, one lab (three hours); first term

Prerequisite: Registration in final year of a Materials Engineering program

**MATLS 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 2WW2; and either MATH 2M06 or both MATH 2A03 and 2C03

Offered on an irregular rotation basis.

Not offered in 2006-2007.

Offered in 2007-2008.

Open to Level III and IV students registered in a program in the Faculty of Science or Engineering with permission of the department.

**MATLS 4R03 CERAMIC SCIENCE**

The unique properties of structural and functional ceramics are explored, including ferroelectric, piezoelectric and magnetic ceramics, clays, porcelains and refractories. The importance of processing for achieving properties is emphasized.

Three lectures; second term

Prerequisite: Registration in a program in Materials Engineering

Offered on an irregular rotation basis.

Not offered in 2006-2007.

Offered in 2007-2008.

**MATLS 4T03 PROPERTIES AND PROCESSING OF COMPOSITES**

Intrinsic properties of matrix materials and fibres; mechanics and thermodynamics of interfaces; mechanical properties and fabrication of engineering composites.

Three lectures; second term

Prerequisite: ENGINEER 3P03 or MATLS 3M03

Offered on an irregular rotation basis.

Not offered in 2006-2007.

Offered in 2007-2008.

**MATLS 4Z04 INDUSTRIAL PROJECTS**

Projects, in cooperation with industry, involving materials design in manufacturing, complemented by workshops in group problem solving and design methodology.

Two labs (three hours); both terms

Prerequisite: Registration in Level IV or V of any program in Materials Engineering

**MATHEMATICS AND STATISTICS**

WEB ADDRESS: <http://www.math.mcmaster.ca>

Hamilton Hall, Room 218

Ext. 24581

**Faculty as of January 15, 2006****Chair**

Bradd Hart

**Associate Chairs**

Hans Boden/Graduate Studies

Deirdre Haskell/Undergraduate Studies

**Professors**

Stanley Aiyama/B.Sc. (Columbia), M.Sc., Ph.D. (Courant, N.Y.U.)

N. Balakrishnan/B.Sc., M.Sc. (Madras), Ph.D. (I.I.T., Kanpur)

Lia Bronsard/B.A. (Montreal), M.Sc., Ph.D. (Courant, NYU)

Walter Craig/A.B. (California-Berkeley), M.S., Ph.D. (Courant, N.Y.U.)

Senior Canada Research Chair

Shui Feng/B.Sc., M.Sc. (Beijing Normal), Ph.D. (Carleton)

Ian Hambleton/B.Sc., M.Sc. (Toronto), Ph.D. (Yale), Britton Professor of Mathematics

Bradd Hart/B.Math. (Waterloo), Ph.D. (McGill)

Fred M. Hoppe/B.Sc. (Toronto), M.Sc. (Weizmann Institute of Science), M.A., Ph.D. (Princeton)

Thomas R. Hurd/B.Sc. (Queen's), D.Phil. (Oxford)

Manfred Kolster/Dipl. (Hamburg), Dr. rer. nat. (Saarbrücken), Habil. (Münster)

Peter D.M. Macdonald/B.Sc., M.Sc. (Toronto), D.Phil. (Oxford)

Maung Min-Oo/B.Sc. (Rangoon), Dipl. Math., Dr. rer. nat., Habil. (Bonn)

Gregory H. Moore/B.A. (California-Berkeley), M.A., M.Sc., Ph.D. (Toronto)

Andrew J. Nicas/B.Sc. (McGill), M.A., Ph.D. (Princeton)

Eric T. Sawyer/B.Sc., Ph.D. (McGill)/McKay Professor of Mathematics

Matthew A. Valeriote/B.Math. (Waterloo), Ph.D. (California-Berkeley)

Roman Viveros-Aguilera/B.A. (Veracruzana, Mexico), M.A. (National Polytechnic Inst., Mexico), Ph.D. (Waterloo)/Graduate Advisor, Statistics

McKenzie Y.-K. Wang/A.B. (Princeton), Ph.D. (Stanford)

Gail S.K. Woikowicz/B.Sc., M.Sc. (McGill), Ph.D. (Alberta)

**Adjunct Professor**

Abdel H. El-Shaarawi/B.Sc., M.Sc. (Cairo), Ph.D. (Waterloo)/part-time

**Associate Professors**

- Hans Boden/B.S. (New Hampshire), Ph.D. (Brandeis)/Graduate Advisor, Mathematics  
 David Earn/B.Sc., M.Sc. (Toronto), Ph.D. (Cambridge)  
 Jean-Pierre Gabardo/B.Sc. (Université de l'Etat a Mons), Ph.D. (Maryland)  
 Deirdre Haskell/B.A. (Oxford), M.S., Ph.D. (Stanford)/Undergraduate Advisor  
 Nicholas Kevlahan/B.Sc. (British Columbia), Ph.D. (Cambridge)  
 Zdislav V. Kovarik/M.Sc. (Charles, Prague), Ph.D. (Toronto)  
 Miroslav Lovric/B.S. (Zagreb), M.S., Ph.D. (Ohio State), 3M Teaching Fellow  
 Ernest R. Mead/B.A., M.A., Ph.D. (Western Ontario), A.S.A.  
 Dmitry E. Pelinovsky/M.S. (Nizhny Novgorod State, Russia), Ph.D. (Monash)  
 Patrick Speissegger/M.Sc. (Swiss Federal Institute of Technology), Ph.D. (Illinois-Urbana)/Canada Research Chair  
 Agnes Tourin/M.Sc. (Paris), Ph.D. (Paris IX)

**Adjunct Associate Professor**

- Kevin N. Vander Meulen/B.Sc. (Calvin College), Ph.D. (Queen's)

**Assistant Professors**

- Iliham Akhundov/B.A. (Azerbaijan State University), M.A., Ph.D. (St. Petersburg-Leningrad)  
 Angelo Canty/B.Sc. (University College, Cork), M.Sc., Ph.D. (Toronto)  
 Aaron Childs/B.Sc., M.Sc., Ph.D. (McMaster)  
 Matheus Grasselli/B.Sc. (Sao Paolo), Ph.D. (King's College, London)  
 Bartosz Protas/M.Sc. (Warsaw University of Technology), Ph.D. (Warsaw University of Technology and Université de Paris)  
 Romyar Sharifi/B.A. (California-Berkeley), Ph.D. (Chicago)  
 Rong Zhu/B.Sc., M.Sc. (University of Science and Technology of China), Ph.D. (British Columbia)

**Associate Members**

- Antoine Deza/(Computing and Software), M.Sc. (Ecole Nationale des Ponts et Chaussées), Ph.D. (Tokyo Institute of Technology)  
 William M. Farmer/(Computing and Software) B.A. (Notre Dame), M.A., M.S., Ph.D. (Wisconsin-Madison)  
 Timothy Field/(Electrical and Computer Engineering)/B.A. (Cambridge), D.Phil. (Oxford)  
 Nedialbo Nedialkov/(Computing and Software)/B.Sc. (Sophia, Bulgaria), M.Sc., Ph.D. (Toronto)  
 Patrick Ryan/(Computing and Software) B.Sc. (Toronto), Ph.D. (Brown)  
 Jiming Peng/(Computing and Software) B.Sc. (Xiang Tan), M.Sc. (Chinese Academy of Sciences), Ph.D. (Delft University of Technology)  
 William F. Smyth/(Computing and Software) B.A. (Toronto), M.Sc. (Ottawa), Ph.D. (Curtin), C.Eng., F.B.C.S., F.I.C.A.  
 Tamas Teriaky/(Computing and Software) M.Sc., Ph.D. (Loránd Eötvös)  
 Stephen Waiter/(Health Sciences) B.Sc. (Imperial College, London), Ph.D. (Edinburgh), A.R.C.S.

**Department Note:**

Course codes ending with \* indicate that course is not necessarily offered every session; consult the Chair of the Department or the Associate Dean of Science (Studies).

**MATHEMATICS ...**

**Courses** If no prerequisite is listed, the course is open.

- MATH 1A03 CALCULUS FOR SCIENCE I**  
 For students in science: geared towards applications, with attention to underlying concepts. Functions: limits, continuity, derivatives, optimization, curve sketching. Antiderivative, definite integral, techniques of integration. Three lectures, one tutorial; one term  
 Prerequisite: Grade 12 Advanced Functions and Introductory Calculus U or MATH 1K03.  
 Antirequisite: ARTS&SCI 1D06, MATH 1N03, 1X03
- MATH 1AA3 CALCULUS FOR SCIENCE II**  
 For students in science: additional techniques of integration, applications of definite integrals, differential equations, polar coordinates, parametrized curves. Sequences, infinite series, power series. Partial derivatives. Three lectures, one tutorial; one term  
 Prerequisite: MATH 1A03 or 1X03  
 Antirequisite: ARTS&SCI 1D06, MATH 1NN3, 1XX3

- MATH 1B03 LINEAR ALGEBRA I**  
 Vector spaces given by solutions to linear systems. Linear independence, dimension. Determinants. Eigenvalues, eigenvectors and diagonalisation. Complex numbers. Three lectures, one tutorial; one term  
 Prerequisite: One of Grade 12 Geometry and Discrete U, MATH 1D03, STATS 1L03  
 Antirequisite: MATH 1H03, 1H05, 1HH3
- MATH 1C03 INTRODUCTION TO MATHEMATICAL REASONING**  
 Inquiry into the ideas and methods of advanced mathematics. Material will include topics selected from algebra, calculus, discrete math, geometry and number theory. Three hours; one term  
 Prerequisite: Grade 12 Advanced Functions and Introductory Calculus U and Grade 12 Geometry and Discrete U; or registration in MATH 1D03 and registration in Science I or Mathematics and Statistics I  
 Enrolment is limited. See the heading *Limited Enrolment Courses* in the *Faculty of Science* section of the Calendar.
- MATH 1D03 ALGEBRA AND GEOMETRY**  
 Vector geometry; equations of lines and planes, projections. Matrices. Systems of linear equations; geometric interpretation of solutions. Eigenvalues and eigenvectors. Complex numbers. Applications. Three lectures, one tutorial; one term  
 Prerequisite: Grade 12 Advanced Functions and Introductory Calculus U  
 Not open to students who have completed Grade 12 Geometry and Discrete Math U.
- MATH 1H03 LINEAR ALGEBRA FOR ENGINEERING**  
 Linear systems of equations, matrices, determinants, vectors and vector spaces, complex numbers, eigenvalues and eigenvectors. Three lectures, one tutorial; first term  
 Prerequisite: Registration in a program in Engineering  
 Antirequisite: MATH 1B03, 1H05
- MATH 1K03 INTRODUCTORY CALCULUS FOR BUSINESS, HUMANITIES AND THE SOCIAL SCIENCES**  
 An introduction to differential calculus and its applications. Three lectures, one tutorial; one term  
 Prerequisite: OSS Grade 11 Mathematics or OSIS Grade 12 Mathematics (Advanced)  
 Normally not open to students who have completed Grade 12 Advanced Functions and Introductory Calculus U. Students transferring to the Faculty of Science do not retain credit for this course.
- MATH 1M03 CALCULUS FOR BUSINESS, HUMANITIES AND THE SOCIAL SCIENCES**  
 Differential and integral calculus. Three lectures, one tutorial; one term  
 Prerequisite: MATH 1K03 or Grade 12 Advanced Functions and Introductory Calculus U  
 Not open to students with credit or registration in MATH 1A03, 1N03, 1X03, ARTS&SCI 1D06.  
 Students transferring to the Faculty of Science do not retain credit for this course. Students considering upper year mathematics courses should take MATH 1A03.
- MATH 1N03 CALCULUS FOR ENGINEERING I**  
 Differential calculus, the definite integral, techniques of integration, applications. Three lectures, one tutorial; one term  
 Prerequisite: Registration in a program in Engineering  
 Antirequisite: MATH 1A03, 1X03
- MATH 1NN3 CALCULUS FOR ENGINEERING II**  
 Applications of integration, differential equations, sequences and series, differential calculus of several variables, applications. Three lectures, one tutorial; one term  
 Prerequisite: MATH 1N03  
 Antirequisite: MATH 1AA3, 1XX3
- MATH 1X03 CALCULUS FOR MATH AND STATS I**  
 For students with interest in mathematics/statistics: emphasis on geometric intuition, but also theoretical foundations. Functions: limits, continuity, derivatives, optimization, curve sketching. Antiderivative, definite integral, techniques of integration. Three lectures, one tutorial; one term  
 Prerequisite: Registration in Math and Stats I  
 Antirequisite: ARTS&SCI 1D06, MATH 1A03, 1N03

**MATH 1XX3****CALCULUS FOR MATH AND STATS II**

For students in mathematic/statistics. Additional techniques of integration, applications of definite integrals, differential equations, polar coordinates, parametrized curves. Sequences, infinite series, power series. Partial derivatives.

Three lectures, one tutorial; one term

Prerequisite: MATH 1X03 and registration in Math and Stats I

Antirequisite: ARTS&SCI 1D06, MATH 1AA3, 1NN3

**MATH 2A03****CALCULUS III**

Functions of several variables, chain rule, Taylor's formula, extremal problems, Lagrange multipliers; multiple integrals; change of variables formula, line and surface integrals, Green's, Gauss' and Stokes' theorems.

Three lectures; one term

Prerequisite: One of MATH 1AA3, 1NN3, 1XX3, ARTS&SCI 1D06; and credit or registration in one of MATH 1B03, 1D03, 1H03, 1H05 or 1HH3

Antirequisite: MATH 2M06, 2Q04, 2X03

**MATH 2C03****DIFFERENTIAL EQUATIONS**

Ordinary differential equations, Laplace transforms, series solutions, partial differential equations, separation of variables, Fourier series.

Three lectures; one term

Prerequisite: One of MATH 1AA3, 1NN3, 1XX3, ARTS&SCI 1D06; and one of MATH 1B03, 1D03, 1H03, 1H05, 1HH3

Antirequisite: MATH 2C03, 2M06, 2P04

**MATH 2E03****INTRODUCTION TO MODELLING**

General features of modelling. Selected examples from biology, chemistry, economics and physics are treated by a variety of elementary methods. Computer packages are used when appropriate.

Three lectures; one lab (one hour); one term

Prerequisite: One of MATH 1AA3, 1NN3, 1XX3, ARTS&SCI 1D06; and credit or registration in one of MATH 1B03, 1D03, 1H03, 1H05, 1HH3

*Enrolment is limited. However, all students in programs 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, 1M03, 1N03, 1X03, ARTS&SCI 1D06

**MATH 2L03****MATHEMATICAL METHODS FOR BUSINESS AND SOCIAL SCIENCES**

Selected topics from: linear programming, Markov chains, game theory, differential equations, and the calculus of several variables.

Three lectures; one term

Prerequisite: One of MATH 1A03, 1M03, 1NN3, 1X03, ARTS&SCI 1D06; and one of MATH 1B03, 1D03, 1L03, STATS 1L03, Grade 12 Mathematics of Data Management U

*Not open to students registered in Science or Engineering programs.*

**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 1NN3; and one of MATH 1H03, 1H05, 1HH3

Antirequisite: MATH 2A03, 2C03, 2P04, 2Q04, 2X03

**MATH 2P04****DIFFERENTIAL EQUATIONS FOR ENGINEERING**

Ordinary differential equations, systems of linear ordinary differential equations, Laplace transform, power series solutions, Fourier series with engineering applications.

Three lectures and two tutorials; one term

Prerequisite: MATH 1NN3 and one of MATH 1H03, 1H05, 1HH3

Antirequisite: MATH 2C03, 2M06

**MATH 2Q04****ADVANCED CALCULUS FOR ENGINEERING**

Vector algebra, curves, partial differentiation, multiple integrals, Green's Theorem, line and surface integrals, integral theorems, scalar and vector potentials, orthogonal curvilinear coordinates, introduction to partial differential equations.

Three lectures and two tutorials; one term

Prerequisite: MATH 1NN3 and one of MATH 1H03, 1H05, 1HH3

Antirequisite: MATH 2A03, 2M06, 2X03

**MATH 2R03****LINEAR ALGEBRA II**

Abstract vector spaces. Linear transformations. Inner product spaces. Spectral theorems. Orthogonal bases, other topics.

Three lectures; one term

Prerequisite: One of MATH 1AA3, 1NN3, 1XX3, ARTS&SCI 1D06; and one of MATH 1B03, 1H03, 1H05, 1HH3

**MATH 2S03****LINEAR ALGEBRA III**

Canonical forms, determinants, bilinear forms, groups of linear transformations, other topics selected by the instructor.

Three lectures; one term

Prerequisite: MATH 2R03

**MATH 2T03****NUMERICAL ANALYSIS I**

Introduction to MatLab; matrix and vector norms; sensitivity, conditioning, convergence and complexity; direct and iterative methods for linear systems; eigenvalues and eigenvectors; least squares.

Three lectures; one term

Prerequisite: MATH 2R03

**MATH 2U03****TEACHING MATHEMATICS**

This course is designed to give a maximum of 20 students practical experience with teaching methods in mathematics. The course also provides an introduction to mathematics writing and development of communication skills relevant to mathematics.

Two lectures and one practicum; one term

Prerequisite: A grade of A- in both MATH 1A03 and 1AA3; or in both MATH 1X03 and 1XX3, or in ARTS&SCI 1D06; and permission of the instructor. Applications must be submitted to the instructor by May 1 of the academic year prior to registration, with selection for placements announced by September 9.

See the heading *Limited Enrolment Courses* in the Faculty of Science section of the Calendar.

*Enrolment is limited.*

**MATH 2X03****ADVANCED CALCULUS I**

Introduction to theory of functions of several variables: limits, continuity, differentiability. Taylor's Theorem and optimization, with applications.

Three lectures; one term

Prerequisite: One of MATH 1AA3, 1XX3 or ARTS&SCI 1D06; and MATH 1B03 or 1D03

Antirequisite: MATH 2A03, 2M06, 2Q04

**MATH 2XX3****ADVANCED CALCULUS II**

Multiple integration, path and surface integrals and applications. Classical integration theorems of vector calculus.

Three lectures; one term

Prerequisite: MATH 2X03

**MATH 3A03****REAL ANALYSIS I**

Sequences of real numbers; supremum, continuity. Riemann integral, differentiation. Sequences and series of functions; uniform continuity and uniform convergence.

Three lectures; one term

Prerequisite: MATH 2AB3, 2C03, 2R03

Prerequisite (Beginning in 2007-2008): MATH 2C03, 2R03, 2XX3

**MATH 3B03****GEOMETRY**

Selected topics from: affine and projective geometry, Euclidean, spherical and hyperbolic geometry, differential geometry of curves and surfaces.

Three lectures; one term

Prerequisite: MATH 2A03 or 2X03; and MATH 2R03

**MATH 3C03****MATHEMATICAL PHYSICS I**

Linear algebra and eigenvalue problems; partial differential equations, orthogonal functions, Fourier series, Legendre functions, spherical harmonics.

Three lectures; one term

Prerequisite: One of MATH 2A03, 2Q04 or 2X03; and MATH 2C03 or 2P04. One of PHYSICS 2B06, 2D03 or 2K03 is recommended.

*Not open to students with credit or registration in MATH 3FF3 or credit in MATH 3J04.*

**MATH 3CY3\*****CRYPTOGRAPHY**

Introduction to cryptosystems used in modern security systems: elementary number theory, primality testing and factorization, discrete logarithm, SRA cryptosystems, elliptic curve cryptosystems.

Three lectures; one term

Prerequisite: MATH 2R03

**MATH 3D03****MATHEMATICAL PHYSICS II**

Functions of a complex variable, probability and statistics, boundary value problems, Bessel functions.

Three lectures; one term

Prerequisite: MATH 3C03

Antirequisite: MATH 3K03

*Not open to students with credit or registration in MATH 3X03 or credit in MATH 3J04.*

*Not open to students registered in Honours Mathematics and Physics.*



**MATH 3DC3\***      **DISCRETE DYNAMICAL SYSTEMS AND CHAOS**  
 Iteration of functions: orbits, graphical analysis, fixed and periodic points, stability, bifurcations, chaos, fractals.  
 Three lectures; one term  
 Prerequisite: MATH 2A03 or 2X03

**MATH 3E03**      **ALGEBRA I**  
 An introduction to group theory, including Sylow theorems and structure of finitely generated Abelian groups; applications of group theory.  
 Three lectures; one term  
 Prerequisite: MATH 2R03  
 Prerequisite (Beginning in 2007-2008): MATH 2S03

**MATH 3EE3**      **ALGEBRA II**  
 Topics in ring and module theory, in particular principal ideal domains, unique factorization domains, Euclidean rings; field theory and Galois theory.  
 Three lectures; one term  
 Prerequisite: MATH 3E03

**MATH 3F03**      **ADVANCED DIFFERENTIAL EQUATIONS**  
 Systems of ordinary differential equations, autonomous systems in the plane, phase portraits, linear systems, stability, Lyapunov's method, Poincare-Bendixson theorem, applications.  
 Three lectures; one term  
 Prerequisite: MATH 2A03; and MATH 2C03 or 2P04; and credit or registration in MATH 2R03  
 Prerequisite (Beginning in 2007-2008): MATH 2C03 or 2P04; and MATH 2X03; and credit or registration in MATH 2R03

**MATH 3FF3**      **PARTIAL DIFFERENTIAL EQUATIONS I**  
 First order equations, well-posedness, characteristics, wave equation, heat equation, Laplace equation, boundary conditions, Fourier series, applications.  
 Three lectures; one term  
 Prerequisite: MATH 2A03, 2C03, 2R03  
 Prerequisite (Beginning in 2007-2008): MATH 2C03, 2R03, 2X03

**MATH 3G03**      **PROBLEM SOLVING**  
 A course designed to illustrate the principles of mathematical problem solving. Maximum enrolment is 20 students.  
 Three lectures; one term  
 Prerequisite: MATH 2A03 or 2X03; and MATH 2R03

**MATH 3GP3\***      **GEOMETRIC IDEAS IN PHYSICS**  
 Minkowski space, Lorentz metric, Maxwell's equations, general relativity, geodesics, curvature, black hole geometries and other selected topics.  
 Three lectures; one term  
 Prerequisite: MATH 2A03 or 2X03; and MATH 2R03 or credit or registration in MATH 3C03

**MATH 3H03\***      **NUMBER THEORY**  
 Selected topics from: congruence and residues, continued fractions, approximation of irrationals, arithmetic in selected quadratic number fields. Diophantine equations, partitions, geometry of numbers, quadratic reciprocity.  
 Three lectures; one term  
 Prerequisite: Credit in at least 12 units of Mathematics or Statistics Level II or above

**MATH 3I03**      **PARTIAL DIFFERENTIAL EQUATIONS FOR ENGINEERING**  
 Topics in partial differential equations of interest to mechanical, material and ceramic engineering, including the wave equation, the heat diffusion equation and Laplace equation, in various co-ordinate systems.  
 Three lectures; first term  
 Prerequisite: MATH 2M06; or MATH 2P04 and 2Q04; or registration in Level III or IV of a program in the Department of Materials Science and Engineering

**MATH 3K03**      **ENGINEERING MATHEMATICS III**  
 Complex variable theory with applications to electrical and computer engineering.  
 Three lectures; one term  
 Prerequisite: MATH 2P04  
 Antirequisite: MATH 3D03

**MATH 3N03**      **MATHEMATICAL BIOLOGY**  
 Population dynamics: models of discrete and continuous growth; competition and predation; epidemic models. Partial differential equations: diffusion and pattern formation in biological settings. Biological oscillators.  
 Three lectures; one term  
 Prerequisite: MATH 2E03, 3F03

**MATH 3Q03**      **NUMERICAL INTERPOLATION AND APPROXIMATION THEORY**  
 Polynomial and spline interpolations; approximation in Hilbert space; Hermite interpolation and orthogonal polynomials; wavelets; numerical differentiation and integration; solution of nonlinear equations; minimization of nonlinear functions.  
 Three lectures; one term  
 Prerequisite: MATH 2A03 or 2X03; and MATH 2T03

**MATH 3QC3\***      **INTRODUCTION TO QUANTUM COMPUTING**  
 Postulates of quantum mechanics for finite dimensional systems; information on quantum bits, logical operations and quantum gates; quantum parallelism and complexity theory; examples of quantum algorithms.  
 Three lectures; one term  
 Prerequisite: MATH 2A03 or 2X03; and MATH 2R03

**MATH 3T03**      **INQUIRY IN TOPOLOGY**  
 Size and shape in topology and analysis, compactness, connectedness, limit sets, theory of dimension, fractals and self-similarity.  
 Three lectures; one term  
 Prerequisite: MATH 2AB3  
 Prerequisite (Beginning in 2007-2008): MATH 2XX3

**MATH 3TP3\***      **TRUTH AND PROVABILITY: GÖDEL'S INCOMPLETENESS THEOREMS**  
 The goal is to inquire into Gödel's proof of incompleteness; in any axiom system there will be statements which are true but not provable.  
 Three lectures; one term  
 Prerequisite: MATH 2R03

**MATH 3U03\***      **COMBINATORICS**  
 Inversion formulae, systems of distinct representatives, block designs and other configurations; and other topics.  
 Three lectures; one term  
 Prerequisite: MATH 2A03 or 2X03; and MATH 2R03  
 Antirequisite: MATH 4C03

**MATH 3V03\***      **GRAPH THEORY**  
 Graphs, trees, bipartite graphs, connectivity, graph colouring, matrix representations, applications.  
 Three lectures; one term  
 Prerequisite: MATH 2A03 or 2X03; and MATH 2R03  
 Antirequisite: MATH 4J03

**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 2AB3, 2C03, 2R03  
 Prerequisite (Beginning in 2007-2008): MATH 2C03, 2R03, 2XX3

**MATH 3Z03**      **INQUIRY: HISTORY OF MATHEMATICS**  
 An introduction to the history of mathematics, including interaction with other phases of culture, with special emphasis on the past three centuries.  
 Three lectures; one term  
 Prerequisite: At least two Level II Mathematics or Statistics courses other than MATH 2K03, 2L03  
*Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.*

**MATH 4A03**      **REAL ANALYSIS II**  
 Metric spaces, compactness. Spaces of continuous functions, functions of several variables, inverse and implicit function theorems. Lebesgue integration.  
 Three lectures; one term  
 Prerequisite: MATH 3A03  
 Antirequisite: MATH 3AA3

**MATH 4AT3\***      **TOPICS IN ANALYSIS**  
 Precise topics will vary; consult the department for current information. Possible topics include: functional analysis, measure theory, harmonic analysis; calculus of variations.  
 Three lectures; one term  
 Prerequisite: MATH 3AA3  
 Prerequisite (Beginning in 2007-2008): MATH 4A03  
*MATH 4AT3 may be repeated, if on a different topic.*

**MATH 4B03**      **CALCULUS ON MANIFOLDS**  
 Review of multivariable calculus, basic properties of manifolds, differential forms, Stokes' theorem, de Rham cohomology and applications.  
 Three hours; one term  
 Prerequisite: MATH 3C03; or MATH 2S03 and either MATH 2AB3 or 2XX3

**MATH 4BT3\* TOPICS IN GEOMETRY**

Precise topics will vary; consult the department for current information. Possible topics include: differential geometry, Riemannian metrics, connections, curvature, geodesics, topological and analytic properties of Riemannian manifolds. Three lectures; one term  
Prerequisite: MATH 4B03

*MATH 4BT3 may be repeated, if on a different topic.*

**MATH 4E03 GALOIS THEORY**

Field extensions, splitting fields, normality and separability, Galois extensions, finite fields, solvability by radicals, cyclic extensions, cyclotomic extensions, algebraic closure, classical constructions, computations of Galois groups. Three lectures; one term  
Prerequisite: MATH 3EE3

**MATH 4ET3\* TOPICS IN ALGEBRA**

Precise topics will vary; consult the department for current information. Possible topics include: algebraic geometry, algebraic number theory. Three lectures; one term  
Prerequisite: MATH 4E03

*MATH 4ET3 may be repeated, if on a different topic.*

**MATH 4G03 DYNAMICAL SYSTEMS**

Topics to be selected from ordinary differential equations theory, bifurcation and stability theory. Three lectures; one term

Prerequisite: MATH 3F03. MATH 3A03 is recommended.

**MATH 4K03\* MATHEMATICS OF FINANCE**

Options and forwards, efficient market hypothesis, no arbitrage condition, binomial asset pricing model, portfolio strategies, stochastic processes, conditional expectation, martingales, optimal portfolio selection, exotic options, stochastic interest rate models. Three lectures; one term

Prerequisite: MATH 2A03 or 2X03; and STATS 2D03

**MATH 4L03\* INTRODUCTION TO MATHEMATICAL LOGIC**

First order logic, deduction systems, completeness and compactness theorems, model theory. Three lectures; one term

Prerequisite: MATH 3E03

**MATH 4LT3\* TOPICS IN LOGIC**

Precise topics will vary; consult the department for current information. Possible topics include: axiomatic set theory, computability theory, model theory or proof theory. Three lectures; one term

Prerequisite: MATH 4L03

*MATH 4LT3 may be repeated, if on a different topic.*

**MATH 4Q03 NUMERICAL METHODS FOR DIFFERENTIAL EQUATIONS**

Approximation error; methods for ordinary differential equations, stiffness; iterative methods for boundary value problems; weighted residuals; spectral methods; methods for partial differential equations, accuracy, consistency, convergence; stability analysis. Three lectures; second term

Prerequisite: Credit or registration in MATH 3C03 or 3FF3; or permission of the instructor

**MATH 4TT3\* TOPICS IN TOPOLOGY**

Precise topics will vary; consult the department for current information. Possible topics include: fundamental group and covering spaces, cell complexes and homology theory, theory of knots, links, and braids. Three lectures; one term

Prerequisite: MATH 4B03  
Antirequisite: MATH 4T03

*MATH 4TT3 may be repeated, if on a different topic.*

**MATH 4V03\* APPLIED ANALYSIS**

Theory of Distributions, Fourier Transform, fundamental solutions and Green's functions for partial differential operators, uncertainty principle, Poisson summation formula, applications. Three lectures; one term

Prerequisite: MATH 3D03 or 3FF3  
Prerequisite (Beginning in 2007-2008): MATH 3B03

**MATH 4W03 TOPICS IN MATHEMATICS**

Directed reading in areas of mathematics of interest to the student and the instructor.

Prerequisite: Permission of the Chair of the Department  
*MATH 4W03 may be repeated, if on a different topic.*

**MATH 4X03 COMPLEX ANALYSIS II**

Conformal maps, analytic continuation, harmonic functions, the Riemann mapping theorem, Riemann surfaces.

Three lectures; one term

Prerequisite: MATH 3X03

**STATISTICS ...****Department Note:**

Students wishing to register in any Mathematics and Statistics specialization 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: OSS Grade 11 Mathematics or OSIS Grade 12 Mathematics  
*Not open to students registered in the Faculties of Science or Business or in a Kinesiology program.*

Antirequisite: ECON 2B03

*Not open to students with credit or registration in COMMERCE 2QA3, PSYCH 2RR3, SOC SCI 2J03, STATS 1CC3, 2D03, 2MA3, 2MB3.*

**STATS 1CC3 INTRODUCTORY COMPUTER-AIDED STATISTICS**

Applied statistics including simple probability calculations based on binomial, Poisson and normal distributions, with emphasis on inferential methods and linear regression using computer statistics packages. Two lectures, one lab (two hours); one term

Prerequisite: MATH 1M03, or credit or registration in MATH 1A03 or 1X03  
Antirequisite: COMMERCE 2QA3, ECON 2B03, HTH SCI 1F03, 2A03, PSYCH 2G03, 2R03

*Not open to students with credit in any Level II or above Statistics course. See Department Note above.*

**STATS 1L03 PROBABILITY AND LINEAR ALGEBRA**

The algebra of probability, conditional probability and independence, discrete and continuous random variables, mean and variance, matrices, determinants, Cramer's rule, solution of linear equations. Three lectures, one tutorial; one term

Prerequisite: OSS Grade 11 Mathematics or OSIS Grade 12 Mathematics  
*Not open to students with credit in Grade 12 Mathematics of Data Management U or STATS 1CC3, 2D03, 2MA3, 2MB3.*

*Not open to students registered in Science or Engineering programs. Students transferring to the Faculty of Science do not retain credit for this course.*

**STATS 2D03 PROBABILITY THEORY**

Combinatorics, independence, conditioning; Poisson-process; discrete and continuous distributions with statistical applications; expectation, transformations, order statistics. Distribution of sample mean and variance, moment-generating functions, central limit theorem. Three lectures; one term

Prerequisite: One of MATH 1A03, 1M03 or 1X03; and credit or registration in MATH 1B03 or 1D03  
Antirequisite: PSYCH 2RA3

*Not open to students with credit or registration in STATS 2A03, 2MA3.*

**STATS 2MA3 PROBABILITY AND STATISTICAL METHODS FOR SCIENCE**

Combinatorics; discrete and continuous probability distributions; expectations; central limit theorem; point and interval estimation; hypothesis testing; regression and correlation; analysis of variance. Three lectures; one term

Prerequisite: STATS 1CC3; and one of MATH 1A03, 1M03 or 1X03  
Antirequisite: ECON 2B03

*Not open to students with credit or registration in COMMERCE 2QA3, ECON 2B03, SOC SCI 2J03, STATS 2A03, 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 using software package R. Three lectures; one term

Prerequisite: STATS 2D03  
Antirequisite: ECON 2B03, PSYCH 2R03, 2RB3, 2RR3, STATS 2R06

*Not open to students with credit or registration in COMMERCE 2QA3, ECON 2B03, SOC SCI 2J03, STATS 2A03, 2MA3.*

**STATS 3A03 REGRESSION AND DESIGN OF EXPERIMENTS**  
 Introduction to SAS, linear models, regression and inference, diagnostics, analysis of variance, randomized block designs, latin squares, and factorial experiments using SAS.  
 Three lectures; one term  
 Prerequisite: Credit or registration in STATS 3D03  
 Antirequisite: STATS 4B03

**STATS 3D03 MATHEMATICAL STATISTICS I**  
 The multivariate normal distribution, sampling distributions, limiting distributions, introduction to statistical inference.  
 Three lectures; one term  
 Prerequisite: STATS 2D03 and one of MATH 2A03, 2L03, 2Q04, 2X03  
 Antirequisite: STATS 3D06

**STATS 3DD3 MATHEMATICAL STATISTICS II**  
 Estimation tests of hypotheses, sufficient statistics, inference about normal models, and selected topics from robust inference, Bayesian inference, nonparametric inference and resampling methods.  
 Three lectures; one term  
 Prerequisite: STATS 3D03  
 Antirequisite: STATS 3D06

**STATS 3G03\* ACTUARIAL MATHEMATICS I**  
 Survival distributions, life tables, life insurance, life annuities, net premiums and reserves.  
 Three lectures; one term  
 Prerequisite: STATS 2D03 and credit or registration in MATH 2K03  
*Offered in alternate years.*  
*Offered in 2006-2007.*

**STATS 3H03\* ACTUARIAL MATHEMATICS II**  
 Multiple life functions, multiple decrement models, valuation theory for pension plans.  
 Three lectures; one term  
 Prerequisite: STATS 3G03  
*Offered in alternate years.*  
*Offered in 2006-2007.*

**STATS 3J04 PROBABILITY AND STATISTICS FOR ENGINEERING**  
 Introduction to probability, data analysis, statistical inference, regression, correlation and analysis of variance, applications to civil and environmental engineering.  
 Three lectures, one tutorial; first term  
 Prerequisite: Registration in Level II or above of any program in Engineering.  
 Antirequisite: MATH 3J04, STATS 3N03, 3Y03

**STATS 3N03 STATISTICAL METHODS FOR ENGINEERING**  
 Introduction to probability, data analysis, statistical inference, regression, correlation and analysis of variance.  
 Three lectures; one term  
 Prerequisite: Registration in a program in Engineering above Level I  
 Antirequisite: STATS 3Y03, 3J04

**STATS 3S03 SURVEY SAMPLING**  
 Survey design; simple random sampling; stratified sampling; proportional allocation; ratio estimation; cluster sampling; systematic sampling and sample size determination. A project associated with current research is required.  
 Three lectures; one term  
 Prerequisite: STATS 2D03, 2MB3

**STATS 3U03 STOCHASTIC PROCESSES**  
 Random walk, Markov chains, discrete and continuous parameter Markov processes, branching processes, birth and death processes, queuing processes.  
 Three lectures; one term  
 Prerequisite: MATH 2A03 or 2X03; and STATS 2D03

**STATS 3Y03 STATISTICAL ANALYSIS FOR ENGINEERING**  
 Introduction to probability, univariate and multivariate random variables and their distributions, statistical estimation and inference, regression and correlation, decision making, applications.  
 Three lectures; one term  
 Prerequisite: Registration in a program in Engineering above Level I  
 Antirequisite: STATS 3J04, 3N03

**STATS 4A03 TIME SERIES**  
 Stationary, auto-regressive and moving-average series, Box-Jenkins methods, trend and seasonal effects, tests for white noise, estimation and forecasting methods, introduction to time series in the frequency domain.  
 Three lectures; first term  
 Prerequisite: MATH 3A03, STATS 3DD3; and STATS 3A03 or 4B03

**STATS 4C03 GENERALIZED LINEAR MODELS**  
 Normal linear model, exponential family, iteratively-reweighted least squares, logistic regression, Poisson regression and log-linear models, other families of GLM's, analysis of deviance and model checking, residual analysis.  
 Three lectures; one term  
 Prerequisite: STATS 3A03 or 4B03; and STATS 3DD3

**STATS 4D03 INTERMEDIATE PROBABILITY THEORY**  
 Construction of probability spaces and random variables, integration, conditional expectation, law of large numbers, convergence of series, weak convergence, characteristic functions and central-limit theorems, martingales.  
 Three lectures; one term  
 Prerequisite: MATH 3A03, STATS 2D03

**STATS 4E03 BROWNIAN MOTION AND DIFFUSION**  
 Brownian motion, stochastic integrals, one-dimensional Ito's formula, diffusion processes, option pricing and other financial applications. Simulation of the Black-Scholes formula and related models.  
 Three lectures; one term  
 Prerequisite: STATS 2D03

**STATS 4F03 CATEGORICAL DATA ANALYSIS**  
 Two-way and three-way contingency tables, logistic regression, loglinear models for contingency tables, collapsibility, ordinal associations, multicategory logit models.  
 Three lectures; one term  
 Prerequisite: STATS 3A03 or 4B03; and STATS 3DD3

**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 3D03 (or 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 3D03 (or 3D06); and MATH 2S03 or 2T03

**STATS 4O03\* ORDER STATISTICS**  
 Basic theory, moments, recurrence relations and identities. Approximations, linear estimation. Applications to life-testing problems.  
 Three lectures, one term  
 Prerequisite: Credit or registration in STATS 3D03 (or 3D06)

**STATS 4P03 ADVANCED APPLIED STATISTICS**  
 Statistical computing; statistical software packages; working with large data sets; exploratory data analysis; graphical methods; statistical consulting practice.  
 Three lectures, second term  
 Prerequisite: STATS 4M03 and credit or registration in STATS 3A03 or 4B03

**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 3D03 (or 3D06)

**STATS 4W03 TOPICS IN STATISTICS**  
 Directed reading in areas of statistics of interest to the student and the instructor.  
 Prerequisite: Permission of the Chair of the Department  
*STATS 4W03 may be repeated, if on a different topic.*

**MECHANICAL ENGINEERING**

**WEB ADDRESS:** <http://www.mech.mcmaster.ca>

**John Hodgins Engineering Building, Room 316**

**Ext. 24294**

**Faculty as of January 15, 2006**

**Chair**

Samir Ziada

**Professors**

Mohamed Elbestawi/B.Sc. (Alexandria), M.Eng., Ph.D. (McMaster), P.Eng.  
 Mamdouh Shoukri/B.Sc. (Cairo), M.Eng., Ph.D., (McMaster), P.Eng.  
 Samir Ziada/B.Sc. (Cairo), M.Eng. (McMaster), Ph.D. (Lehigh)

**Adjunct Professors**

M. Heimi Attia/B.Sc., M.Sc. (Alexandria), Ph.D. (McGill)

Kamram Behdinin/B.A.Sc. (Toosi), M.A.Sc. (Sharif), Ph.D. (Victoria)  
 Albert Chan/B.Sc. (Alberta), M.Eng., Ph.D. (McMaster), P.Eng.  
 Dan Ewing/B.A.Sc. (Waterloo), Ph.D. (SUNY-Buffalo)  
 Don R. Metzger/B.A.Sc., M.A.Sc., Ph.D. (Waterloo), P.Eng.  
 Vincent M. Sowa/B.Sc. (Illinois), M.A. (Purdue), Ph.D. (Waterloo)

#### Associate Professors

Gary Bone/B.Sc. App. Sc. (Queen's), M. Eng., Ph.D. (McMaster), P.Eng.  
 Chan Y. Ching/B.S. (Perideniya), Ph.D. (Syracuse), P.Eng.  
 Saeid Habibi/B.Sc. (Dundee), Ph.D. (Cambridge), P.Eng.  
 Mohamed S. Hamed/B.Sc., M.Sc. (Alexandria), Ph.D. (Western Ontario), P.Eng.  
 Mukesh K. Jain/B.E. (IIS), M.A.Sc. (Windsor), D.Sc. (Washington), P.Eng.  
 Mehran Kasra/B.Sc. (Tehran Polytech), M.Eng. (McGill), Ph.D. (Ecole Polytech)  
 Marilyn F. Lightstone/B.A.Sc. (Queen's), M.A.Sc., Ph.D. (Waterloo), P.Eng.  
 Joseph R. McDermid/B.Sc. (Queen's), M.Eng., Ph.D. (McGill)  
 Timothy J. Nye/B.A.Sc. (Waterloo), M.A.Sc. (Ohio State), Ph.D. (Waterloo), P.Eng.  
 Sumanth Shankar/B.Tech. (Banaras Hindu), Ph.D. (Worcester Polytechnic)  
 Mateusz P. Sklad/M.Sc., Ph.D. (Warsaw)  
 Allan D. Spence/B.Math., M.A.Sc. (Waterloo), Ph.D. (British Columbia), P.Eng.  
 Peidong Wu/B.Sc. (Zhejiang), M.Eng. (China University of Mining), Ph.D. (Delft)

#### Assistant Professors

Philip Koshy/B.E. (Anna), M.Tech., Ph.D. (IIT Kanpur)  
 Ponnambalam Selvaganapathy/B.S. (Madurai Kamaraj), M.S., Ph.D. (Michigan)  
 Stephen W. Tullis/B.Sc., M.Sc. (Queen's), Ph.D. (Cambridge), P.Eng.  
 Stephen C. Veldhuis/B.Eng.Mgt. (McMaster), M.Eng. (Carnegie Mellon), Ph.D. (McMaster), P.Eng.

#### Lecturer

Robert V. Fleisig/B.A.Sc. (Waterloo), M.Eng., Ph.D. (McMaster), P.Eng.

#### Associate Members

Anthony Adili/(Surgery) B.Eng.Mgt., M.D. (McMaster), P.Eng.  
 David W. Capson/(Electrical and Computer Engineering) B.Sc. Eng. (New Brunswick), M.Eng., Ph.D. (McMaster), P.Eng.  
 Justin de Villiers de Beer/(Surgery) Ch. B., M.B. (Cape Town)  
 J.David Embury/(Materials Science and Engineering) B.Sc. (Manchester), Ph.D. (Cambridge), P.Eng.  
 William J. Garland/(Engineering) M.Eng., Ph.D. (McMaster), P.Eng.  
 Andrew N. Hrymak/(Chemical Engineering) B.Eng. (McMaster), Ph.D. (Carnegie Mellon), P.Eng.  
 Nicholas Kevlahan (Mathematics and Statistics) B.Sc. (British Columbia), Ph.D. (Cambridge)  
 Philip E. Wood/(Chemical Engineering) B.A.Sc. (Waterloo), Ph.D. (California Institute of Technology), P.Eng.

### Department Note:

Enrolment in Mechanical Engineering courses by students in programs other than those administered by the Department may be restricted.

### Courses If no prerequisite is listed, the course is open.

#### MECH ENG 2B03 MECHANICAL ENGINEERING MEASUREMENTS

Static and dynamic characteristics of instruments, statistical analysis of measurement errors, variable conversion elements and signal amplification. Metrology, measurement of strain and force, pressure, flow, temperature and power. Technical writing and communication. Two lectures, one lab (three hours); second term  
 Prerequisite: Registration in Level II of any Mechanical Engineering or Mechatronics Engineering program  
 Antirequisite: MECH ENG 2B02

#### MECH ENG 2C03 MECHANICAL ENGINEERING DESIGN I

Lectures on Geometric Dimensioning and Tolerancing. Design projects involving modelling, analysis, synthesis, computing and drawing. Two lectures, one lab (three hours); second term  
 Prerequisite: Registration in Level II of any Mechanical Engineering program

#### MECH ENG 2D03 MECHANICAL ENGINEERING DESIGN ELEMENTS

Design synthesis, fundamental principles of standard design elements, mechanical and fluid power elements, formal mechanical design drawing requirements, component specification and optimization. Three lectures; first term  
 Prerequisite: Registration in Level II of any Mechanical Engineering program

#### MECH ENG 2P04 STATICS AND MECHANICS OF MATERIALS

Principles of statics as applied to deformable solid bodies. Stress and strain, elastic behaviour of simple members under axial force, bending and torsion. Principle stresses; deflection of beams; statical indeterminacy. Three lectures, plus one unit comprising tutorials or lectures devoted to applications at the discretion of the instructor; first term  
 Prerequisite: PHYSICS 1D03  
 Antirequisite: ENGINEER 2P04

#### MECH ENG 2Q04 ENGINEERING MECHANICS: KINETICS AND DYNAMICS

Kinematics and dynamics of particles and rigid bodies. Analysis of planar mechanisms. Displacement, velocity and acceleration analysis methods. Motion with respect to a rotating frame reference. Work, energy and momentum principles.

Three lectures, plus one unit comprising tutorials or lectures devoted to applications at the discretion of the instructor; first term  
 Prerequisite: Registration in Level II of any Mechanical Engineering or Mechatronics Engineering program  
 Antirequisite: CIV ENG 2Q04, ENGINEER 2Q04

#### MECH ENG 2W04 THERMODYNAMICS

Introduction to the principles of thermodynamics, and applications in engineering. Basic concepts: energy systems, properties of pure substances, entropy. Laws of thermodynamics, power and refrigeration cycles.

Three lectures, one tutorial; second term  
 Prerequisite: Registration in Level II of any Mechanical Engineering program  
 Antirequisite: ENGINEER 2H03, 2W04

#### MECH ENG 3A03 ENGINEERING MECHANICS

Singularity functions, generalized Hooke's law; shear stress, shear flow in beams; shear centre. Biaxial and unsymmetrical bending, analysis of indeterminate beams and frames using energy methods, impact loads. Buckling of compression members. Introduction to yield criteria.

Three lectures; second term  
 Prerequisite: ENGINEER 2P04 or MECH ENG 2P04

#### MECH ENG 3C03 MANUFACTURING ENGINEERING

A general introduction, encompassing the wide field of activities from iron and steel making through casting, rolling, forging, to cold forming, metal cutting, welding, bonding, electrical machining, surface treatment, mechanical handling, assembly, cleaning, packaging.

Three lectures; second term  
 Prerequisite: Registration in any Mechanical Engineering or Chemical Engineering program

#### MECH ENG 3D03 THERMODYNAMICS OF ENERGY SYSTEMS

Re-examination of laws of thermodynamics, analysis using second law of thermodynamics, multicomponent systems, psychrometry, HVAC systems, combustion systems, steam power systems and micro-nano systems.

Three lectures; first term  
 Prerequisite: MECH ENG 2W04

#### MECH ENG 3E05 MECHANICAL ENGINEERING DESIGN II

3-D stress transformation, curved beams, thick walled pressure vessels, contact stresses, fatigue, bolted and welded joints, machine elements. The laboratories feature a major design project from concept development through analysis to formal report preparation.

Four lectures, one lab (two hours); second term  
 Prerequisite: ENGINEER 2P04 or MECH ENG 2P04; and MECH ENG 2Q04, 3A03  
 Antirequisite: MECH ENG 3E04

#### MECH ENG 3F04 MODELLING AND NUMERICAL SOLUTIONS

An introductory course in numerical analysis covering such topics as solution of differential and non-linear equations, matrices and systems of linear equations. One tutorial period, every other week, devoted to the modelling of mechanical systems.

Three lectures; one tutorial; first term  
 Prerequisite: Registration in any Mechanical Engineering program

#### MECH ENG 3M02 COMPOSITE LABORATORY

Laboratory exercises in fluid mechanics, thermodynamics and solid mechanics. One lab (three hours); both terms  
 Prerequisite: Registration in any Mechanical Engineering program

#### MECH ENG 3O04 FLUID MECHANICS

Fluid properties and statics, conservation laws, applications of the continuity, momentum and energy equations, dimensional analysis and similarity, boundary layer flow, internal and external flows.

Three lectures, one tutorial (two hours); first term  
 Prerequisite: MATH 2M06; or MATH 2P04 and 2Q04; or MATH 2A03 and 2C03

**MECH ENG 3R03 HEAT TRANSFER**

Application of the laws of conduction, convection and radiation to problems in heat transfer. Steady and transient conduction in solids. Laminar and turbulent convection. Radiation heat transfer processes. Heat exchangers. Three lectures; second term  
Prerequisite: MATH 2M06, MECH ENG 2W04

**MECH ENG 4B03 TOPICS IN PRODUCT DEVELOPMENT**

Case studies using modern product development methods, value engineering, product specification, rapid product development, lean design and continuous improvement. Product liability and robust design. Three lectures; first term

Prerequisite: Registration in Level IV or above of a Mechanical Engineering or Mechatronics Engineering program or permission of the department

**MECH ENG 4D03 MANUFACTURING PROCESSES (METAL REMOVAL)**

Fundamentals of metal removing processes. Mechanics of material removal, tribological aspects of material removal, surface integrity and dimensional optimization of machining economies. Three lectures; second term

Prerequisite: MECH ENG 3C03

**MECH ENG 4E03 MICROELECTROMECHANICAL SYSTEMS (MEMS)**

Introduction, microfabrication and micromachining fundamentals, scaling effects, mechanics and transduction at microscale, actuation and sensing methods - Electrostatic, piezoelectric, thermal, electromagnetic, resonant, tunneling and microfluidic techniques. Capacitive sensors, resonators, lab on chip devices, microfluidic devices, micromirrors, assembly techniques for MEMS, microsystem packaging. Three lectures; second term

Prerequisite: Registration in Level IV or above of a Mechanical Engineering program or permission of the department  
*Enrolment is limited.*

**MECH ENG 4H03 MECHATRONICS**

Integration of mechanical engineering with electronics and computer control. Sensors, actuators (including pneumatic and hydraulic), modeling using building block and state space methods, model-based control, programming of PLCs with practical demonstrations. Three lectures; second term

Prerequisite: One of CHEM ENG 3P03, ELEC ENG 3CA3, 3TP4 or MECH ENG 4R03

**MECH ENG 4I03 NOISE ANALYSIS AND CONTROL**

Acoustic quantities; noise measurements and analysis; noise standards; sound generation, propagation, absorption, transmission; acoustic materials; noise control techniques; case studies. Three lectures; second term

Prerequisite: MECH ENG 4Q03

**MECH ENG 4J03 INTRODUCTION TO COMPUTATIONAL FLUID MECHANICS AND HEAT TRANSFER**

Computational Methods for Fluid Mechanics and Heat Transfer covering: concepts of modelling and numerical analysis, governing equations of thermo-fluid problems, finite-difference discretization methods. Use of commercial computational software for solving thermo-fluid problems. Three lectures; second term

Prerequisite: MECH ENG 3F04

**MECH ENG 4K03 INTRODUCTION TO ROBOTIC MECHANICS**

Spatial descriptions and transformations, manipulator kinematics, inverse kinematics, Jacobians, dynamics. Three lectures; first term

Prerequisite: ENGINEER 2Q04 or MECH ENG 2Q04

**MECH ENG 4L03 INDUSTRIAL DESIGN**

Introduction for engineering students to the techniques of industrial design, case studies and introduction to illustration techniques. Three lectures; second term

Prerequisite: MECH ENG 2C03  
*Enrolment is limited.*

**MECH ENG 4M06 PROJECT**

A major mechanical or manufacturing engineering design or experimental project to be completed under the supervision or co-supervision of a faculty member holding an appointment in the Department of Mechanical Engineering. Two labs (three hours), first term; four labs (three hours), second term

Prerequisite: Registration in Level IV Mechanical Engineering; or Level V Mechanical Engineering and Management or Mechanical Engineering and Society

**MECH ENG 4P02 COMPOSITE LABORATORY**

Laboratory exercises in vibration analysis, machine structures, controls, heat transfer, gas dynamics, fluid mechanics and thermodynamics. One lab (three hours); both terms  
Prerequisite: MECH ENG 3M02 and registration in any Mechanical Engineering program

**MECH ENG 4Q03 MECHANICAL VIBRATIONS**

Transient and steady state vibration of single- and multi-degree of freedom systems. Free and forced vibrations of single and multiple degree-of-freedom mechanical systems, transient response, damping and vibration isolation. Three lectures; first term

Prerequisite: ENGINEER 2Q04 or MECH ENG 2Q04

**MECH ENG 4R03 CONTROL SYSTEMS**

Fundamentals of linear, continuous control systems. Control system performance in both time and frequency domains. Design and analysis of controllers. Three lectures; second term

Prerequisite: Registration in Level III Mechanical Engineering; or Level IV Mechanical Engineering and Management or Mechanical Engineering and Society

Antirequisite: ELEC ENG 3CA3, 3CK4, 3TP4

**MECH ENG 4S03 INCOMPRESSIBLE FLOW**

Introduction to internal and external laminar and turbulent incompressible flows. Topics include turbulent boundary layers, aerodynamics and convective heat transfer. Three lectures; first term

Prerequisite: MECH ENG 3O04

**MECH ENG 4T03 FINITE ELEMENT APPLICATIONS**

Theory of the finite element method, element derivation, solution procedures. Applications to static and dynamic mechanical systems using a finite element package. Two lectures, one tutorial (one hour), one lab (two hours) alternate weeks; first term

Prerequisite: Registration in Level IV or V of any Mechanical Engineering program

**MECH ENG 4U03 COMPRESSIBLE FLOW AND TURBOMACHINERY**

Compressible flows: Fanno and Rayleigh flows, normal and oblique shocks. Turbomachines: axial and radial flow gas and steam turbines, axial and radial flow compressors and fans. Three lectures; second term

Prerequisite: MECH ENG 2W04, 3O04

**MECH ENG 4V03 THERMO-FLUIDS SYSTEMS DESIGN AND ANALYSIS**

Design, operation and application characteristics of equipment commonly used in thermal systems. Modelling performance characteristics of piping systems, pumps, compressors, fans, heat exchangers, boilers and cooling towers. System simulation and optimization. Selection criteria of thermal equipment. Design optimization and system performance evaluation. Three lectures; first term

Prerequisite: MECH ENG 2W04, 3O04, 3R03

**MECH ENG 4Z03 CAD/CAM/CAE**

Solid modelling theory, part creation, assemblies and rigid bodies, mechanism simulation, B-Splines, data exchange, CNC machining and inspection. Major project using computer laboratory facilities. Three lectures, one lab (one hour); second term

Prerequisite: Registration in Level IV or above of any Mechanical Engineering program

**MECHATRONICS ENGINEERING**

WEB ADDRESS: <http://www.cas.mcmaster.ca>

Information Technology Building, Room 202

Ext. 24614

**Notes:**

1. Courses in Mechatronics Engineering are administered within the Department of Computing and Software in the Faculty of Engineering.
2. All Mechatronics Engineering courses are open to students registered in a Mechatronics Engineering program, subject to prerequisite requirements. Prior permission of the Department is necessary for other students.
3. Students registered in Mechatronics Engineering are not allowed to substitute any of the required courses containing Engineering Science or Engineering Design content with any courses offered by a non-CEAB accredited Engineering program.

**Courses****MECHTRON 3TA4 EMBEDDED SYSTEMS DESIGN I**

Interfacing to digital and analog systems, sensors and actuators. Signals and conditioning: data acquisition, active and passive filtering, optical and analog isolation, PWM, de/multiplexing. Architecture of micro-controllers and DSP. Embedded system design and documentation.

Three lectures, one tutorial (two hours) every other week, one lab (three hours) every other week; first term

Prerequisite: ENG PHYS 2E04

Corequisite: SFWR ENG 3K04

First offered in 2007-2008.

**MECHTRON 3TB4 EMBEDDED SYSTEMS DESIGN II**

Design and implementation of embedded systems interacting with analog systems. Software design and implementation for embedded systems and DSP systems. Simulation and testing of embedded systems.

Three lectures, one tutorial (two hours) every other week, one lab (three hours) every other week; second term

Prerequisite: MECHTRON 3TA4

First offered in 2007-2008.

**MECHTRON 4TB6 MECHATRONICS CAPSTONE DESIGN PROJECT**

Student teams prepare the requirements, design, documentation and implementation of a Mechatronics System taking economic, health, safety, cultural, legal and marketing factors into account. Students must demonstrate a working system and convincing test results.

Three hours (lectures, discussion, group project, seminar); two terms  
Prerequisite: MECHTRON 3TB4 and registration in Level IV of Mechatronics Engineering

First offered in 2008-2009.

**MEDICAL PHYSICS AND APPLIED RADIATION SCIENCES**

WEB ADDRESS: <http://www.science.mcmaster.ca/medphys/index.php>

Nuclear Research Building, Room 124

Ext. 27650

**Faculty as of January 15, 2006****Chair**

Fiona E. McNeill

**Professors**

David R. Chettle/B.Sc., M.Sc., Ph.D. (*Birmingham*)

Carmel E. Mothersill/B.Sc., Ph.D. (*University College Dublin*)

Michael S. Patterson/B.Sc. (*Queen's*), M.Sc. (*McMaster*), Ph.D. (*Toronto*)

Colin B. Seymour/DCR(RT) (*Guy's Hospital*), B.L. (*King's Inn*), Ph.D. (*Trinity College Dublin*)

**Associate Professors**

Douglas R. Boreham/B.Sc. (*Laurentian*), Ph.D. (*Ottawa*)/Chair, Committee of Instruction, Honours Medical and Health Physics Co-op

Thomas J. Farrell/B.Sc., B.Ed. (*Toronto*), M.Sc. (*Western Ontario*), Ph.D. (*McMaster*)

Fiona E. McNeill/B.Sc. (*Edinburgh*), Ph.D. (*Birmingham*)

John F. Valliant/B.Sc., Ph.D. (*McMaster*)

Douglas R. Wyman/B.Math (*Waterloo*), Ph.D. (*McMaster*)

**Assistant Professors**

Soo Hyun Byun/B.Sc., M.Sc., Ph.D. (*Seoul National University*)

Joseph E. Hayward/B.Eng., M.Eng., Ph.D. (*McMaster*)

Gerald R. Moran/B.Sc. (*McMaster*), Ph.D. (*Guelph*)/Undergraduate Advisor

Gianni Parise/B.Kin., M.Sc., Ph.D. (*McMaster*)

**Associate Members**

Richard G. Butler/*(Pathology)* B.Sc., M.Sc. (*Toronto*), Ph.D. (*A.N.U. Canberra*), M.B.A. (*McMaster*)

Troy Farncombe/*(Radiology)* B.Sc., (*Calgary*), M.Sc., Ph.D. (*British Columbia*)

Andrew J. Rainbow/*(Biology)* B.Sc. (*Manchester*), M.Sc. (*London*), Ph.D. (*McMaster*)

Colin E. Webber/*(Radiology)* B.Sc. (*Birmingham*), M.Phil., Ph.D. (*Surrey*)

**Mohawk College of Applied Arts and Technology****Chair, Medical Radiation Sciences**

Diane Barrafato/Dipl. M.R.T. (R), RTR

**Coordinator, Radiation Therapy Specialization**

Appointment Pending

**Coordinator, Radiography Specialization**

Caroline Falconi

**Coordinator, Ultrasonography Specialization**

Lori Koziol

**Faculty**

Mary Ayre/ RTR, RDMS/Clinical Coordinator, Ultrasonography  
Desmond Barnes/ M.R.T.(R), RTR

Darrin Cournoyea/B.Sc. (*Guelph*), Dipl (Med Im), RSMS, RVT  
Caroline Falconi/Dipl. B.App.Sc.(Med Im), M.App.Sc.(Med Im) (*Charles Sturt*), M.R.T.(R) RTR

Malka Glasner/B.Sc. (*York*), Dipl (Med Im), B.App.Sc. (Med Im) (*Charles Sturt*), M.R.T.(R), RTR

Janice Gyorffy/ Dipl. RTR, RDMS

Carol Ann Howe/ B.App.Sc.(Med Im) (*Charles Sturt*), M.R.T.(R), RTR

Lori Koziol/B.App. Sc. (Med Im) (*Charles Sturt*), Dipl. RTR, RDMS, FSDMS, CRGS

Margaret MacDonald/Dipl. RTNM, RDMS, RDCS

Leslie R. Marshall/ B.Sc.(Health Studies) (*Q.M.U.C.*), C.T.Cert. (*Leeds Met*), DCR(R), M.R.T.(R)/Clinical Coordinator, Radiography

Leslie Murray/B.App. Sc. (Med Im), M.App. Sc. (Med Im) (*Charles Sturt*), M.R.T.(R), RTR

D. Edward Scott/ Dipl. M.App.Sc.(Med US) (*Charles Sturt*), RTR, RDMS, RDCS, RVT

Mary Tuttle/Dipl. M.R.T.(R), RTR, RDMS

**MEDICAL AND HEALTH PHYSICS ...****Courses** *If no prerequisite is listed, the course is open.***MED PHYS 2A03 PHYSICS IN MEDICINE AND BIOLOGY**

Applications of introductory physics concepts to medicine and biology. Centrifugation; chromatography and electrophoresis; ultrasonography; confocal microscopy; photomolecular interactions and optical diagnostic techniques.

Three lectures; one term

Prerequisite: Registration in Level II of Honours Medical and Health Physics

**MED PHYS 3R03 COMPUTATIONAL MEDICAL PHYSICS**

A problem-based introduction to the use of numerical methods in medical physics.

Three lectures; second term

Prerequisite: Registration in Level III of Honours Medical and Health Physics or Year 4 of Honours Medical and Health Co-op

Antirequisite: PHYSICS 3R03

**MED PHYS 4A03 MEDICAL PHYSICS COMMUNICATIONS**

This is an enquiry course that introduces students to scientific communication in medical physics. The course will educate students in individual research and presentation skills. It will comprise both traditional and self-directed learning.

One lecture (one hour); a full year course for students in the Honours program

Prerequisite: Registration in Level IV of Honours Medical and Health Physics

Antirequisite: MED PHYS 3I01, 4AA1, 4AB2, 4I01, PHYSICS 3I01, 4A03, 4AA1, 4I01

**MED PHYS 4AA1 MEDICAL PHYSICS COMMUNICATIONS A**

Preparation and presentation of report on first work term.

One seminar (one hour); first term

Prerequisite: Registration in Year 4 of Honours Medical and Health Physics Co-op

Antirequisite: MED PHYS 3I01, 4A03, PHYSICS 3I01, 4A03

**MED PHYS 4AB2 MEDICAL PHYSICS COMMUNICATIONS B**

Preparation and presentation of report on second work term.

One seminar (one hour); second term

Prerequisite: MED PHYS 4AA1

Antirequisite: MED PHYS 4A03, 4I01, PHYSICS 4A03, 4I01

**MED PHYS 4B03 RADIOACTIVITY AND RADIATION INTERACTIONS**  
 Radioactivity and radiation phenomenology: interaction of radiations with matter, dosimetry, radiation in medicine, biological effects, radiation levels and regulations, radiation protection.

Three lectures; one term

Prerequisite: One of PHYSICS 1BA3, 1BB3 or permission of the instructor  
 Antirequisite: BIOL 3L03, MED PHYS 3T03, PHYSICS 3T03

**MED PHYS 4R06 RADIATION AND RADIOISOTOPE METHODOLOGY**  
 Techniques and theory of the measurement of radiation. Includes radioactivity and radioactive decay, solid state dosimetry, principles of radioactive detectors, counting statistics and data reduction, advanced multidetector systems.

Two lectures every week, one lab (three hours) every other week; two terms

Prerequisite: Registration in Level IV of Honours Medical and Health Physics or Year 4 of Honours Medical and Health Physics Co-op; or permission of the instructor

Antirequisite: PHYSICS 4R06

**MED PHYS 4T03 CLINICAL APPLICATIONS OF PHYSICS IN MEDICINE**

Basic physical concepts underlying medical imaging, nuclear medicine, physiological measurement, radiation therapy and biomedical laser applications with an overview of their technical implementation.

Three lectures; one term

Prerequisite: MATH 2A03 or 2Q04; and MATH 2C03 or 2P04; and one of BIOLOGY 3L03, ENG PHYS 3D03, MED PHYS 3T03, 4B03, PHYSICS 3T03

Antirequisite: PHYSICS 4T03

**MED PHYS 4XX3 HUMAN BIOLOGY FOR PHYSICAL SCIENTISTS**

An overview of the structure and the function of the major organ systems of the body with some reference to radiation interactions.

Three hours; first term

Prerequisite: Registration in Level IV of Honours Medical and Health Physics; or Year 4 of Honours Medical and Health Physics Co-op; or permission of the instructor

Antirequisite: BIOLOGY 3XX3, PHYSICS 3XX3, 4XX3

**BIOLOGY 4U03 RADIATION BIOLOGY**

The effects of radiation on biological material at the molecular, cellular, tissue and whole organism level.

Three lectures; or two lectures and one tutorial; one term

Prerequisite: BIOLOGY 2B03 or 2C03, and credit or registration in one of MED PHYS 3T03, 4B03, PHYSICS 3T03; or registration in Year 4 of Medical and Health Physics Co-op; or permission of the instructor

**INQUIRY 4S23 INQUIRY IN SCIENCE II (PHOENIX: OUT OF THE ASHES AND INTO THE ATOMIC AGE)**

This course will study the short and long term impact of nuclear weapons testing and use, upon humans and the environment. Students will visit critical sites where nuclear weapons were developed and detonated. The travel portion of the course will run for 10-12 days (dependent on available travel schedules) and will involve group discussions and field experiences. Students will be required to pay incidental fees over and above the normal tuition fees set by the Unit to cover travel costs.

Prerequisite: Registration in Level IV of any Honours program in the Faculty of Science

*Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.*

## MEDICAL RADIATION SCIENCES ...

WEB ADDRESS: <http://www.science.mcmaster.ca/MedRadSci>

Nuclear Research Building, Room 104

Ext. 26256

### Notes:

1. Courses for Levels I, II, III and IV Medical Radiation Sciences, Radiography, Ultrasonography or Radiation Therapy specialization are available only to students registered in the Medical Radiation Sciences program.
2. A satisfactory Police Records Check may be required for clinical placements. All costs associated with this procedure are the responsibility of the student.

3. Students are responsible for arranging their own travel to and from or accommodation in learning settings external to the University and for covering any costs incurred. All students enrolled in the Medical Radiation Sciences program are expected to be able to travel to any learning setting in Ontario. The final assignment of learning settings for any clinical practicum course is constrained by the availability of the requested setting and resources. Students may, therefore, be required to complete a clinical practicum course in a learning setting that is not of their choosing.

4. All Level III Medical Radiation Sciences courses will be first offered in 2006-2007 and Level IV courses will commence in 2007-2008.

### Courses

**MEDRADSC 1A03 INTRODUCTION TO MEDICAL RADIATION SCIENCES**

An introduction to the field of medical radiation sciences with particular emphasis on the medical imaging professions and their specialities, examining current applications in health care and future trends.

One hour (lecture) first term; one hour (lecture), three hours (tutorial) second term; two terms

Prerequisite: Registration in Medical Radiation Sciences I

**MEDRADSC 1B03 INTRODUCTION TO PATHOLOGY**

Processes of disease and trauma; from damage and repair processes at the cellular level to tissues and systems. Disease development and recovery, immunity and heredity are examined.

Three hours (lectures); one term

Prerequisite: BIOLOGY 1A03, KINESIOL 1Y03 and registration in Medical Radiation Sciences I

Corequisite: KINESIOL 1YY3

**MEDRADSC 1C03 INTRODUCTION TO PHYSICS FOR MEDICAL RADIATION SCIENCES**

Fundamentals of Newtonian mechanics, wave motion, electricity, magnetism and modern physics and applications to radiation therapy and to ultrasonic, radiographic and magnetic resonance imaging.

Three lectures; one term

Prerequisite: PHYSICS 1P03 or a grade of at least 60% in Grade 12 Physics U; and registration in Medical Radiation Sciences I

**MEDRADSC 2A03 PATIENT CARE**

Theoretical foundation and skills development to enable the student to meet the physical and emotional needs of patients in the clinical setting while utilizing self-care concepts and safe practices.

Two hours (lectures), two hours (lab); one term

Prerequisite: Registration in Level II of a Medical Radiation Sciences Specialization

**MEDRADSC 2B03 MEDICAL INFORMATICS**

Examination of the acquisition, storage, communication and security of digital patient records in health care facilities.

Two hours (lectures), one hour (lab); one term

Prerequisite: Registration in Level II of a Medical Radiation Sciences Specialization

**MEDRADSC 2C03 INTRODUCTION TO PROFESSIONAL PRACTICE**

Introduction to the legislative and regulatory frameworks of health care and health care professions, the behaviours and attitudes required of a health care professional, and concepts of reflective practice.

Two hours (lectures), two hours (tutorial); one term

Prerequisite: Registration in Level II of a Medical Radiation Sciences Specialization

**MEDRADSC 2D03 RELATIONAL ANATOMY I**

This course examines the spatial relationships of anatomical structures. The appendicular and axial skeleton (except skull), and all organ systems except central nervous are covered, with application to projection, sectional and volume rendered images.

Two hours (lectures), two hours (lab); one term

Prerequisite: Registration in Level II of the Radiography or the Radiation Therapy Specialization

**MEDRADSC 2E03 RADIOGRAPHIC IMAGE PRODUCTION**

Image production, processing and display of analogue and digital radiographic images are covered. Image quality in terms of spatial and contrast resolution are explored.

Two hours (lectures), one hour (lab), one hour (tutorial); one term

Prerequisite: Registration in Level II of the Radiography or Radiation Therapy Specialization

**MEDRADSC 2F03 RADIOGRAPHIC PHYSICS AND INSTRUMENTATION I**

The course focuses on the production of x-rays in radiography and the interactions of x-rays with matter. Control of beam quality and quantity is related to image quality and dose minimization.

Two hours (lectures), one hour (lab), one hour (tutorial); one term

Prerequisite: Registration in Level II of the Radiography or the Radiation Therapy Specialization

**MEDRADSC 3A03 DIGITAL IMAGE MANAGEMENT**

Using concepts of digital databases in health care, picture archiving and communication systems are examined, with attention to DICOM conformance standards and interconnectivity of medical imaging devices.

Three hours (lectures), one hour (lab or tutorial); one term

Prerequisite: MEDRADSC 2B03 and registration in Level III of the Radiography or Ultrasonography Specialization

**MEDRADSC 3B03 QUALITY MANAGEMENT IN MEDICAL IMAGING**

Examination of various quality management methodologies in health care facilities, external accreditation processes and legislation associated with quality in Medical Imaging.

Two hours (lectures), two hours (tutorial); one term

Prerequisite: Registration in Level III of a Medical Radiation Sciences Specialization

**MEDRADSC 3C03 MULTIDISCIPLINARY INTERVENTIONAL PROCEDURES**

A survey of changing approaches to treating pathologies of various organ systems through intervention using image guidance.

Three hours (lectures); one term

Prerequisite: Registration in Level III of the Radiography or Ultrasonography Specialization

**MEDRADSC 3DA3 SUBSPECIALTIES IN MEDICAL RADIATION SCIENCES - ADVANCED STUDIES IN COMPUTED TOMOGRAPHY**

A study of clinical use of CT in diagnosis, including clinical indications, pathophysiology, imaging appearances, imaging protocols and post-processing tools.

Three hours (lectures); one term

Prerequisite: Registration in Level III of the Radiation Therapy or the Radiography Specialization

**MEDRADSC 3DD3 SUBSPECIALTIES IN MEDICAL RADIATION SCIENCES - MAMMOGRAPHY**

Dedicated mammographic imaging technology (both film-screen and digital systems) plus mammographic imaging technique and appearances are covered, with correlation to other imaging modalities.

Three hours (lectures); one term

Prerequisite: Registration in Level III of the Radiation Therapy or the Radiography Specialization

**MEDRADSC 3DE3 SUBSPECIALTIES IN MEDICAL RADIATION SCIENCES - INTRODUCTION TO MAGNETIC RESONANCE IMAGING**

Of magnetic resonance imaging, including instrumentation, image production, selection and control of magnetic fields, pulse sequences, safety and clinical application.

Three hours (lectures); one term

Prerequisite: Registration in Level III of the Radiation Therapy or the Radiography Specialization

**MEDRADSC 3E03 INQUIRY IN MEDICAL RADIATION SCIENCES**

Independent study of the scientific literature, including the preparation of seminars and reports or research proposals on assigned topics.

Three hours (lectures or seminars); one term

Prerequisite: Registration in Level III of a Medical Radiation Sciences Specialization

**MEDRADSC 3F03 RADIOBIOLOGY AND PROTECTION**

Radiation effects on cells, tissues and organs and bodies are covered with emphasis on clinical radiation hazards. Dose minimization and protective practices guidelines and regulations of provincial, federal and international bodies are examined.

Three hours (lectures); one term

Prerequisite: Registration in Level III of the Radiography or the Radiation Therapy Specialization

**MEDRADSC 3I03 RELATIONAL ANATOMY II**

The spatial relationships of anatomical structures, with particular emphasis on neuroanatomy, are examined. The bony skull and soft tissue structures of the central nervous system are examined in detail with application to projection, sectional and volume rendered images.

Two hours (lectures), two hours (lab); one term

Prerequisite: MEDRADSC 2D03 and registration in Level III of the Radiography or the Radiation Therapy Specialization

**MEDRADSC 3X03 RESEARCH METHODS IN MEDICAL RADIATION SCIENCES**

Prepares students for applied clinical research in Medical Radiation Sciences. Topics include systematic description of observations, testing hypotheses, distinctives of quantitative and qualitative research and critical review of published literature.

Three hours (lectures), one hour (tutorial), one hour (lab); one term

Prerequisite: STATS 1CC3 and registration in Level III of Medical Radiation Sciences

**MEDICAL RADIATION SCIENCES (RADIATION THERAPY SPECIALIZATION) ...****Courses****MEDRADSC 2S03 CLINICAL ONCOLOGY I**

This course examines pediatric and some adult oncology sites. Epidemiology, etiology, signs and symptoms of disease, pathology, routes of spread, staging systems and management approach for cancers are emphasized.

Four hours (lectures); one term

Prerequisite: Registration in Level II of the Radiation Therapy Specialization

**MEDRADSC 2T03 CLINICAL ONCOLOGY II**

This course further emphasizes the principles of additional oncology disease sites e.g. epidemiology, etiology, signs and symptoms of disease, pathology, routes of spread, staging systems and management approach.

Four hours (lectures); one term

Prerequisite: MEDRADSC 2S03 and registration in Level II of the Radiation Therapy Specialization

**MEDRADSC 2U03 RADIATION THERAPY SKILLS I**

Students develop critical thinking, psychomotor and problem solving skills in the simulation and radiation treatment of patients. Emphasis is on anatomy, oncology, physics and treatment planning to execute a treatment technique.

Two hours (lectures), one lab; one term

Prerequisite: MEDRADSC 2S03 and registration in Level II of the Radiation Therapy Specialization

**MEDRADSC 2V17 CLINICAL PRACTICUM I**

Seventeen week placement in a Radiation Therapy Department. Students develop clinical skills by participating in various areas of a Radiation Therapy Department under direct supervision of Radiation Therapy professionals.

One term

Prerequisite: MEDRADSC 2T03, 2U03 and registration in Level II of the Radiation Therapy Specialization

**MEDRADSC 3S03 TREATMENT PLANNING I**

This course develops dosimetry problem-solving skills. Photon, electron beams, brachytherapy, conformal therapy and Intensity Modulated Radiation Therapy calculations and principles are emphasized.

Two hours (lectures), three hours (lab); one term

Prerequisite: MEDRADSC 2U03 and registration in Level III of the Radiation Therapy Specialization

**MEDRADSC 3T03 APPLIED PATIENT CARE IN RADIATION THERAPY**

This course presents the theory and skills to provide the radiation therapy patient with appropriate patient care. Patient assessment, professionalism and the management of radiation therapy toxicities will be emphasized.

Four hours (lectures); one term

Prerequisite: MEDRADSC 2T03 and registration in Level III of the Radiation Therapy Specialization

**MEDRADSC 3U03 RADIATION PROTECTION AND RADIOBIOLOGY IN RADIATION THERAPY**

This course provides an in depth understanding of radiation protection and radiobiological principles related to high energy radiation used in Radiation Therapy.

Four hours (lectures); one term

Prerequisite: MEDRADSC 2T03, 3S03, 3F03 and registration in Level III of the Radiation Therapy Specialization



**MEDRADSC 3V03 TREATMENT PLANNING II**

Emphasis on performance of dosimetry problem solving skills for photon and electron beams. Students gain skills to plan Radiation Therapy treatments independently for a variety of sites under variable conditions. Two lectures, one lab; one term

Prerequisite: MEDRADSC 3S03 and registration in Level III of the Radiation Therapy Specialization

**MEDRADSC 3W03 RADIATION THERAPY SKILLS II**

Students further develop critical thinking, psychomotor and problem-solving skills that are required in the simulation and treatment of radiation therapy patients. The student will practice on simulators and treatment units. Two lectures, one lab; one term

Prerequisite: MEDRADSC 3V03 and registration in Level III of the Radiation Therapy Specialization

**MEDRADSC 4E16 CLINICAL PRACTICUM II**

Sixteen week placement in a Radiation Therapy Department. Students further develop clinical and professional skills, working toward competence in radiation therapy. One term

Prerequisite: MEDRADSC 3B03, 3E03, 3T03, 3U03, 3W03 and registration in Level IV of the Radiation Therapy Specialization

**MEDRADSC 4F17 CLINICAL PRACTICUM III**

Seventeen week placement in a Radiation Therapy Department. Students further develop clinical and professional skills, working toward competence in radiation therapy. One term

Prerequisite: MEDRADSC 4E16 and registration in Level IV of the Radiation Therapy Specialization

**MEDICAL RADIATION SCIENCES  
(RADIOGRAPHY SPECIALIZATION) ...**

**Courses**

**MEDRADSC 2G03 RADIOGRAPHIC SKILLS I**

Fundamental radiographic techniques and basic radiography of the appendicular skeleton through image production using anatomical phantoms and performance of simulated examinations on peers. One hour (lectures), two labs, two hours each; one term

Prerequisite: Registration in Level II of the Radiography Specialization

**MEDRADSC 2H03 RADIOGRAPHIC SKILLS II**

Radiography of the axial skeleton, chest, abdomen and skull through image production using anatomical phantoms and performance of simulated examinations on peers. One hour (lecture), four hours (lab); one term

Prerequisite: MEDRADSC 2G03 and registration in Level II of the Radiography Specialization

**MEDRADSC 2I03 PATHOLOGY AND PROCEDURES I**

Radiological procedures and associated pathologies of the skeletal, digestive, respiratory and urinary systems. Physiological properties of contrast media and their use in radiological procedures is studied. Three hours (lectures); one term

Prerequisite: Registration in Level II of the Radiography Specialization

**MEDRADSC 2J17 CLINICAL PRACTICUM I**

Four month placement in a Diagnostic Imaging department. Students develop clinical and professional skills by participating in radiological procedures under direct supervision of a qualified professional. One term

Prerequisite: MEDRADSC 2A03, 2D03, 2E03, 2F03, 2H03, 2I03, and registration in Level II of the Radiography Specialization

**MEDRADSC 3DB3 SUBSPECIALTIES IN MEDICAL RADIATION SCIENCES - BONE MINERAL DENSITOMETRY**

Pathophysiology of osteoporosis, diagnosis and treatment are discussed. The principles and practice of bone density measurements, with emphasis on dual energy x-ray absorptiometry, are covered, with hands-on experience in a simulated clinical environment. Three hours (lectures); one term

Prerequisite: Registration in Level III of the Radiography Specialization

**MEDRADSC 3G03 RADIOGRAPHIC PHYSICS AND INSTRUMENTATION II**

The main operations of radiographic and fluorographic equipment, from underlying physical principles to clinical application. Three hours (lectures), one hour (lab or tutorial); one term

Prerequisite: MEDRADSC 2F03 and registration in Level III of the Radiography Specialization

**MEDRADSC 3H03 QUALITY CONTROL IN RADIOGRAPHY**

Students perform quality control testing procedures on both analogue and digital radiographic equipment, comparing equipment performance to legislated standards and best practices concepts. One hour (lecture), three hours (lab), one hour (tutorial); one term

Prerequisite: MEDRADSC 3G03 and registration in Level III of the Radiography Specialization

**MEDRADSC 3J03 PATHOLOGY AND PROCEDURES II**

Radiological procedures and image appearances of associated pathologies of the cardiovascular, endocrine, nervous and reproductive systems. Three hours (lectures); one term

Prerequisite: MEDRADSC 2I03 and registration in Level III of the Radiography Specialization

**MEDRADSC 3K03 COMPUTED TOMOGRAPHY**

Processes of data acquisition, image reconstruction and post-processing in computed tomography are discussed. Scan protocol optimization in terms of image quality, demonstrated structures and patient dose are examined. Three hours (lectures), one lab; one term

Prerequisite: MEDRADSC 3I03 and registration in Level III of the Radiation Therapy or Radiography Specialization

**MEDRADSC 3L03 RADIOGRAPHIC SKILLS III**

Radiography of cranio-facial structures and development of case management and adaptation skills in modifying standard radiographic procedures to the special needs patient. One hour (lecture), four hours (lab); one term

Prerequisite: MEDRADSC 2J17 and registration in Level III of the Radiography Specialization

**MEDRADSC 4A16 CLINICAL PRACTICUM II**

Sixteen week placement in a Diagnostic Imaging department. Students further develop clinical and professional skills, working toward competence in general radiography and fluoroscopy. One term

Prerequisite: Registration in Level IV of the Radiography Specialization

**MEDRADSC 4B17 CLINICAL PRACTICUM III**

Seventeen week placement in a Diagnostic Imaging department. Students further develop clinical skills, integrating theory and development of independent decision-making capacity in the management of cases as required for entry to practice. One term

Prerequisite: MEDRADSC 4A16 and registration in Level IV of the Radiography Specialization

**MEDICAL RADIATION SCIENCES  
(ULTRASONOGRAPHY SPECIALIZATION) ...**

**Courses**

**MEDRADSC 2K03 SONOGRAPHIC PHYSICS AND INSTRUMENTATION I**

This course will examine the following topics: physical principles associated with propagation of ultrasound in tissues, attenuation of sound in tissues, ultrasound instrumentation, image quality and bioeffects. Three hours (lectures), one hour (lab), one hour (tutorial); one term

Prerequisite: Registration in Level II of the Ultrasonography Specialization

**MEDRADSC 2L03 ABDOMINAL ULTRASONOGRAPHY I**

A comprehensive study of the relational anatomy, normal and anomalous conditions of major abdominal organs; general pathologic conditions; application to the vascular and reticulo-endothelial systems with sonographic correlation. Three hours (lectures), one hour (tutorial); one term

Prerequisite: Registration in Level II of the Ultrasonography Specialization

**MEDRADSC 2M03 OBSTETRICAL AND GYNECOLOGIC ULTRASONOGRAPHY I**

A comprehensive study of the anatomy, physiology of the normal female pelvis including pregnancy. Sonographic technique, normal appearances, patient care and ethical issues will be examined. Three hours (lectures), one hour (tutorial); one term

Prerequisite: Registration in Level II of the Ultrasonography Specialization

**MEDRADSC 2N03 SONOGRAPHIC SKILLS I**

Emphasis is on performance of sonography of the abdominal vasculature, liver and biliary systems to include routine and alternate techniques, image recognition, patient care, communication and ergonomics. One hour (lecture), four hours (lab); one term

Prerequisite: Registration in Level II of the Ultrasonography Specialization

**MEDRADSC 2003 ABDOMINAL ULTRASONOGRAPHY II**

A comprehensive overview with sonographic correlation of the relational anatomy, normal and anomalous conditions of the remaining major abdomino-pelvic organs with detailed pathologic conditions.

Three hours (lectures), one hour (tutorial); one term

Prerequisite: MEDRADSC 2L03 and registration in Level II of the Ultrasonography Specialization

**MEDRADSC 2P03 OBSTETRICAL AND GYNECOLOGICAL ULTRASONOGRAPHY II**

A comprehensive study of gynaecological pathologies and abnormal sonographic appearances of the female pelvis. Pathologies of the obstetrical patient will be examined.

Three hours (lectures), one hour (tutorial); one term

Prerequisite: MEDRADSC 2M03 and registration in Level II of the Ultrasonography Specialization

**MEDRADSC 2Q03 SONOGRAPHIC SKILLS II**

Emphasis is on performance of sonography of the pancreas, urinary system, complete abdomen and female pelvis to include routine and alternate techniques, image recognition, patient care, communication and ergonomics.

One hour (lecture), four hours (lab); one term

Prerequisite: MEDRADSC 2N03 and registration in Level II of the Ultrasonography Specialization

**MEDRADSC 2R17 CLINICAL PRACTICUM I**

Under the direct supervision of a qualified sonographer, students will apply patient care and communication skills, scan selected patients with guidance to produce diagnostic images of the abdomen and pelvis.

One term

Prerequisite: MEDRADSC 2A03, 2K03, 2O03, 2P03; 2Q03 and registration in Level II of the Ultrasonography Specialization

**MEDRADSC 3DC3 SUBSPECIALTIES IN MEDICAL RADIATION SCIENCES - ULTRASONOGRAPHY OF THE BREAST**

A comprehensive study of breast imaging technology. Sonographic appearance, technique and correlation with other diagnostic modalities are covered.

Three hours (lectures); one term

Prerequisite: Registration in Level III of the Ultrasonography Specialization

**MEDRADSC 3DF3 SUBSPECIALTIES IN MEDICAL RADIATION SCIENCES - NEUROSONOGRAPHY**

A comprehensive study of the diagnostic application of ultrasound in the neonatal brain and spinal cord. Sonographic appearance, technique and correlation with other diagnostic modalities are covered.

Three hours (lectures); one term

Prerequisite: Registration in Level III of the Ultrasonography Specialization

**MEDRADSC 3DG3 SUBSPECIALTIES IN MEDICAL RADIATION SCIENCES - FETAL ECHOCARDIOGRAPHY**

A comprehensive study of the normal and pathologic structure of the fetal heart. Sonographic appearance and technique are covered.

Three hours (lectures); one term

Prerequisite: Registration in Level III of the Ultrasonography Specialization

**MEDRADSC 3M03 ABDOMINAL ULTRASONOGRAPHY III**

A comprehensive overview with sonographic correlation of the relational anatomy, normal, anomalous and pathologic conditions of remaining abdominal and superficial structures.

Three hours (lectures), one hour (tutorial); one term

Prerequisite: MEDRADSC 2O03 and registration in Level III of the Ultrasonography Specialization

**MEDRADSC 3N03 VASCULAR ULTRASONOGRAPHY**

Vascular anatomy, physiology, flow hemodynamics, sonographic technique of normal and pathologic flow states, relevant alternative methods of assessing the vasculature of the head, neck, abdomen and extremities.

Three hours (lectures); one term

Prerequisite: MEDRADSC 2K03 and registration in Level III of the Ultrasonography Specialization

**MEDRADSC 3O03 SONOGRAPHIC SKILLS III**

Emphasis is on performance of sonography of superficial structures, doppler of abdominal and peripheral vasculature to include routine and alternate techniques, image recognition, patient care, communication and ergonomics.

One hour (lecture), four hours (lab); one term

Prerequisite: MEDRADSC 2N03, 2R17 and registration in Level III of the Ultrasonography Specialization

**MEDRADSC 3P03 OBSTETRICAL AND GYNECOLOGIC ULTRASONOGRAPHY III**

A comprehensive study of obstetric anomalies and abnormal sonographic appearances of amniotic fluid, fetal growth, fetal syndromes, Doppler studies of the gravid patient and fetal anomalies of each system.

Three hours (lectures), one hour (tutorial); one term

Prerequisite: MEDRADSC 2P03 and registration in Level III of the Ultrasonography Specialization

**MEDRADSC 3Q03 SONOGRAPHIC PHYSICS AND INSTRUMENTATION II**

Recent and emerging technological advances in ultrasound instrumentation. Emphasis will be placed on the added diagnostic value provided by the technology and new applications for the instrumentation.

Three hours (lectures), one hour (lab), one hour (tutorial); one term

Prerequisite: MEDRADSC 2K03 and registration in Level III of the Ultrasonography Specialization

**MEDRADSC 3R03 MUSCULOSKELETAL ULTRASONOGRAPHY**

Sonographic correlation of upper/lower extremity joint anatomy; normal and pathologic musculoskeletal structures using standard scanning techniques and protocols.

Two hours (lectures), one hour (lab); one term

Prerequisite: MEDRADSC 2R17, and registration in Level III of the Ultrasonography Specialization

**MEDRADSC 4C16 CLINICAL PRACTICUM II**

Four month placement in the Sonography department. Students further develop clinical and professional skills, integrating theory, developing independent decision-making capacity in the management of cases, working towards competency in the sonographic specializations.

One term

Prerequisite: MEDRADSC 2R17, 3O03 and registration in Level IV of the Ultrasonography Specialization

**MEDRADSC 4D17 CLINICAL PRACTICUM III**

Four month placement in the Sonography department. Students further develop clinical and professional skills, integrating theory, developing independent decision-making capacity in the management of cases, working towards competency in the sonographic specializations.

One term

Prerequisite: MEDRADSC 4C16 and registration in Level IV of the Ultrasonography Specialization

**MIDWIFERY**

WEB ADDRESS: <http://www.fhs.mcmaster.ca/midwifery>

Michael G. DeGroot Centre for Learning and Discovery, Room 3103

Ext. 26654

**Faculty as of January 15, 2006****Assistant Dean**

Karyn Kaufman

**Professor**

Karyn Kaufman/B.S.N. (Michigan), M.S. (New York), Dr.P.H.(North Carolina), R.M.

**Associate Professors**

Paul Krueger/B.Sc., M.Sc. (Waterloo), M.H.Sc., Ph.D. (Toronto)

Derek Lobb/B.Sc. (Western Ontario), M.Sc. (Guelph), Ph.D. (Toronto)

Helen McDonald/M.H.Sc. (McMaster), R.M.

Patricia McNiven/M.Sc., Ph.D. (Toronto), R.M.

Bruce Wainman/B.Sc., (Laurentian), M.H.Sc. (McMaster), Ph.D. (York)

**Assistant Professor**

Anne Malott/B.Sc.N. (Windsor), M.S.N (Case Western Reserve)

**Courses** *If no prerequisite is listed, the course is open.***MIDWIF 1D03 THE MIDWIFERY PROFESSION**

Seminar presentations, discussion and arranged experiences to introduce students to the history, philosophy of care, and role of the midwife in Canada and elsewhere.

Seminar (three hours); first term

Prerequisite: Registration in the Midwifery Education Program

Antirequisite: MIDWIF 1A06

**MIDWIF 2A03 MIDWIFERY CARE I-CLINICAL SKILLS**

This course involves structured learning experiences to prepare for an individualized placement in a midwifery practice. Fundamental clinical skills and theoretical information will be included.

Four weeks; second term  
Prerequisite: MIDWIF 1A06  
Last offered in 2006-2007.

**MIDWIF 2E12 MIDWIFERY CARE I-CLINICAL PRACTICUM**

This clinical placement focuses on assessment skills of prenatal and post-natal clients and observation of births. Physical assessment and history taking skills can be practised under supervision. Included is a weekly situation-based, small group tutorial which will focus on thorough assessment of situations and integration of basic knowledge with clinical observations.

Twelve weeks  
Prerequisite: MIDWIF 2A03  
Last offered in 2006-2007.

**MIDWIF 2F03 PHARMACOTHERAPY**

This course is an overview of basic concepts in pharmacy, pharmacology and therapeutics relevant to the practice of midwifery in Ontario. Content areas include pharmacokinetics, toxicology, adverse drug reactions during pregnancy and lactation and pharmacology in the neonate.

Two lectures (three hours), one tutorial (one hour); one term  
Prerequisite: HTH SCI 1D06

**MIDWIF 2G03 CLINICAL SKILLS FOR MIDWIFERY PRACTICE**

Lecture, demonstration and laboratory practice of fundamental skills for midwifery practice.

First term  
Prerequisite: MIDWIF 1D03  
Antirequisite: MIDWIF 2A03

May be taken concurrently with MIDWIF 1D03 with permission of the Program Director.

First offered in 2007-2008.

**MIDWIF 2H15 MIDWIFERY CARE I: NORMAL CHILDBEARING**

First clinical placement under the supervision of a registered midwife: students focus on beginning level skills for the care of women experiencing normal childbearing. Weekly problem-based tutorials include normal antepartum, intrapartum, postpartum and newborn care situations.

Second term  
Prerequisite: HTH SCI 2M03, MIDWIF 1D03, 2G03 (or 1A06), 2F03. A minimum CA of 6.0 in first term is required.

Antirequisite: MIDWIF 2E12  
First offered in 2007-2008.

**MIDWIF 3A09 COMMUNITY PLACEMENTS**

Three one month placements will be organized over the term. One placement will be organized with a hospital labour and delivery department and one with an obstetrician. The third placement will be chosen by the student and may take place within or outside the province or country.

Second term  
Prerequisite: MIDWIF 2B15

**MIDWIF 3D03 HEALTH EDUCATION AND HEALTH PROMOTION**

This course will incorporate concepts and principles from areas that contribute to the understanding of human behaviour in health related situations. Of special interest are teaching-learning situations that arise in primary health care settings for childbearing families.

Offered by WebCT/Print Management-based. The Program reserves the right to cancel the course due to low enrolment.

One term  
Prerequisite: HTH SCI 1C06

**MIDWIF 3F03 MIDWIFERY SYNTHESIS PAPER**

The goal of this course is the synthesis of in-depth knowledge and critical analysis about a selected topic that leads to relevant application of the information for the midwifery profession. Each student is assigned to a faculty supervisor who will work closely with the student throughout the preparation of the paper.

Second term  
Prerequisite: Registration in Level III of the Midwifery Education Program

**MIDWIF 3G15 MIDWIFERY CARE II**

Second clinical placement under the supervision of a registered midwife: students develop additional skills in planning and providing care to women and their newborn infants. Weekly problem-based tutorials focus on a range of normal and more common abnormal situations.

First term  
Prerequisite: MIDWIF 2A03, 2E12  
Antirequisite: MIDWIF 2B15

**MIDWIF 3H15 MIDWIFERY CARE III**

Third placement in a midwifery practice: students extend skills to more complex childbearing situations. Problem-based tutorials focus on expanding the knowledge base of maternal-newborn complications, for consultation and referral, and relationships with other health care providers.

Third term  
Prerequisite: MIDWIF 2B15, 3G15  
Antirequisite: MIDWIF 2C15

**MIDWIF 4A15 MIDWIFERY CARE IV**

Fourth placement in a midwifery practice. In defined situations, supervision is indirect. Students care for an assigned caseload, including situations with complications. Problem-based tutorials focus on midwifery roles and responsibilities in highly complex and urgent situations.

First term  
Prerequisite: MIDWIF 2C15, 3H15  
Antirequisite: MIDWIF 3B15

**MIDWIF 4B15 MIDWIFERY CLERKSHIP**

Final placement in a midwifery practice. Supervision is increasingly indirect. Students formulate and provide care to an entire caseload of women. Tutorials and workshops include case review, preparation for registration and establishing a practice in Ontario.

Second term  
Prerequisite: MIDWIF 3B15, 4A15  
Antirequisite: MIDWIF 3C12, 3E03

**MODERN LANGUAGES AND LINGUISTICS**

(SEE LINGUISTICS AND LANGUAGES)

**MOHAWK**

(SEE INDIGENOUS STUDIES, MOHAWK)

**MOLECULAR BIOLOGY**

The Molecular Biology courses are administered within the Faculty of Science through a Committee of Instruction, and draw on the Departments of Biochemistry and Biomedical Sciences, Biology and Pathology and Molecular Medicine. Information may be obtained from the Program Administrators in Life Sciences Building, Room 118 or Health Sciences Centre, Room 4H43 who can refer students to the appropriate faculty counsellor.

**Courses** If no prerequisite is listed, the course is open.

**MOL BIOL 2B03 CELL BIOLOGY**

Basic treatment of cell structure and function, including transport and chemical signals; adaptation of structure and function in specialized cells.

Two lectures, one lab (three hours), one tutorial; one term  
Prerequisite: BIOLOGY 1A03, 1AA3, CHEM 1AA3 and registration in Honours Molecular Biology

Antirequisite: BIOLOGY 2B03

This course is administered by the Department of Biology.

**MOL BIOL 2L06 INQUIRY IN BIOCHEMICAL TECHNIQUES**

An inquiry approach to learning about current techniques in biochemistry research. Students will work in small groups in labs and workshops, with a focus on how to search the primary literature, prepare and deliver written and oral presentations.

One lecture (one hour), one lab or workshop (four hours); two terms  
Prerequisite: Registration in BIOCHEM 2BB3 and Honours Molecular Biology

Cross-list: BIOCHEM 2L06

Antirequisite: BIOCHEM 3L03

This course is administered by the Department of Biology.

**MOL BIOL 3A03 CURRENT TOPICS IN MOLECULAR BIOLOGY**

A review of current literature in molecular biology. A combination of lectures and student presentations on selected topics.

One lecture; one tutorial (two hours); one term  
Prerequisite: Registration in Honours Molecular Biology

**MOL BIOL 3I03 INDEPENDENT RESEARCH PROJECT**

Students will conduct an independent research study in a faculty member's laboratory.

8-10 hours per week (scheduling to be arranged by supervisor); one term  
Prerequisite: Registration in Honours Molecular Biology. Permission of the department is required. Application for permission must be received by March 1st of the academic year prior to registration. Students are expected to have a C.A.

of at least 9.0. For further information, please refer to [http://www.science.mcmaster.ca/biology/biology\\_undergraduate\\_CourseOfferings](http://www.science.mcmaster.ca/biology/biology_undergraduate_CourseOfferings).

Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

**MOL BIOL 3V03      TECHNIQUES IN MOLECULAR GENETICS**

A laboratory course involving basic experiments in Molecular Genetics. One lecture, two labs (three hours each); one term  
 Prerequisite: Credit or registration in BIOLOGY 3O03 and registration in Level III or IV of Honours Molecular Biology  
 Antirequisite: BIOCHEM 3P03, BIOLOGY 3V03  
*Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.*  
*This course is administered by the Department of Biology.*

**MOL BIOL 4A03      COMMUNICATIONS IN MOLECULAR BIOLOGY**

How to structure and defend a research proposal. How to analyze and present data and write it as a contribution to the primary scientific literature  
 Two tutorials; two terms  
 Prerequisite: Registration in Level IV Honours Molecular Biology

**MOL BIOL 4H03      MOLECULAR BIOLOGY OF CANCER**

Cancer at the cellular and molecular level. Topics include: properties of cancer cells, activation of proto-oncogenes, function of oncoproteins, transgenic mouse models, and tumour viruses, tumour suppressor genes.  
 Two lectures; one tutorial; one term  
 Prerequisite: One of BIOCHEM 3B03, 3BT3, 3D03, 3G03, BIOLOGY 3H03, 3HH3 and registration in Level III or above of any Honours program; or permission of the instructor

**MOL BIOL 4J03      MOLECULAR IMMUNOLOGY**

This advanced course applies small group based learning to immunological problems. Topics concern development of immunoassays, resistance to infection and immunity in health and disease.  
 One session (two hours), one tutorial; one term  
 Prerequisite: One of BIOLOGY 3X03 or HTH SCI 3I03, and one of BIOCHEM 3B03, 3BT3, 3D03, 3G03, BIOLOGY 3H03; or permission of the instructor  
 Cross-list: BIOCHEM 4J03, HTH SCI 4J03  
*This course is administered by the Bachelor of Health Sciences (Honours) Program.*

**MOL BIOL 4R09      SENIOR THESIS**

A thesis based on a research project in molecular biology supervised or co-supervised by a member of the Department of Biology or the Department of Biochemistry and Biomedical Sciences.  
 Prerequisite: Registration in Level IV Honours Molecular Biology and permission of the Course Coordinator. Application for permission should be made through the Department of Biology, Life Sciences Building, Room 118 by the end of March in Level III. Normally, a CA of at least 8.5 is required.  
 Antirequisite: BIOCHEM 4L03, 4P03, BIOLOGY 4C09, 4F06, 4FF3, 4GG9, 4I03, HTH SCI 3H03, 4A09, 4B06  
*Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.*

**MULTIMEDIA**

(SEE COMMUNICATION STUDIES AND MULTIMEDIA)

**MUSIC**

**WEB ADDRESS:** <http://www.humanities.mcmaster.ca/~sota/>

**Togo Salmon Hall, Room 414**

**Ext. 27671**

Courses and programs in Music are administered within the School of the Arts in the Faculty of Humanities.

**Courses** *If no prerequisite is listed, the course is open.*

**MUSIC 1A03      INTRODUCTION TO THE HISTORY OF MUSIC I**

An introductory survey of Western music, from Gregorian chant to the time of Bach and Handel. Emphasis is on important composers and their works in relation to their society and culture. No previous knowledge of music required.  
 Three lectures; one term  
*Not open to students registered in any Music program.*

**MUSIC 1AA3      INTRODUCTION TO THE HISTORY OF MUSIC II**

An introductory survey of Western music, from the time of Mozart to the present. Composers studied include Beethoven, Schubert, Chopin, Verdi, Wagner, Debussy, and Stravinsky. No previous knowledge of music required  
 Three lectures; one term  
*Not open to students registered in any Music program.*

**MUSIC 1C03      RUDIMENTS OF WESTERN MUSIC**

A first course in hearing, reading, and writing Western music, at the level of Grade 2 rudiments of the Royal Conservatory of Music. Topics include pitches and rhythms; intervals, scales; chords, keys, and modes; musical terms; melody, elementary cadences, transposition, and open score.  
 Two lectures, one tutorial; one term  
*Not open to students registered in any Music program.*

**MUSIC 1CC3      HARMONY**

The analysis and writing of functional harmony. Includes study of music by J.S. Bach and others.  
 Two lectures; two terms  
 Prerequisite: Registration in a Music program; or a grade of at least B- in MUSIC 1C03; or qualifying tests

**MUSIC 1D03      AURAL SKILLS**

Sight-singing and dictation.  
 Two lectures, one lab; two terms  
 Prerequisite: Registration in a Music program, or qualifying tests

**MUSIC 1E06      SOLO PERFORMANCE**

Intensive study of the technique and repertoire of any orchestral instrument, piano, organ, harpsichord, voice, recorder, saxophone, or guitar.  
 12 one-hour meetings per term; two terms  
 Prerequisite: Registration in a Music program; or a successful audition at a minimum level of Honours Grade 8 RCM or equivalent and permission of the School of the Arts  
*Lesson fees are charged to students taking MUSIC 1E06 if the course is not a specific requirement for their music degree program. Lesson fees must be paid by September 1.*

**MUSIC 1G03      ENSEMBLE PERFORMANCE**

McMaster Chamber Orchestra, McMaster University Choir, McMaster Concert Band, McMaster Jazz Band, McMaster Vocal Ensemble, or any other ensemble approved by the School of the Arts.  
 Prerequisite: Successful audition required

**MUSIC 1Y03      MUSIC AND CULTURE**

An introduction to the study of music as a cultural practice, including the exploration of issues such as gender in composition and performance, the relationship of music to spiritual practices, the body in performance, and the roles musicians have in society. Both contemporary and historical musical examples will be drawn from various cultures. Competence in reading music is required.  
 Two lectures, one tutorial; one term  
 Prerequisite: Registration in a Music program

**MUSIC 1YY3      HISTORY OF WESTERN MUSIC: BAROQUE AND CLASSICAL**

A survey of Baroque and Classical music. Includes consideration of performance practices, influences of the other arts and socio-political developments.  
 Three lectures; one term  
 Prerequisite: MUSIC 1Y03

**MUSIC 2A03      MUSIC OF THE WORLD'S CULTURES**

A survey of music traditions of non-European cultures, e.g., far Eastern, Indian, African.  
 Three lectures; one term  
 Prerequisite: Registration in Level II or above  
 Cross-list: CMST 2Q03  
*Offered in alternate years.*

**MUSIC 2CC3      HARMONY**

A continuation of MUSIC 1CC3. Chromatic harmony and the completed major-minor system.  
 One lecture, term one; two lectures, term two  
 Prerequisite: MUSIC 1CC3

**MUSIC 2D03      KEYBOARD HARMONY**

Keyboard Harmony.  
 Two lectures; two terms  
 Prerequisite: Registration in a Music program or qualifying tests

**MUSIC 2E06      SOLO PERFORMANCE**

A continuation of MUSIC 1E06.  
 12 one-hour meetings per term; two terms  
 Prerequisite: MUSIC 1E06; and registration in Level II of any program in Music or permission of the School of the Arts  
*Lesson fees are charged to students taking MUSIC 2E06 if the course is not a specific requirement for their music degree program. Lesson fees must be paid by September 1.*

- MUSIC 2F03**      **MUSIC FOR FILM AND TELEVISION**  
An examination of how music functions to help create meanings in film and television programs. Examples will be drawn from throughout the history of film and television.  
Three lectures; one term  
Prerequisite: Registration in Level II or above  
Cross-list: CMST 2T03, THTR&FLM 2T03  
Antirequisite: SADM 3A03
- MUSIC 2G03**      **ENSEMBLE PERFORMANCE**  
McMaster Chamber Orchestra, McMaster University Choir, McMaster Concert Band, McMaster Jazz Band, McMaster Vocal Ensemble, or any other ensemble approved by the School of the Arts.  
Prerequisite: MUSIC 1G03 and successful audition
- MUSIC 2H03**      **ANALYSIS**  
The traditional forms of Western art music as found in works by composers such as Bach, Mozart, Beethoven, and Brahms.  
Three lectures; one term  
Prerequisite: MUSIC 1CC3
- MUSIC 2I03**      **POPULAR MUSIC IN NORTH AMERICA AND THE UNITED KINGDOM: PRE-WORLD WAR II**  
Two centuries of popular music, its social meanings, and media and technology interactions, emphasizing the early twentieth century. Topics include minstrelsy, early blues, and musical theatre.  
Three lectures; one term  
Prerequisite: Registration in Level II or above  
Cross-list: CMST 2RR3
- MUSIC 2II3**      **POPULAR MUSIC IN NORTH AMERICA AND THE UNITED KINGDOM: POST-WORLD WAR II**  
Popular music, its social meanings, and media and technology interactions, from rock-and-roll to now. Topics include rhythm and blues (Chuck Berry), pop (Madonna), metal (Led Zepplin).  
Three lectures; one term  
Prerequisite: Registration in Level II or above  
Cross-list: CMST 2R03  
Antirequisite: MUSIC 2AA3
- MUSIC 2Y03**      **HISTORY OF WESTERN MUSIC: ROMANTIC TO THE PRESENT**  
A survey of 19th, 20th and 21st century music. Includes consideration of performance practices, influences of the other arts and socio-political developments.  
Three lectures; one term  
Prerequisite: MUSIC 1Y03  
Antirequisite: MUSIC 2B03, 2BB3
- MUSIC 2YY3**      **HISTORY OF WESTERN MUSIC: MEDIEVAL AND RENAISSANCE**  
A survey of Medieval and Renaissance music. Includes consideration of performance practices, influences of the other arts and socio-political developments.  
Three lectures; one term  
Prerequisite: MUSIC 1Y03
- MUSIC 2Z03**      **INTRODUCTION TO MIDI AND COMPUTER MUSIC**  
Basic electroacoustic theory; introduction to techniques of digital music composition, emphasizing MIDI applications; computer music notation; aesthetics of music composition. Students will be expected to produce at least one original work. Prior experience with computers and/or music composition is strongly encouraged, though not required. Independent studio work will be required.  
Two lectures, one tutorial; one term  
Prerequisite: Registration in the Combined Honours in Multimedia Program or registration in Level II or above of a Music program.  
Cross-list: MMEDIA 2G03  
*Enrolment is limited.*  
*This course is administered by the Department of Communication Studies and Multimedia.*
- MUSIC 3AA3**      **ELEMENTARY MUSIC EDUCATION**  
A survey of elementary music education methods such as those of Kodály, Orff and Suzuki.  
Three lectures; one term  
Prerequisite: MUSIC 1A03 and 1AA3; or 18 units of Music
- MUSIC 3CM3**      **MODAL COUNTERPOINT**  
The writing and analysis of modal counterpoint in the style of the late renaissance. Includes study of music by composers such as Palestrina and Lasso.  
Seminar (two hours); one term  
Prerequisite: MUSIC 2CC3 and registration in Honours Music  
Antirequisite: MUSIC 2C03  
*Offered in alternate years.*  
*Enrolment is limited.*
- MUSIC 3CT3**      **TONAL COUNTERPOINT**  
The writing and analysis of tonal counterpoint in Baroque style. Includes study of music by major composers of the 17th and early 18th centuries.  
Seminar (two hours); one term  
Prerequisite: MUSIC 2C03 or 2CC3; and registration in Honours Music  
Antirequisite: MUSIC 3C03  
*Offered in alternate years.*  
*Enrolment is limited.*
- MUSIC 3E03**      **SOLO PERFORMANCE**  
The technique and repertoire of any orchestral instrument, piano, organ, harpsichord, voice, recorder, saxophone or guitar.  
12 one-hour meetings; one term  
Prerequisite: MUSIC 2E06  
Antirequisite: MUSIC 3E06  
*Lesson fees are charged to students taking MUSIC 3E03 if the course is not a specific requirement for their music degree program. Lesson fees must be paid by September 1 for Term 1 and by January 1 for Term 2.*
- MUSIC 3E06**      **SOLO PERFORMANCE**  
A continuation of MUSIC 2E06.  
12 one-hour meetings per term; two terms  
Prerequisite: MUSIC 2E06  
Antirequisite: MUSIC 3E03  
*Lesson fees are charged to students taking MUSIC 3E06 if the course is not a specific requirement for their music degree program. Lesson fees must be paid by September 1.*
- MUSIC 3G03**      **ENSEMBLE PERFORMANCE**  
McMaster Chamber Orchestra, McMaster University Choir, McMaster Concert Band, McMaster Jazz Band, McMaster Vocal Ensemble, or any other ensemble approved by the School of the Arts.  
Prerequisite: MUSIC 2G03 and successful audition
- MUSIC 3H03**      **ANALYSIS**  
Techniques of analysis applied to selected works of the 20th century.  
Seminar (two hours); one term  
Prerequisite: MUSIC 2CC3, 2H03 and registration in Honours Music  
*Offered in alternate years.*  
*Enrolment is limited.*
- MUSIC 3J03**      **ORCHESTRATION AND ARRANGING**  
A study of the orchestral/band instruments; scoring of music for various ensembles.  
Two lectures; two terms  
Prerequisite: MUSIC 2CC3, 2H03 and registration in a Music program  
*Offered in alternate years.*
- MUSIC 3K03**      **BRASS METHODS**  
Basic techniques of playing brass instruments. Brass literature for various educational levels. The instruments studied differ from those studied in MUSIC 4K03.  
Two lectures, one lab; one term  
Prerequisite: Registration in Honours Music  
*Alternates with MUSIC 4K03.*  
*Enrolment is limited.*
- MUSIC 3L03**      **WOODWIND METHODS**  
Basic techniques of playing woodwind instruments. Woodwind literature for various educational levels. The instruments studied differ from those studied in MUSIC 4L03.  
Two lectures, one lab; one term  
Prerequisite: Registration in Honours Music  
*Alternates with MUSIC 4L03.*  
*Enrolment is limited.*
- MUSIC 3M03**      **STRING METHODS**  
Basic techniques of playing string instruments. String literature for various educational levels. The instruments studied differ from those studied in MUSIC 4M03.  
Two lectures; two terms  
Prerequisite: Registration in Honours Music  
*Alternates with MUSIC 4M03.*  
*Enrolment is limited.*

**MUSIC 3N03 VOCAL METHODS**

Basic techniques of singing; organization, conducting, and rehearsing a choir; choral literature for primary and junior levels.

Two lectures; one term

Prerequisite: Registration in Honours Music

*Alternates with MUSIC 4N03.*

*Enrolment is limited.*

**MUSIC 3O03 CONDUCTING**

Fundamental conducting techniques applied to works selected from the standard repertoire.

Three lectures; one term

Prerequisite: MUSIC 2CC3, 2H03 and registration in Honours Music

*Enrolment is limited.*

**MUSIC 3P03 PERCUSSION METHODS**

Basic techniques of playing percussion instruments. Percussion literature for various educational levels.

Two lectures; one term

Prerequisite: Registration in Honours Music

Antirequisite: MUSIC 4P03

*Enrolment is limited.*

**MUSIC 3SS3 SPECIAL STUDIES IN CHAMBER MUSIC OR ACCOMPANYING I**

Advanced supervised studies in chamber music performance or vocal or instrumental accompanying.

Times to be arranged between the students and instructor; one term

Prerequisite: A grade of at least A- in MUSIC 2E06; and registration in Level III or IV of a Music program; and permission of the School of the Arts. Students requesting this course must submit a written proposal to the School of the Arts by April 15. This course is primarily for students pursuing the Diploma in Music Performance.

Antirequisite: MUSIC 3S03

*Fees are charged to students taking MUSIC 3SS3. Lesson fees must be paid by September 1 for Term 1 and by January 1 for Term 2.*

*Enrolment is limited.*

**MUSIC 3T03 CANADIAN MUSIC**

A historical survey of music in Canada, in the context of social and political developments, from c. 1600 to the present.

Two lectures, one tutorial; one term

Prerequisite: Registration in Level II or above

*Offered in alternate years.*

**MUSIC 3U03 JAZZ**

An historical survey of jazz, focusing on selected performers and arrangers.

Two lectures, one tutorial; one term

Prerequisite: Registration in Level II or above

**MUSIC 3V03 FOUNDATIONS OF MUSIC EDUCATION**

A study of the philosophical, psychological and sociological foundations of music education, leading to the formation of a personal philosophy of music education.

Seminar (two hours); one term

Prerequisite: Registration in Level III or IV of an Honours Music program

*Offered in alternate years.*

*Enrolment is limited.*

**MUSIC 3Y03 TOPICS IN MUSIC HISTORY:****MUSIC FOR THE ORCHESTRA**

A study of selected orchestral music in its historical, socio-political and artistic contexts. Possible topics include: the concerto, the symphonic poem, orchestral music, 1880-present.

Two lectures; one tutorial; one term

Prerequisite: Registration in Level III or IV of an Honours Music program

*Alternates with MUSIC 3YY3.*

**MUSIC 3YY3 TOPICS IN MUSIC HISTORY:****OPERA AND/OR MUSICAL THEATRE**

A study of selected music for the stage in its historical, socio-political and artistic contexts. Possible topics include: Mozart's operas, Wagner's Ring, American musical theatre.

Two lectures, one tutorial; one term

Prerequisite: Registration in Level III or IV of an Honours Music program

*Alternates with MUSIC 3Y03.*

**MUSIC 3Z03 ADVANCED MIDI AND DIGITAL****AUDIO FOR MULTIMEDIA**

The creation of digital music and audio. Students work individually and in teams to develop skills for multimedia audio production. Topics include: advanced MIDI, mixing, audio processing and frequency equalization.

Two lectures, one tutorial; one term

Prerequisite: MMEDIA 2G03 or MUSIC 2Z03

Cross-list: MMEDIA 3C03

*Enrolment is limited.*

*This course is administered by the Department of Communication Studies and Multimedia.*

**MUSIC 4C03 TOPICS IN HARMONY AND COUNTERPOINT**

Advanced studies in writing an analysis. Possible topics include: sonatas, songs, jazz arranging and scoring.

Seminar (two hours); one term

Prerequisite: MUSIC 2CC3 and registration in Honours Music

*Offered in alternate years.*

*Enrolment is limited.*

**MUSIC 4E03 SOLO PERFORMANCE**

A continuation of MUSIC 3E03 or 3E06.

12 one-hour meetings; one term

Prerequisite: MUSIC 3E03 or 3E06

Antirequisite: MUSIC 4E06, 4E09

*Lesson fees are charged to students taking MUSIC 4E03 if the course is not a specific requirement for their music degree program. Lesson fees must be paid by September 1 for Term 1 and by January 1 for Term 2.*

**MUSIC 4E06 SOLO PERFORMANCE**

A continuation of MUSIC 3E06 or 3E03.

12 one-hour meetings per term; two terms

Prerequisite: MUSIC 3E03 or 3E06

Antirequisite: MUSIC 4E03, 4E09

*Lesson fees are charged to students taking MUSIC 4E06 if the course is not a specific requirement for their music degree program. Lesson fees must be paid by September 1.*

**MUSIC 4E09 SOLO PERFORMANCE, DIPLOMA**

Advanced technique and repertoire of any approved instrument, leading to a final examination in a recital presentation of approximately forty minutes duration.

Individual instruction; two terms

Prerequisite: MUSIC 3E06 with a grade of at least A- and permission of the School of the Arts

Antirequisite: MUSIC 4E03 or 4E06

*Open only to students pursuing the Diploma in Music Performance. Students requesting this course must apply in writing to the School of the Arts in March.*

*Fees are charged to students taking MUSIC 4E09. Lesson fees must be paid by September 1.*

**MUSIC 4G03 ENSEMBLE PERFORMANCE**

McMaster Chamber Orchestra, McMaster University Choir, McMaster Concert Band, McMaster Jazz Band, McMaster Vocal Ensemble, or any other ensemble approved by the School of the Arts.

Prerequisite: MUSIC 3G03 and successful audition; or a grade of at least A- in MUSIC 2E06 and registration in the Diploma in Music Performance program

*Those students registered in the diploma program must, where possible, perform in this course in the same medium as they do in their other diploma courses.*

**MUSIC 4H03 TOPICS IN ANALYSIS**

Advanced studies in analysis. Possible topics include: Schenkerian analysis, song cycles of Schubert, advanced set theory.

Seminar (two hours); one term

Prerequisite: MUSIC 2CC3, 2H03 and registration in Honours Music

*Offered in alternate years.*

*Enrolment is limited.*

**MUSIC 4K03 BRASS METHODS**

A study of the basic techniques of playing brass instruments. Brass literature for various educational levels. The instruments studied differ from those studied in MUSIC 3K03.

Two lectures, one lab; one term

Prerequisite: Registration in Honours Music

*Alternates with MUSIC 3K03.*

*Enrolment is limited.*

**MUSIC 4L03 WOODWIND METHODS**

A study of the basic techniques of playing woodwind instruments. Woodwind literature for various educational levels. The instruments studied differ from those studied in MUSIC 3L03.

Two lectures, one lab; one term

Prerequisite: Registration in Honours Music

*Alternates with MUSIC 3L03.*

*Enrolment is limited.*

**MUSIC 4M03 STRING METHODS**

A study of the basic techniques of playing string instruments. String literature for various educational levels. The instruments studied differ from those studied in MUSIC 3M03.

Two lectures; two terms

Prerequisite: Registration in Honours Music

*Alternates with MUSIC 3M03.*

*Enrolment is limited.*

**MUSIC 4N03 VOCAL METHODS**  
Basic techniques of singing; organization, conducting, and rehearsing a choir; choral literature for intermediate and senior levels.  
Two lectures; one term.  
Prerequisite: Registration in Honours Music.  
*Alternates with MUSIC 3N03.*  
*Enrolment is limited.*

**MUSIC 40C3 ADVANCED CONDUCTING: CHORAL**  
Rehearsal and conducting techniques, including warm-up exercises, tone, intonation, balance, attack, sustain, cueing, repertoire, score reading, and score preparation.  
Three lectures; one term.  
Prerequisite: MUSIC 3O03 and registration in Honours Music.  
*Alternates with MUSIC 4O13.*  
*Enrolment is limited.*

**MUSIC 4O13 ADVANCED CONDUCTING: INSTRUMENTAL**  
A continuation of MUSIC 3O03. Refinement and development of conducting techniques. Exploration of in-depth score preparation, rehearsal techniques, odd and shifting meters, subdivision.  
Three lectures; one term.  
Prerequisite: MUSIC 3O03 and registration in Honours Music.  
*Alternates with MUSIC 4OC3.*  
*Enrolment is limited.*

**MUSIC 4P03 PERCUSSION METHODS**  
A continuation of MUSIC 3P03.  
Two lectures; one term.  
Prerequisite: MUSIC 3P03 and registration in Honours Music.  
*Enrolment is limited.*

**MUSIC 4Q03 PIANO LITERATURE AND PEDAGOGY**  
Study of piano repertoire and teaching methods for various age groups.  
Three lectures; one term.  
Prerequisite: Registration as a piano major in Level III or IV of an Honours Music program.  
*Offered in alternate years.*  
*Enrolment is limited.*

**MUSIC 4R03 ISSUES AND METHODS IN CURRENT MUSICOLOGY**  
An exploration of historical, analytical and critical methods of research in music, including models of analysis derived from cultural studies, gender studies, literary theory, etc.  
Seminar (two hours); one term.  
Prerequisite: Registration in Level III or IV of an Honours Music program.  
Antirequisite: MUSIC 3R03, 4I03.  
*Offered in alternate years.*  
*Enrolment is limited.*

**MUSIC 4S03 SPECIAL STUDIES**  
Advanced supervised study in any area offered and approved by the School of the Arts.  
Times to be arranged between the student and instructor; one term.  
Prerequisite: Registration in Level IV of an Honours Music program and permission of the School of the Arts. Students requesting this course must submit a written proposal to the School of the Arts by April 15th.

**MUSIC 4SS3 SPECIAL STUDIES IN CHAMBER MUSIC OR ACCOMPANYING II**  
Advanced supervised studies in chamber music performance or instrumental accompanying.  
Times to be arranged between the students and instructor; one term.  
Prerequisite: MUSIC 3SS3; and registration in Level III or IV of a Music program, and permission of the School of the Arts. Students requesting this course must submit a written proposal to the School of the Arts by April 15th. This course is primarily for students pursuing the Diploma in Music Performance.  
*Fees are charged to students taking MUSIC 4SS3. Lesson fees must be paid by September 1 for Term 1 and by January 1 for Term 2.*

**MUSIC 4U03 JAZZ IMPROVISATION**  
Study and performance of jazz improvisations in various styles.  
Two hours; one term.  
Prerequisite: MUSIC 3U03 and permission of the instructor.  
*Offered in alternate years.*

**MUSIC 4V03 CURRENT ISSUES IN MUSIC EDUCATION**  
An investigation of new political initiatives, philosophical views, developing research, and curricular and administrative changes that are currently influencing the practice of music in the schools.  
Seminar (two hours); one term.  
Prerequisite: Registration in Level III or IV of an Honours program in Music.  
*Alternates with MUSIC 3V03.*  
*Enrolment is limited.*

**MUSIC 4Y03 TOPICS IN MUSIC HISTORY**  
An intensive examination of a composer, period, genre, or issue from the style areas of "classical" music, film music, popular music, or jazz.  
Seminar (two hours); one term.  
Prerequisite: Registration in Level III or IV of an Honours Music program.  
*Enrolment is limited.*

**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 program 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; and registration in an Honours Music program; and permission of the instructor.

## NURSE PRACTITIONER

(SEE NURSING, NURSE PRACTITIONER (C) STREAM)

## NURSING

WEB ADDRESS: <http://www.fhs.mcmaster.ca/nursing>

Health Sciences Centre, Room 1M7

Ext. 22694

### Faculty as of January 15, 2006

Associate Dean of Health Sciences (Nursing)  
and Director of the School of Nursing

Catherine Tompkins

#### Professors

Heather Arthur/B.Sc.N. (McMaster), M.Sc.N., Ph.D. (Toronto), R.N.  
Andrea Baumann/B.Sc.N., M.Sc. (Windsor), M.Sc.N. (Western Ontario), Ph.D. (Toronto), R.N.  
Gina Browne/B.Sc.N. (Catherine Spaulding), M.S. (Boston), M.Ed., Ph.D. (Toronto), R.N.  
Donna Ciliska/B.Sc.N., M.Sc.N. (Western Ontario), Ph.D. (Toronto), R.N.  
Alba DiCenso/B.Sc.N., M.Sc. (McMaster), Ph.D. (Waterloo), R.N.  
Basanti Majumdar/B.Sc.(N.), M.Sc.N. (Delhi), M.Ed. (Columbia), Ph.D. (Michigan), R.N.  
Janet Pinelli/B.S. (Boston), M.Sc.N. (Toronto), D.N.S. (Buffalo), R.N.  
John Vickers/B.Sc. (McMaster), Ph.D. (York)

#### Associate Professors

Margaret Black/B.Sc.N. (McGill), M.Sc.N. (Case Western Reserve), Ph.D. (Michigan), R.N.  
Jennifer Blythe/B.A. (Hull), M.A., Ph.D. (McMaster), M.L.S. (Toronto)  
Sheryl Boblin/B.Sc.N. (Alberta), M.Ed. (Alberta), Ph.D. (Toronto), R.N.  
Barbara Brown/B.A., B.Sc.N. (Windsor), M.Sc.N. (Toronto), R.N.  
Barbara Carpio/B.Sc.N. (Alberta), M.Sc.N. (Toronto), M.Sc.(T.) (McMaster), R.N.  
Maureen Dobbins/B.Sc.N. (McMaster), Ph.D. (Toronto), R.N.  
Anita Fisher/B.A. (Windsor), M.H.Sc. (McMaster), R.N.  
Eileen Grace/M.H.Sc. (McMaster), M.Sc. (Toronto), Ph.D. (Waterloo), R.N.  
Mabel Hunsberger/B.S. (Goshen), M.Sc.N. (Pennsylvania), Ph.D. (Waterloo), R.N.  
Carolyn Ingram/B.Sc.N. (Pittsburg), M.Sc.N. (Maryland) D.S.N. (SUNY), R.N.  
Janet Landeen/B.Sc.N. (Connecticut), M.Ed. (Victoria), Ph.D. (Toronto), R.N.  
Ann Mohide/B.Sc.N. (Toronto), M.H.Sc.; M.Sc. (McMaster), R.N.  
Linda O'Mara/B.N., M.Sc.N. (McGill), Ph.D. (Toronto), R.N.  
Marilyn Parsons/B.N.Sc. (Queen's), M.H.Sc. (McMaster), R.N.

Jenny Ploeg/B.Sc.N., M.Sc.N. (Western Ontario), Ph.D. (Toronto), R.N.  
 Jennifer Skelly/M.H.Sc., M.Sc. (McMaster), Ph.D. (Toronto), R.N.  
 Wendy Sword/B.Sc.N., M.Sc.(T.) (McMaster), Ph.D. (Guelph), R.N.  
 Helen Thomas/B.N.Sc. (Queen's), M.Sc. (Waterloo), R.N.  
 Catherine Tompkins/B.Sc.N. (Western Ontario), M.Ed. (Toronto), Ph.D. (California), R.N.  
 Ruta Valaitis/B.A., B.Sc.N. (Windsor), M.H.Sc. (McMaster), Ph.D. (Toronto), R.N.

#### Assistant Professors

Noori Akhtar-Danesh, B.Sc., M.Sc. (Iran), Ph.D. (Newcastle-upon-Tyne)  
 Pamela Baxter/B.Sc.N, M.Sc. (McMaster), Ph.D. (McMaster), R.N.  
 Gertrude Benson/B.N. (McGill), M.Sc.N. (Boston), R.N.  
 Lynda Bentley Poole/B.Sc.N. (McMaster), M.Sc.N. (Toronto), R.N.  
 Denise Bryant-Lukosius/B.Sc.N. (McMaster), M.Sc. (D'Youville), Ph.D. (McMaster), R.N.  
 Michelle Butt/B.Sc., B.N. (Memorial), M.Sc. (Queen's), R.N.  
 Patricia Caldwell/B.Sc.N. (McMaster), M.Sc. (Guelph), Ph.D. (McMaster), R.N.  
 Ruth Chen/B.A. (California-Berkeley), M.Sc. (Yale), R.N.  
 Kirsten Culver/B.Sc. (Queen's), Ph.D. (McMaster), R.N.  
 Michele Drummond-Young/B.Sc.N., M.H.Sc. (McMaster), R.N.  
 Anne Ehrlich/B.N.Sc. (Queen's), M.H.Sc. (Toronto), R.N.  
 Ruth Hannon/B.N.Sc. (Queen's), M.H.A. (Wales), M.S.F.N.P. (D'Youville)  
 Susan Jack/B.Sc.N. (Alberta), Ph.D. (McMaster), R.N.  
 Sharon Kaasalainen/B.Sc.N. (McMaster), M.Sc. (Toronto), Ph.D. (McMaster), R.N.  
 Michael Ladouceur/B.S.N. (Victoria), M.P.H. (Boston), R.N.  
 Yvonne Lawlor/B.N. (New Brunswick), M.Ed. (Brock), R.N.  
 Jeannette LeGris/B.N. (Manitoba), M.H.Sc. (McMaster), R.N.  
 Ola Lunyk-Child/B.Sc.N. (McMaster), M.Sc.N. (Toronto), R.N.  
 Maureen Markie-Reid/B.Sc.N. (McMaster), M.Sc.N. (Toronto), Ph.D. (McMaster), R.N.  
 Lynn Martin/B.Sc.N. (McMaster), M.Sc.N. (Western Ontario), Ph.D. (McMaster), R.N.  
 Colleen McKey/B.Sc.N. (Niagara), M.Sc. (D'Youville), Ph.D. (Capella), R.N.  
 Karen Moncrieff/B.Sc.N. (McMaster), Ms.N. (D'Youville), R.N.  
 Charlotte Noesgaard/B.N. (McGill), M.Sc.N. (Western Ontario), R.N.  
 Cottie Ofosu/B.A. (McMaster), M.Ed. (Brock), Ph.D. (Toronto)  
 Chris Patterson/B.Sc. (Waterloo), B.Sc.N. (McMaster), M.Sc.N. (Western Ontario), R.N.  
 Gladys Peachey/B.N., M.Ed. (Memorial), M.H.Sc. (Toronto), Ph.D. (McMaster)  
 Joanna Pierazzo/B.Sc.N., M.Sc.N. (Western Ontario), R.N.  
 Jennine Saifi/B.Sc.N., M.Sc., Ph.D. (McMaster), R.N.  
 Ruth Schofield/B.Sc.N., M.Sc. (T) (McMaster), R.N.  
 Dyanne Semogas/B.N. (McGill), M.N. (Washington), R.N.  
 Kathy Sleeth/B.Sc.N., M.Sc.(T.) (McMaster), R.N.  
 Eric Staples/B.A.A. (N.) (Ryerson), Ms.N. (D'Youville), Ph.D. (Case Western Reserve), R.N.  
 Catherine Thomas/B.Sc.N., M.Sc. (New York), R.N.  
 Olive Wahoush/M.Sc. (Ulster), R.N.

#### Lecturers

Valerie Abbott-Mitchell/B.Sc.N., M.Sc.N. (McMaster), R.N.  
 Iris Mujica/B.Sc.N., M.Sc.N. (McMaster), R.N.  
 Marilyn Ott/B.Sc.N. (McMaster), M.Sc.N. (Western Ontario)

#### Note:

The School of Nursing has a large number of part-time faculty appointed from community health-care agencies. A complete list is available from the office of the Associate Dean of Health Sciences (Nursing).

#### School Notes:

- Normally, registration in all courses above Level I will require satisfactory completion of the prerequisite Nursing courses with a grade of at least C- in graded courses or a pass in clinical practice courses. (See the Faculty of Health Sciences, School of Nursing, Academic Regulations section in this Calendar.)
- Normally, Level I, II, III, and IV Nursing courses are available only to students registered in the B.Sc.N. Program.
- A satisfactory Police Records Check may be required for some clinical placements. All costs associated with this procedure are the responsibility of the student. Registered students who have been convicted of an offense under the criminal code for which they have not been pardoned may be denied the opportunity to enter clinical placement.

- Students are responsible for arranging their own travel to and from learning settings external to the University and for covering any costs incurred. All students who enrol in the B.Sc.N. Program are expected to travel to any learning setting in Hamilton and the surrounding area (McMaster and Mohawk) and Kitchener-Waterloo and surrounding area (Conestoga).
- Students in any stream who register for a clinical lab course in Level III or above must also submit a placement request to the Placement Coordinator. Students who fail to meet the published deadline but who register for the course at least two months prior to the date it is to commence will be assigned a placement setting without consideration of their preferences. Students who do not register two months in advance and who fail to meet the submission deadline will normally be required to defer their placement until the next term in which the course is offered. The final assignment of learning settings for any course is constrained by the availability of the requested setting and faculty resources. Students may therefore be required to complete the practicum component of a course in a learning setting that is not of their choosing.
- The Nursing Leadership/Management courses are open only to students registered in the Nursing Leadership/Management program, which was previously administered and is currently endorsed by the Canadian Nurses Association. Students in the B.Sc.N. (B) Stream may apply to the coordinator of the Nursing Leadership/Management program for permission to take these courses.
- The Paediatric and Adult Oncology courses are open to nurses working in or who have an interest in paediatric or adult oncology respectively. A candidate must be currently registered as a nurse in a province or territory in Canada.
- The Psychiatric-Mental Health courses are open to nurses working in or who have an interest in psychiatry and mental health. A candidate must be currently registered as a nurse in a province or territory in Canada.

## NURSING ...

### Courses

#### NURSING 1A00 WHMIS, HEALTH AND SAFETY

Basic safety course including the safety guidelines, acceptable safety conduct and positive safety attitudes and practice in laboratories and clinical practice settings and Workplace Hazardous Materials Information System (WHMIS). Evaluation: One multiple choice questions examination graded pass or fail; students who fail will be required to attend the course again during the same academic term.

One session (two hours)

Prerequisite: Registration in the B.Sc.N. Program or the Ontario Primary Health Care Nurse Practitioner Certificate program

Antirequisite: SCIENCE 1A00, ENGINEER 1A00

#### NURSING 1F04 INTRODUCTION TO NURSING AND HEALTH I

An introduction to definitions of nursing and health. Emphasis is on the relevance of context and on caring. Nursing process, beginning level skills in assessment, including physical assessment, and communication are stressed. A clinical practice component includes laboratory and community experience.

Two and one half hours (lecture/problem-based tutorials); four hours (clinical lab); one term

Prerequisite: Registration in Level I of the B.Sc.N. (A) or (D) Stream

#### NURSING 1G04 INTRODUCTION TO NURSING AND HEALTH II

A continuation of NURSING 1F04. An introduction to reflective practice. Concepts and theories related to specific priority health issues are studied. There is continued development of skills in health assessment and an introduction to health education. A clinical practice component includes laboratory and community experience.

Two and one half hours (lecture/problem-based tutorials); four hours (clinical lab); one term

Prerequisite: NURSING 1F04

#### NURSING 2A04 TRANSITION TO BACCALAUREATE NURSING I

Role differences between R.P.N. and B.Sc.N. are explored. Problem-based, small group learning is introduced. Biological, physical, psychological, social science and nursing theories/concepts are integrated and applied to health care problems and clinical practice.

Two and one half hours (lecture/problem based tutorials), four hours (clinical lab); one term

Prerequisite: NURSING 1A00 and registration in Level II of the B.Sc.N. (E) Stream



**NURSING 2AA4 TRANSITION TO BACCALAUREATE NURSING II**  
A continuation of NURSING 2A04. Theories/concepts from a variety of disciplines are integrated and applied to complex health care problems and clinical practice settings. Nursing concepts related to health and illness across the continuum of individual and family growth and development are examined.  
Two and one half hours (lecture/problem based tutorials), four hours (clinical lab); one term  
Prerequisite: NURSING 2A04

**NURSING 2L03 GUIDED NURSING PRACTICE I**  
Nursing concepts basic to health and illness are examined across the continuum of individual and family growth and development. Planned and guided experiences are provided in acute care institutions, including adult medical and surgical settings. This course is evaluated on a *Pass/Fail* basis.  
Nine hours (clinical lab); one term  
Prerequisite: NURSING 1A00, 1F04, 1G04  
*Normally to be taken concurrently with NURSING 2M03.*

**NURSING 2M03 NURSING CONCEPTS IN HEALTH AND ILLNESS I**  
Integration of nursing, biological, psychological and social sciences theory is developed through work in problem-based tutorials, in which students apply concepts related to nursing, teaching-learning and group processes to a variety of patient situations.  
Three hours (lecture/problem-based tutorials); one term  
Prerequisite: NURSING 1F04, 1G04  
*Normally to be taken concurrently with NURSING 2L03.*

**NURSING 2N03 NURSING CONCEPTS IN HEALTH AND ILLNESS II**  
A continuation of NURSING 2M03. Integration of nursing, biological, psychological, and social sciences theory in problem-based tutorials.  
Three hours (lecture/problem-based tutorials); one term  
Prerequisite: NURSING 2M03  
*Normally to be taken concurrently with NURSING 2P03.*

**NURSING 2P03 GUIDED NURSING PRACTICE II**  
A continuation of NURSING 2L03. Planned and guided clinical practice in institutional settings. This course is evaluated on a *Pass/Fail* basis.  
Nine hours (clinical lab); one term  
Prerequisite: NURSING 2L03  
*Normally to be taken concurrently with NURSING 2N03.*

**NURSING 2Q03 POPULATION HEALTH**  
An introduction to the major factors that determine the health of populations. Approaches to the assessment of the health status of communities will be considered. This course provides experience in conducting a community assessment.  
Three hours (clinical lab) and two hours (tutorial and self-study); one term  
Prerequisite: NURSING 1G04 or registration in Level II B.Sc. N. (E) Stream  
Antirequisite: NURSING 2Q02

**NURSING 3AA3 ONCOLOGY HEALTH ASSESSMENT**  
This course assists the oncology nurse to refine advanced history taking and physical assessment skills specific to the individual and family experiencing the cancer continuum.  
Three hours (problem-based tutorial, clinical lab); one term  
Prerequisite: Registration in Oncology Program or permission of the instructor  
Antirequisite: NURSING 3AA2, 3GG5, 3L05, 3LL3, 3V05

**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 Program; or registration in Level III of the B.Sc.N. (B) Stream and permission of the instructor  
Antirequisite: NURSING 3N03, 3S03

**NURSING 3DD3 CONCEPTS AND THEORIES IN ADULT ONCOLOGY NURSING II**  
A continuation of NURSING 3CC3. 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, health care situations focus on assisting clients, families and the community.  
Three hours (problem-based tutorials, lectures, self-study); one term  
Prerequisite: NURSING 3CC3; and either registration in Level III of the B.Sc.N. (B) Stream and permission of the instructor, or registration in the Adult Oncology Program  
Antirequisite: NURSING 3T03

**NURSING 3E03 CONCEPTS AND THEORIES IN PSYCHIATRIC-MENTAL HEALTH NURSING I**  
Biological, psychological, physical, social sciences and nursing theory are integrated and applied to selected health care situations related to psychiatric-mental health.  
Three hours (problem-based tutorials, lectures, self-directed study); one term  
Prerequisite: Registration in the Psychiatric-Mental Health Nursing Program; or registration in Level III of the B.Sc.N. (B) Stream and permission of the instructor  
Antirequisite: NURSING 3N03, 3S03

**NURSING 3F03 CONCEPTS AND THEORIES IN PSYCHIATRIC-MENTAL HEALTH NURSING II**  
A continuation of NURSING 3E03. Students integrate and apply theories from the biological, physical, psychological, social and nursing sciences to selected psychiatric-mental health situations. Within the mental health continuum, health care situations focus on assisting clients, families and communities.  
Three hours (problem-based tutorials, lectures, self-directed study); one term  
Prerequisite: NURSING 3E03; and either registration in Level III of the B.Sc.N. (B) Stream and permission of the instructor, or registration in the Psychiatric-Mental Health Nursing Program  
Antirequisite: NURSING 3T03

**NURSING 3G03 SELECTED TOPICS IN PSYCHIATRIC-MENTAL HEALTH NURSING**  
Psychiatric-mental health nurses will acquire advanced competencies in working with individuals, families, and communities. Topic modules include: cognitive behavioural therapy, inter-personal therapy, working with families, and group psychoeducational approaches.  
Three hours (problem-based tutorials, lectures, self-directed study); one term  
Prerequisite: NURSING 3E03, 3H03

**NURSING 3H03 THERAPEUTIC USE OF SELF IN PSYCHIATRIC HEALTH NURSING**  
Nurses will enhance their therapeutic use of self through examining the reciprocal and multi-levelled nature of conversations that empower and lead to collaborative partnerships. Developed through small-group tutorials and use of standardized patients  
Three hours (problem-based tutorials); one term  
Prerequisite: Registration in the Psychiatric-Mental Health Nursing Program

**NURSING 3LL3 CLIENT HEALTH ASSESSMENT**  
This course focuses on knowledge and skills related to the assessment of the client in a community-based health care setting. History-taking and physical assessment skills are developed.  
Three hours (problem-based tutorials, clinical lab, self-study); one term  
Prerequisite: Registration in Level III or IV of the B.Sc.N. (B) or (E) Stream or permission of the instructor  
Antirequisite: NURSING 3AA3, 3GG5, 3L04, 3L05, 3LL2, 3V05

**NURSING 3MM3 COMMUNICATION SKILLS FOR INDIVIDUALS, FAMILIES AND COMMUNITIES**  
Communication skills relevant to the complex nursing care of individuals, families and communities are developed through small-group tutorials and use of standardized patients.  
Three hours (problem-based tutorials); one term  
Prerequisite: Registration in Level III of the B.Sc.N. (B) Stream or Oncology Program  
Antirequisite: NURSING 3GG5, 3L04, 3L05, 3V05  
*Not open to students with credit in NURSING 3H03.*

**NURSING 3N03 INTRODUCTION TO NURSING CONCEPTS AND THEORIES IN HEALTH AND ILLNESS**  
Biological, physical, psychological, social sciences, and nursing theory are integrated and applied to health care situations through problem-based learning. Principles and strategies for life-long learning are introduced.  
Three hours (lecture/problem-based tutorials); one term  
Prerequisite: Registration in Level III of the B.Sc.N. (B) Stream  
Antirequisite: NURSING 3CC3, 3E03, 3P03, 3S03

**NURSING 3P03 CONCEPTS AND THEORIES IN PAEDIATRIC ONCOLOGY NURSING I**  
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 Program; or registration in Level III of the B.Sc.N. (B) Stream and permission of the instructor  
Antirequisite: NURSING 3N03, 3S03

**NURSING 3Q03****CONCEPTS AND THEORIES IN  
PAEDIATRIC ONCOLOGY NURSING II**

A continuation of NURSING 3P03. 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.

Three hours (lecture/problem-based tutorials); one term

Prerequisite: NURSING 3P03; and registration in the Paediatric Oncology Program, or registration in Level III of the B.Sc.N. (B) Stream and permission of the instructor

Antirequisite: NURSING 3T03

**NURSING 3S03****NURSING CONCEPTS IN  
HEALTH AND ILLNESS III**

Biological, physical, psychological, social sciences, and nursing theory are integrated and applied to health care situations through problem-based learning.

Three hours (lecture/problem-based tutorials); one term

Prerequisite: Registration in Level III of any stream of the B.Sc.N. program

Antirequisite: NURSING 3CC3, 3E03, 3N03, 3P03

Normally to be taken concurrently with NURSING 3X04 (for (A) and (D) Stream students).

**NURSING 3T03****NURSING CONCEPTS IN  
HEALTH AND ILLNESS IV**

A continuation of NURSING 3S03. A problem-based course in which students integrate theories from biological, physical, psychological, social and nursing sciences and apply them to health care situations.

Three hours (lecture/problem-based tutorials); one term

Prerequisite: NURSING 3S03

Antirequisite: NURSING 3DD3, 3F03, 3Q03

Normally to be taken concurrently with NURSING 3Y04 (for (A) and (D) Stream students).

**NURSING 3U02****INTEGRATIVE NURSING PRACTICE SEMINAR**

This course is an in-depth analysis of the scientific basis of nursing practice. Selected scientific mechanisms are studied and applied to nursing practice.

Two hours (lecture/student presentations); one term

Prerequisite: Registration in Level III of the B.Sc.N. (A) or (D) Stream

Normally to be taken concurrently with NURSING 3X04 or 3Y04.

**NURSING 3VV3****COMMUNITY HEALTH**

Introduction to assessment of the health status of communities within a Primary Health Care framework. Models of community development and community assessment, health promotion and health education are critiqued and applied to clinical scenarios.

Three hours (lecture/problem-based tutorials); one term

Prerequisite: HTH SCI 3B03 and registration in B.Sc.N. (B) Stream

Antirequisite: NURSING 3M05, 3VV2

Normally to be taken concurrently with NURSING 3T03.

**NURSING 3X04****GUIDED NURSING PRACTICE III**

Planned and guided clinical practice in a variety of institutional and community settings emphasizing that nursing is contextual and relational. Nursing practice roles and selected theories/models are tested with individuals and groups. Emphasis is given to formulating nursing interventions. This course is evaluated on a *Pass/Fail* basis.

Twelve hours (clinical lab); one term

Prerequisite: NURSING 2AA4, 2P03

Normally to be taken concurrently with NURSING 3S03.

**NURSING 3Y04****GUIDED NURSING PRACTICE IV**

A continuation of NURSING 3X04 with emphasis on integration of scientific mechanisms.

Twelve hours (clinical lab); one term

Prerequisite: NURSING 3X04

Normally to be taken concurrently with NURSING 3T03.

**NURSING 4A02****CURRENT TRENDS AND ISSUES IN NURSING**

This course considers issues facing the profession, and the implications of current changes in the health field for future nursing practice.

Two hours (lecture); one term

Prerequisite: Registration in Level IV of the B.Sc.N. (A), (B) or (D) Stream; and permission of the instructor

**NURSING 4B06****INTRODUCTION TO NURSING  
LEADERSHIP/MANAGEMENT**

Introduction to theories and methods of leadership and management integrating the nursing and management disciplines. Given in both distance education and problem-based tutorial formats. A document of recognition is granted on course completion. Enrolment in tutorial format is limited.

Four hours (problem-based tutorial or equivalent); six hours (independent study at a clinical site); one term

Prerequisite: Registered Nurse with a minimum of one year clinical experience or permission of the instructor

Antirequisite: HTH SCI 4E06

**NURSING 4C01****NURSING BUDGETING**

Introduction to sources of health care funding in Canada and the principles of decentralized financial management. Given in distance education and problem-based tutorial formats. This course is evaluated on a *Pass/Fail* basis.

One hour (lecture or equivalent); one term

Prerequisite: Registered Nurse or permission of the instructor

**NURSING 4D01****TOTAL QUALITY MANAGEMENT IN NURSING**

Introduction to total quality management, quality assurance, quality improvement, risk management and utilization management. Given in distance education. This course is evaluated on a *Pass/Fail* basis.

One hour (lecture or equivalent); one term

Prerequisite: Registered Nurse or permission of the instructor

**NURSING 4DD6****ADVANCED LEADERSHIP AND MANAGEMENT  
IN HEALTH CARE ORGANIZATIONS**

This advanced course builds upon NURSING 4B06 content. It integrates theories and research in leadership and management to enhance the health care provider's knowledge of key issues in today's workplace. Offered in tutorial or distance format.

Four hours (tutorial or equivalent), six hours (independent study in an organization); one term

Prerequisite: NURSING 4B06

Antirequisite: HTH SCI 4DD6

**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: Registration in Level IV of the B.Sc.N. (A) or (B) Stream and permission of the instructor

Antirequisite: NURSING 4P04

Normally to be taken concurrently with NURSING 4J07 or NURSING 4S06.

**NURSING 4F03****ADVANCED NURSING CONCEPTS II**

A continuation of NURSING 4E03. A problem-based course in which students integrate concepts and theories related to clinical practice issues.

Three hours (lecture/problem-based tutorials); one term

Prerequisite: NURSING 4E03 and permission of the instructor

Antirequisite: NURSING 4Q04

Normally to be taken concurrently with NURSING 4K07 or NURSING 4T06.

**NURSING 4G03****SELECTED TOPICS IN NURSING**

Topics of contemporary interest in nursing. Emphasis may be upon theory, research or clinical application. Consult the School regarding the topics to be examined.

Three hours (problem-based tutorial or equivalent); one term

Prerequisite: Permission of the instructor

**NURSING 4H03****ISSUES IN INTERNATIONAL AND  
INTERCULTURAL HEALTH**

An introduction to health issues in a rural Canadian and international context including theories of: development; political economy; medical and social anthropology; and intercultural health care practice.

Three hours (lecture/problem-based tutorials); one term

Prerequisite: HTH SCI 3B03; and registration in Level III or IV of the B.Sc.N. Program; and permission of the instructor

Antirequisite: COLLAB 4H03, HTH SCI 4H03

**NURSING 4I03****LEADING EFFECTIVE TEAMS IN  
HEALTH CARE ORGANIZATIONS**

This course introduces health care providers to the concepts and dynamics of teams within health care organizations. Theories and concepts related to leadership, communication and health systems are applied in the current work environment. Distance education and tutorial formats.

Three hours (problem-based tutorial or equivalent); one term

Prerequisite: Registered Nurse and permission of the instructor

Antirequisite: HTH SCI 4I03

**NURSING 4J07 GUIDED NURSING PRACTICE V**

This course focuses on the application of theory and concepts to clinical practice, including the introduction to the leadership role in patient care. Students are individually placed in a variety of health-care settings. This course is evaluated on a *Pass/Fail* basis.

Twenty-four hours (clinical lab, including tutorials); one term

Prerequisite: NURSING 3X04 or 3Y04

*Normally to be taken concurrently with NURSING 4P04.*

**NURSING 4K07 GUIDED NURSING PRACTICE VI**

A continuation of Nursing 4J07. This course is evaluated on a *Pass/Fail* basis.

Twenty-four hours (clinical lab, including tutorials); one term

Prerequisite: NURSING 4J07

*Normally to be taken concurrently with NURSING 4Q04.*

**NURSING 4L06 GUIDED NURSING PRACTICE IN PSYCHIATRIC MENTAL HEALTH**

An applied nursing practice course which emphasizes integration of multiple ways of knowing, including evidence-based, humanistic and experiential, in a selected area of psychiatric mental health clinical practice.

Twelve hours (clinical site), two hours (tutorials); one term

Prerequisite: NURSING 1A00 and registration in the Psychiatric Mental Health Nursing Program

**NURSING 4M06 GUIDED NURSING PRACTICE IN ADULT ONCOLOGY**

An applied nursing practice course which emphasizes integration of evidence-based, humanistic and experiential knowledge in a selected area of adult oncology clinical practice. This course is evaluated on a *Pass/Fail* basis.

Twelve hours (clinical site), two hours (tutorials); one term

Prerequisite: NURSING 1A00 and registration in the Adult Oncology Nursing Program

**NURSING 4N06 GUIDED NURSING PRACTICE IN PAEDIATRIC ONCOLOGY**

An applied nursing practice course which emphasizes integration of evidence-based, humanistic and experiential knowledge in a selected area of paediatric oncology clinical practice. This course is evaluated on a *Pass/Fail* basis.

Twelve hours (clinical lab), two hours (tutorials); one term.

Prerequisite: NURSING 1A00 and registration in the Paediatric Oncology Nursing Program

**NURSING 4P04 ADVANCED NURSING CONCEPTS I**

Students focus on the integration and application of scientific and humanistic theories and concepts to the exploration and suggested resolution of client/patient case scenarios.

Three and one half hours (student-facilitated tutorials), resource lectures; one term.

Prerequisite: Registration in Level IV of any stream of the B.Sc.N. Program  
Antirequisite: NURSING 4E03

*Normally to be taken concurrently with NURSING 4J07, 4S06 or 4T06*

**NURSING 4Q04 ADVANCED NURSING CONCEPTS II**

A continuation of NURSING 4P04. Students focus on the integration and application of relevant concepts and theories to the exploration of professional issues in nursing and the health care system.

Three and one half hours (student-facilitated tutorials), resource lectures; one term.

Prerequisite: NURSING 4P04

Antirequisite: NURSING 4F03

*Normally to be taken concurrently with NURSING 4K07, 4S06 or 4T06*

**NURSING 4S06 GUIDED NURSING PRACTICE III - COMMUNITY-BASED CARE**

An applied nursing practice experience in a community-based health care setting with emphasis on skill development in health promotion, health education and community assessment. This course is evaluated on a *Pass/Fail* basis.

Twelve hours (clinical lab), two hours (tutorials); one term

Prerequisite: NURSING 1A00, 3V03 and registration in Level IV of the B.Sc.N. (B) Stream

*Normally to be taken concurrently with either NURSING 4P04 or 4Q04.*

**NURSING 4T06 GUIDED NURSING PRACTICE IV**

An applied nursing practice course which emphasizes integration of theory and development of independent decision-making capacity in a selected area of clinical practice. This course is evaluated on a *Pass/Fail* basis.

Twelve hours (clinical lab), two hours (tutorials); one term

Prerequisite: NURSING 1A00 and registration in Level IV of the B.Sc.N. (B) Stream

*Not open to students with credit in NURSING 4L06, 4M06 4N06.*

*Normally to be taken concurrently with either NURSING 4P04 or 4Q04.*

**NURSING 4Z03 NURSING CONFLICT MANAGEMENT IN HEALTH CARE ORGANIZATIONS**

An introduction to the types and processes of conflict in health care organizations. Exploration and application of theories and principles of conflict and negotiations, to situations in the health care environment. Offered in both tutorial and distance format.

Three hours (tutorial); one term

Prerequisite: A minimum of one year clinical work experience in a health care profession or permission of the instructor

Antirequisite: HTH SCI 4Z03

**NURSE PRACTITIONER (C) STREAM ...****Notes:**

1. The Ontario Primary Health Care Nurse Practitioner Program (C) Stream is being phased out. The last entry into this program was in September 2004. The following courses will be available to those students currently completing the program.
2. Distance education modalities are employed in all courses in the Nurse Practitioner (C) Stream and Nurse Practitioner Certificate Stream. Tutorial sessions are held on site at the University. Field experience is required for several courses. Students must attend McMaster for the clinical laboratory components of the program.

**Courses****NURSPRAC 4AA5 ADVANCED HEALTH ASSESSMENT AND DIAGNOSIS I**

This course focuses on the development of clinical decision making and advanced health assessment knowledge and skills in providing primary health care for the adult client.

Three hours (tutorial), three hours (clinical lab); one term

Prerequisite: NURSING 1A00; and credit or registration in NURSPRAC 4P03; and registration in Level IV of the B.Sc.N. Nurse Practitioner (C) Stream or the Primary Health Care Nurse Practitioner Certificate Program

Antirequisite: NURSPRAC 4A05, 4A10

**NURSPRAC 4AB5 ADVANCED HEALTH ASSESSMENT AND DIAGNOSIS II**

A continuation of NURSPRAC 4AA5. This course applies frameworks, concepts and methods of health assessment and clinical decision making to specific populations across the lifespan, families and communities.

Three hours (tutorial), three hours (clinical lab); one term

Prerequisite: NURSPRAC 4AA5; and credit or registration in NURSPRAC 4P03  
Antirequisite: NURSPRAC 4A05, 4A10

**NURSPRAC 4C13 NURSE PRACTITIONER INTEGRATIVE PRACTICUM**

An intensive field study with a focus on assessment, diagnosis and management of the care of clients. Emphasis is on synthesizing advanced knowledge and applying evidence-based health care to clinical practice.

29 hours (clinical lab); six hours tutorial; one term

Prerequisite: NURSPRAC 4A10, (or NURSPRAC 4AA5 and 4AB5), 4P03, 4R03, 4T10, (or 4TA5 and 4TB5)

Antirequisite: NURSPRAC 4C10, 4S03

**NURSPRAC 4P03 PATHOPHYSIOLOGY FOR NURSE PRACTITIONERS**

This course uses a systems approach to examine concepts in pathophysiology as a basis for advanced nursing practice in primary health care. The course will provide a comprehensive overview of etiology, pathogenesis and clinical manifestation of diseases in adults and children found in primary care.

Three hours (tutorial); two terms

Prerequisite: Registration in Level IV of the B.Sc.N. N.P. (C) Stream or the Primary Health Care Nurse Practitioner Certificate Program

**NURSPRAC 4R03 NURSE PRACTITIONER ROLES AND RESPONSIBILITIES**

This course examines and analyzes the political, economic, social, ethical and legal issues related to the role and scope of practice of Nurse Practitioners.

Three hours (tutorial); two terms

Prerequisite: Registration in Level III or IV of the B.Sc.N. N.P. (C) Stream or the Primary Health Care Nurse Practitioner Certificate Program

**NURSPRAC 4TA5 THERAPEUTICS IN PRIMARY HEALTH CARE I**

Concepts integral to pharmacotherapy, advanced counselling and complementary therapies related to episodic conditions across the lifespan are introduced. The therapeutic care plan approach is emphasized.

Three hours (tutorial), three hours (clinical lab); one term

Prerequisite: NURSING 1A00; and credit or registration in NURSPRAC 4AA5, 4P03; and registration in Level IV of the B.Sc.N. Nurse Practitioner (C) Stream or the Primary Health Care Nurse Practitioner Certificate Program.

Antirequisite: NURSPRAC 4T05, 4T10, 4TT5

**NURSPRAC 4TB5 THERAPEUTICS IN PRIMARY HEALTH CARE II**

A continuation of NURSPRAC 4TA5. This course applies the frameworks and concepts of pharmacotherapy, advanced counselling and complementary therapies to clients with chronic conditions and to specific populations. Three hours (tutorial), three hours (clinical lab); one term.

Prerequisite: NURSPRAC 4TA5

Antirequisite: NURSPRAC 4T05, 4T10, 4TT5

**NURSING CONSORTIUM (D) STREAM ...****Notes:**

- Former NURSECON courses are now listed as COLLAB courses. Students with credit in NURSECON courses may not take the corresponding course under the COLLAB designation.
- The following courses are open only to those students at the Mohawk College or Conestoga College sites who are registered in the McMaster/Mohawk/Conestoga Collaborative B.Sc.N program with the exception of COLLAB 2F03 (Medical Informatics) and COLLAB 2K03 (Introduction to Health Informatics) which are also open to students registered in the B.Sc.N.(A) Stream.

**Courses****COLLAB 1A03 INTRODUCTION TO PSYCHOLOGY**

An introduction to the basic principles of scientific psychology related to the understanding of "normal" human behaviour.

Three hours; one term

Prerequisite: Registration in B.Sc.N. (D) Stream (Mohawk College site)

Antirequisite: COLLAB 1C03, NURSECON 1C03

*Not open to students with credit or registration in PSYCH 1A03.*

**COLLAB 1B03 DEVELOPMENTAL PSYCHOLOGY**

The study of human psychological development from the pre-natal period to old age.

Three hours; one term

Prerequisite: Registration in B.Sc.N. (D) Stream (Mohawk College site)

Antirequisite: COLLAB 1D03, NURSECON 1B03, 1D03

*Not open to students with credit or registration in PSYCH 1AA3.*

**COLLAB 1C03 PSYCHOLOGY:****BASIC PROCESSES OF BEHAVIOUR**

Basic concepts of psychological research methods, learning, memory, perception, states of consciousness, motivation and emotion.

Three hours; one term

Prerequisite: Registration in B.Sc.N. (D) Stream (Conestoga College site)

Antirequisite: COLLAB 1A03, NURSECON 1A03, 1C03

*Not open to students with credit or registration in PSYCH 1A03.*

**COLLAB 1D03 PSYCHOLOGY:****DYNAMICS OF HUMAN BEHAVIOUR**

Stress and stress management, thinking and intelligence, the biological basis of behaviour, social psychology, personality theory and measurement, abnormal behaviour and therapies.

Three hours; one term

Prerequisite: Registration in B.Sc.N. (D) Stream (Conestoga College site)

Antirequisite: COLLAB 1B03, NURSECON 1B03, 1D03

*Not open to students with credit or registration in PSYCH 1AA3.*

**COLLAB 1E03 ESSENTIALS OF CANADIAN HISTORY**

A study of recurrent themes in public affairs within the historical context of Canada from Confederation to the present.

Three hours; one term

Prerequisite: Registration in B.Sc.N. (D) Stream (Conestoga College site)

Antirequisite: HISTORY 2J06, NURSECON 1E03

**COLLAB 1F03 POLITICAL STRUCTURES AND ISSUES**

Introduction to the study of politics within the Canadian context.

Three hours; one term

Prerequisite: Registration in B.Sc.N. (D) Stream (Conestoga College site)

Antirequisite: NURSECON 1F03

**COLLAB 1G03 MULTICULTURALISM**

An examination of the ethnic and cultural diversity of Canadian society, including an investigation of Canada's multicultural policy.

Three hours; one term

Prerequisite: Registration in B.Sc.N. (D) Stream (Conestoga College site)

Antirequisite: NURSECON 1G03

**COLLAB 1H03****INTRODUCTION TO CRITICAL THINKING IN THE SOCIAL SCIENCES**

The basic principles of the social sciences disciplines, Economics, Sociology and Politics. The development of critical thinking by focusing on inequalities in contemporary Canadian society.

Three hours; one term

Prerequisite: Registration in B.Sc.N. (D) Stream (Conestoga College site)

Antirequisite: NURSECON 1H03

**COLLAB 1I03****SOCIOLOGY I**

An analysis of Canadian social institutions and social processes.

Three hours; one term

Prerequisite: Registration in B.Sc.N. (D) Stream (Conestoga College site)

Antirequisite: NURSECON 1I03

**COLLAB 2A03****ABNORMAL PSYCHOLOGY**

Applied principles and related theories of normal and abnormal personality development.

Three hours; one term

Prerequisite: Registration in B.Sc.N. (D) Stream (Mohawk College site)

Antirequisite: NURSECON 2A03

**COLLAB 2B03****FRENCH IN A CANADIAN CONTEXT**

An introduction to French culture in a Canadian context.

Three hours; one term

Prerequisite: Registration in B.Sc.N. (D) Stream (Mohawk College site)

Antirequisite: NURSECON 2B03

**COLLAB 2C03****SOCIOLOGY I**

The study of various aspects of Canadian society including social class, gender, religion, education, health care and family.

Three hours; one term

Prerequisite: Registration in B.Sc.N. (D) Stream (Mohawk College site)

Antirequisite: NURSECON 2C03

**COLLAB 2D03****HUMAN SEXUALITY**

An introduction to biological, behavioural and cultural aspects of human sexuality.

Three hours; one term

Prerequisite: Registration in B.Sc.N. (D) Stream (Mohawk College site)

Antirequisite: NURSECON 2D03

**COLLAB 2E03****LITERATURE: A PRACTICAL APPROACH**

Various literary, cinematic and non-fiction works will be used to develop aesthetic judgment.

Three hours; one term

Prerequisite: Registration in B.Sc.N. (D) Stream (Mohawk College site)

Antirequisite: NURSECON 2E03

**COLLAB 2F03****MEDICAL INFORMATICS**

A study of current topics in Medical Informatics and their practical application in the workplace.

Three hours; one term

Prerequisite: Registration in B.Sc.N. (A) or (D) Stream (Mohawk College site)

Antirequisite: NURSECON 2F03

*Enrolment is limited.*

**COLLAB 2G03****QUEST FOR MEANING**

Using insights from the arts, humanities and sciences, students will explore ways in which meaning is sought.

Three hours; one term

Prerequisite: Registration in B.Sc.N. (D) Stream (Conestoga College site)

Antirequisite: NURSECON 2G03

**COLLAB 2H03****PRINCIPLES OF ETHICAL REASONING**

A study of ways to clarify values and establish a framework for ethical decision making. Students examine professional ethical codes and apply ethical decision making models to dilemmas in their personal and professional lives.

Three hours; one term

Prerequisite: Registration in B.Sc.N. (D) Stream (Conestoga College site)

Antirequisite: NURSECON 2H03

**COLLAB 2I03****THE USES OF LAUGHTER: COMEDY AND SATIRE**

This course will explore the history of comedy and satire through works ranging from ancient Greek comedy to contemporary film and fiction.

One hour (lecture), two hours (discussion/seminar); one term

Prerequisite: Registration in B.Sc.N. (D) Stream (Conestoga College site)

**COLLAB 2J03****DESIRE IN LITERATURE**

The historical and cross-cultural coverage of this course will lead to in-depth consideration of the ways culture, society and art shape desire and are in turn informed by it.

One hour (lecture), two hours (discussion/seminar); one term

Prerequisite: Registration in B.Sc.N. (D) Stream (Conestoga College site)

**COLLAB 2K03 INTRODUCTION TO HEALTH INFORMATICS**  
An introduction to the theory of data and information needs of health care professionals and the role of information management in patient care. Topics include decision support systems, electronic records, telemedicine, security, privacy and future trends.  
Three hours; one term  
Prerequisite: Registration in B.Sc.N. (A) or (D) Stream (Conestoga College site)

**COLLAB 2L03 INTRODUCTION TO STATISTICS**  
An introductory course in statistics which includes organizing and graphing univariate and bivariate data; measures of central tendency and variation; regression and correlation; collecting data, experiments and surveys; probability distributions; sampling distribution confidence interval and hypothesis testing; use of MINITAB.  
Three hours (lecture); one term  
Prerequisite: Registration in B.Sc.N. (D) Stream (Mohawk College site)

**COLLAB 3A03 SOCIOLOGY: SOCIETY, TECHNOLOGY AND SOCIAL ISSUES**  
An examination of technologies that have influenced society.  
Three hours; one term  
Prerequisite: Registration in B.Sc.N. (D) Stream (Mohawk College site)  
Antirequisite: NURSECON 3A03

**COLLAB 3B03 SOCIOLOGY: DIVERSITY AND INEQUALITY**  
A study of the problems of daily life and social issues.  
Three hours; one term  
Prerequisite: Registration in B.Sc.N. (D) Stream (Mohawk College site)  
Antirequisite: NURSECON 3B03

**COLLAB 4H03 ISSUES IN INTERNATIONAL AND INTERCULTURAL HEALTH**  
An introduction to health issues in a rural Canadian and international context including theories of: development; political economy; medical and social anthropology; and intercultural health care practice.  
Three hours (lecture/problem based tutorial); one term  
Prerequisite: HTH SCI 3B03; and registration in Level III or IV of the B.Sc.N. (D) Stream; and permission of the instructor  
Antirequisite: HTH SCI 4H03 or NURSING 4H03

## NURSING CONSORTIUM

(SEE NURSING, NURSING CONSORTIUM (D) STREAM)

## OJIBWE

(SEE INDIGENOUS STUDIES, OJIBWE)

## ONCOLOGY

(SEE NURSING)

## ORIGINS

**WEB ADDRESS:** <http://origins.mcmaster.ca>

Life Sciences Building, Room 327

Ext. 26136

### Note:

ORIGINS courses usually are available to students who are registered in the Origins Research Specialization.

### Courses If no prerequisite is listed, the course is open.

**ORIGINS 2B03 BIG QUESTIONS**  
An introductory survey concerning the ultimate questions in modern science, with an emphasis on physical sciences: origin of space-time, elements, structure in the cosmos and life and the search for other planets.  
Three lectures, one tutorial; first term.  
Prerequisite: Registration in Level II or above and credit or registration in ORIGINS 2S03. Students wishing to take this course as an elective should register in SCIENCE 2B03.  
Cross-list: SCIENCE 2B03

**ORIGINS 2FF3 ORIGINS AND EVOLUTION OF ORGANISMS**  
An introductory survey concerning the origin and evolution of organisms. A tree-of-life will be examined internally from the root to terminal branch tips, by evaluating critically the data and analytical techniques with which the tree was constructed.  
Three lectures, one tutorial; one term.  
Prerequisite: BIOLOGY 1AA3, CHEM 1A03, MATH 1A03, PHYSICS 1B03

**ORIGINS 2S03 ORIGINS SEMINAR I**  
An introductory survey concerning the concepts, literature, and research skills relevant to origins research. Faculty from the Origins Institute will provide papers for discussion.  
Seminar (one hour); two terms.  
Prerequisite: Permission of instructor  
*Enrolment is limited.*

**ORIGINS 3A03 ORIGIN OF SPACE-TIME**  
The mathematics, particle physics, and astronomy that are required to understand the Big Bang and how our universe formed.  
Three hours; one term  
Prerequisite: ORIGINS 2S03 or permission of the instructor  
*Offered in alternate years.*  
*Offered in 2006-2007.*  
*Enrolment is limited.*

**ORIGINS 3B03 ORIGIN OF THE ELEMENTS**  
The nuclear physics, chemistry, and astrophysics that are required to understand the formation of elements and how they are distributed in our universe.  
Three hours; one term  
Prerequisite: ORIGINS 2S03 or permission of the instructor  
*Offered in alternate years.*  
*Not offered in 2006-2007.*  
*Enrolment is limited.*

**ORIGINS 3C03 ORIGINS OF STRUCTURE IN OUR UNIVERSE**  
Topics about structure in our universe will be explored: planet, star, galaxy, and large-scale structure formation.  
Three hours; one term  
Prerequisite: ORIGINS 2S03 or permission of the instructor  
*Offered in alternate years.*  
*Not offered in 2006-2007.*  
*Enrolment is limited.*

**ORIGINS 3D03 ORIGIN OF LIFE**  
Topics in the emerging field 'Astrobiology' will be explored: planetary system formation, conditions in extra-solar systems, criteria for defining and sustaining life, and 'extremophile' systems on Earth and, possibly, elsewhere in the solar system.  
Three hours; one term  
Prerequisite: ORIGINS 2S03 or permission of the instructor  
*Offered in alternate years.*  
*Offered in 2006-2007.*  
*Enrolment is limited.*

**ORIGINS 3E03 ORIGINS OF SPECIES AND BIODIVERSITY**  
The concepts that are required to understand how species originate: natural selection, species definitions, temporal and spatial origins for organisms on Earth, adaptations.  
Three hours; one term.  
Prerequisite: ORIGINS 2S03 or permission of the instructor  
*Offered in alternate years.*  
*Not offered in 2006-2007.*  
*Enrolment is limited.*

**ORIGINS 3F03 ORIGIN OF HUMANITY**  
Topics in genetics, anthropology, and archaeology will be explored to discuss when, where, and how humans arose.  
Three hours; one term  
Prerequisite: ORIGINS 2S03 or permission of the instructor  
*Offered in alternate years.*  
*Offered in 2006-2007.*  
*Enrolment is limited.*

**ORIGINS 3S03 ORIGINS SEMINAR II**  
Practical experience with the concepts, literature, and research skills relevant to origins research. Faculty from the Origins Institute will describe their research to students for discussion.  
Seminar (one hour); two terms  
Prerequisite: ORIGINS 2S03 or permission of the instructor  
*Offered in alternate years.*  
*Not offered in 2006-2007.*  
*Enrolment is limited.*

**ORIGINS 4A09 ORIGINS RESEARCH THESIS**  
An individual thesis involving a research project carried out by a student under supervision by a faculty member in the Origins Institute (with a committee including at least one member from the student's home department).  
Two terms  
Prerequisite: Registration in Level IV of the Origins Research Specialization  
*First offered in 2007-2008.*  
*Enrolment is limited.*

## PEACE STUDIES

WEB ADDRESS: <http://www.humanities.mcmaster.ca/~peace>

Togo Salmon Hall, Room 726

Ext. 24265

Acting Director

Mark Vorobej

Committee of InstructionChair

Mark Vorobej (Philosophy)

Virginia Aksan (History)

Martin Horn (History)

Joanna Santa-Barbara (Health Sciences)

Susan Searls-Giroux (English and Cultural Studies)

Stephen Streeter (History)

Wii Watuchow (Philosophy)

Jean Wilson (Comparative Literature, Linguistics and Languages)

**COURSES** *If no prerequisite is listed, the course is open.***PEACE ST 1A03 INTRODUCTION TO PEACE STUDIES**

An introduction to the discipline of peace research, focusing on the concepts of peace, war, security, conflict, violence and nonviolence, and examining the roles of values and ideologies in the attainment of peace. Three hours (two lectures, one tutorial); one term

**PEACE ST 1B03 INTRODUCTION TO THE STUDY OF WAR**

A Peace Studies approach to the study of war, including the effects of war on people, societies and the earth. War prevention processes will be examined at the levels of interstate and state politics, social movements, and individual peace. Three hours (two lectures, one tutorial); one term

**PEACE ST 2A03 CONFLICT TRANSFORMATION: THEORY AND PRACTICE**

An examination of ways of preventing, resolving and transforming conflicts in everyday life, in our own culture and others, and in the arenas of family, business, the law, schools and large-scale political conflicts. Three hours (lectures and discussion); one term

Prerequisite: Registration in Level II or above

Cross-list: CMST 2V03

**PEACE ST 2AA3 THE MODERN CARIBBEAN**

An examination of the nineteenth- and twentieth-century Caribbean, focusing on the end of slavery; the arrival of indentured Asian immigrants; pan-Africanism; anti-colonial movements and revolution. Three hours (lectures and discussion); one term

Prerequisite: Registration in Level II or above

Cross-list: HISTORY 2AA3

*This course is administered by the Department of History.*

**PEACE ST 2G03 MODERN LATIN AMERICA SINCE 1820**

Liberalism, nationalism, militarism and the various revolutions will be covered as well as the U.S. role in Latin America and the Caribbean.

Three lectures; one term

Prerequisite: Registration in Level II or above

Cross-list: HISTORY 2G03

Antirequisite: HISTORY 3YY3, PEACE ST.3J03

*This course is administered by the Department of History.*

**PEACE ST 2I03 SOCIAL AND POLITICAL ISSUES**

A philosophical examination of some contemporary issues in public policy, such as environmental problems, the question of a just distribution of society's goods and services, and problems of liberty and coercion.

Two lectures, one tutorial; one term

Prerequisite: Registration in Level II or above

Cross-list: PHILOS 2G03

*This course is administered by the Department of Philosophy.*

**PEACE ST 2I13 MODERN GERMANY**

This course examines the complexities of German social and political history since 1890, including World War One, Third Reich, cold war division, questions of national identity and the peaceful revolution of 1989.

Three hours (lectures and discussion groups); one term

Prerequisite: Registration in Level II or above

Cross-list: HISTORY 2I13

Antirequisite: HISTORY.3Q03, PEACE ST 3G03

*This course is administered by the Department of History.*

**PEACE ST 2S03 WAR IN THE WEST, 1850-1945**

A survey of the development of warfare in the Western world from 1850 to 1945. Particular attention is paid to the two World Wars in the 20th century. Three hours; one term

Prerequisite: Registration in Level II or above

Cross-list: HISTORY 2S03

*This course is administered by the Department of History.*

**PEACE ST 3A03 CRITICAL RACE STUDIES**

This course examines contemporary debates in critical race theory in an attempt to critically decode the operations of race in literary and cultural texts. Three hours; one term

Prerequisite: Registration in a program in Comparative Literature, Cultural Studies and Critical Theory, English, Peace Studies or Women's Studies

Cross-list: COMP LIT 3RR3, CSCT 3A03, ENGLISH 3A03, WOMEN-ST 3H03

*This course is administered by the Department of English and Cultural Studies.*

**PEACE ST 3B03 PEACE-BUILDING THROUGH HEALTH INITIATIVES**

An examination of the multiple links between health and peace, concentrating on the strategic use of health initiatives to encourage peace in zones of potential or existing armed conflict.

Three hours (lectures and discussion); one term

Prerequisite: Registration in Level II or above

**PEACE ST 3E06 POSTCOLONIAL CULTURES: THEORY AND PRACTICE**

A study of contemporary texts including literature, film, art and other forms of popular culture that engage the implications of living in a postcolonial world. Close consideration will be given to issues of imperialism, globalization, race, gender, ethnicity, nation, language and representation.

Three hours; two terms

Prerequisite: Registration in the Combined Honours in Peace Studies Program

Cross-list: COMP LIT 3R06, CSCT 3R06, ENGLISH 3R06

*This course is administered by the Department of English and Cultural Studies.*

**PEACE ST 3F03 THE MODERN MIDDLE EAST**

A survey of the political and social history of the Middle East from 1800 to the present, with an emphasis on contemporary issues, such as the Islamic impulse and the Arab-Israeli conflict.

Three hours (lectures and discussion); one term

Prerequisite: Registration in Level II or above

Cross-list: HISTORY 3AA3

*This course is administered by the Department of History.*

**PEACE ST 3I03 THE INTERNATIONAL RELATIONS OF THE EUROPEAN POWERS, 1870-1945**

An examination of the origins and course of the First World War; the failure of post-war stabilization; and the origins and course of the Second World War.

Three lectures; one term

Prerequisite: Registration in Level II or above

Cross-list: HISTORY 3I03

*This course is administered by the Department of History.*

**PEACE ST 3I13 HISTORY OF AMERICAN FOREIGN RELATIONS SINCE 1898**

Survey of major events and turning points of U.S. diplomatic history since the late 19th century. Emphasis on cultural dimensions of the American empire and selected historiographical controversies.

Three hours (lecture and discussion); one term

Prerequisite: Registration in Level II or above

Cross-list: HISTORY 3I13

*This course is administered by the Department of History.*

**PEACE ST 3KK3 HISTORY OF THE VIETNAM WAR**

The history of the First and Second Indochina Wars (1945-1973) is examined from multiple perspectives. Explores how and why the war was fought, as well as its global legacy.

Prerequisite: Registration in Level II or above

Cross-list: HISTORY 3KK3

Antirequisite: GSCHE 4H03

*This course is administered by the Department of History.*

**PEACE ST 3L03 THE HISTORY OF SOCIAL ACTIVISM, 1500-2000**

A thematic study of community activism in Europe and North America. Students will be exposed to the religious, socio-economic and political contexts of social activism, and the historical theory and practice of community-based actions.

Three hours; one term

Prerequisite: Registration in Level II or above

Cross-list: HISTORY 3L03

*This course is administered by the Department of History.*

**PEACE ST 3M03 PHILOSOPHIES OF WAR AND PEACE**

A philosophical appraisal of the rationality and morality of the conduct of war and proposals for fostering peace among nations.

Three lectures; one term

Prerequisite: At least six units of Philosophy, and registration in Level III or IV of any program; or registration in Level III or IV of the Combined Honours in Peace Studies Program.

Cross-list: PHILOS 3P03

*Offered in alternate years.*

*This course is administered by the Department of Philosophy.*

**PEACE ST 3MM3 THE LITERATURE OF ISRAEL AND PALESTINE**

Through the study of relevant literature and film, with a focus on contemporary Israeli and Arab texts, students gain a context for the exploration of conflicts in the Middle East.

Three hours; one term

Prerequisite: Registration in Level II or above

Cross-list: COMP LIT 3MM3

*This course is administered by Comparative Literature.*

**PEACE ST 3N03 ETHICAL ISSUES IN COMMUNICATION**

This course will examine ethical issues as they arise in interpersonal communication and mass communication. The dominant moral theories and approaches to moral decision-making will be analysed and put to use to help students understand and evaluate concrete examples.

Three hours (lectures and discussion groups); one term

Prerequisite: CMST 2C03; and one of CMST 2A03 or 2B03; and registration in Level III or above of a program in Communication Studies or Peace Studies

Cross-list: CMST 3N03

*Not open to students with credit in CMST 3A03, TOPICS IN COMMUNICATION, if the topic was Ethical Issues in Communication.*

*This course is administered by the Department of Communication Studies and Multimedia.*

**PEACE ST 3O03 SLAVERY IN THE ATLANTIC WORLD**

An examination of slavery in the Americas, from the fifteenth to the nineteenth centuries. Topics to be examined include plantations and labour regimes, gender, slave health, slave resistance, Afro-creole cultures, emancipation.

Three hours (lecture and discussion); one term

Prerequisite: Registration in Level II or above

Cross-list: HISTORY 3O03

*This course is administered by the Department of History.*

**PEACE ST 3RR3 WAR AND SOCIETY IN 20TH-CENTURY BRITAIN**

Imperialism and Society in Britain: the impact of World War I and World War II on the British Empire.

Three hours (lectures and discussion groups); one term

Prerequisite: Registration in Level II or above

Cross-list: HISTORY 3RR3

*This course is administered by the Department of History.*

**PEACE ST 3VV3 WAR AND SOCIETY IN EARLY MODERN BRITAIN, 1485-1815**

A thematic study of the nature of British warfare and its relationship to society during the period when Britain developed as a major military and naval power.

Three hours (lectures and discussion groups); one term

Prerequisite: Registration in Level II or above

Cross-list: HISTORY 3VV3

*This course is administered by the Department of History.*

**PEACE ST 3W03 CONTEMPORARY NATIVE LITERATURE IN CANADA**

A study of significant works by Native writers who give voice to their experience in Canada. Issues examined include appropriation of voice, native identity, women in indigenous societies, and stereotyping.

Three hours (lectures and seminars); one term

Prerequisite: Six units of Level II Indigenous Studies or six units of Level II English or permission of the instructor

Cross-list: CSCT 3W03, ENGLISH 3W03, INDIG ST 3D03

*This course is administered by Indigenous Studies.*

**PEACE ST 3X03 CONTEMPORARY NATIVE LITERATURE IN THE UNITED STATES**

A study of contemporary works by Native writers in the United States within the context of American society and Post-Modern and Post-Colonial Literary Theory.

Three hours (lectures and seminars); one term

Prerequisite: Six units of Level II Indigenous Studies or six units of Level II English or permission of the instructor

Cross-list: CSCT 3X03, ENGLISH 3X03, INDIG ST 3E03

*This course is administered by Indigenous Studies.*

**PEACE ST 3Y03 SPECIAL TOPICS IN PEACE STUDIES**

Guided reading in and/or independent study of selected topics of relevance to Peace Studies.

Prerequisite: Registration in Level III or IV of the Combined Honours in Peace Studies Program and permission of the Director of Peace Studies

**PEACE ST 3Z03 WOMEN AND MEN IN WAR AND PEACE**

This course focuses on how gender and other differences shape our experiences of war and struggles for a more peaceful world.

Three hours; one term

Prerequisite: Registration in Level III or IV of the Combined Honours in Women's Studies Program or Peace Studies Program or permission of the Director of either program

Cross-list: WOMEN ST 3Z03

**PEACE ST 4A03 RESEARCH SEMINAR**

An interdisciplinary examination of selected topics of current relevance to peace research.

Seminar (two hours); one term.

Prerequisite: Registration in Level III or IV of the Combined Honours in Peace Studies Program

*Enrolment is limited.*

**PEACE ST 4B03 INDEPENDENT RESEARCH**

Students develop and execute their own research projects, in regular consultation with a faculty supervisor, and produce and orally defend a substantial paper. May include a practicum component.

Prerequisite: Registration in Level III or IV of the Combined Honours in Peace Studies Program with a Cumulative Average of at least 8.5, and permission of the Director of Peace Studies

**PEACE ST 4C03 THEORY OF VALUE**

A study of human practices of evaluation in morality, politics, art, religion, and economics.

Seminar (two hours); one term

Prerequisite: PHILOS 3G03 and registration in Level III or above

Cross-list: PHILOS 4B03

*Offered in alternate years.*

*This course is administered by the Department of Philosophy.*

**PEACE ST 4D03 LITERATURE AS PEACE RESEARCH**

An exploration of new ways of thinking about war, peace, human security and conflict transformation, with emphasis on a close study of selected literary texts.

Two hours; one term

Prerequisite: Registration in Level III or IV of a program in Comparative Literature or Peace Studies, or permission of the Director of either program

Cross-list: COMP LIT 4D03

*This course is administered by Comparative Literature.*

**PHARMACOLOGY**

**WEB ADDRESS:** <http://www.science.mcmaster.ca/biopharm>

These courses are available only to those students registered in Honours Biology and Pharmacology.

**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**

Principles of pharmacodynamics, principles of pharmacokinetics. Drugs acting on the CNS, female reproductive system, autonomic nervous system and respiratory system. Antimicrobials.

One tutorial (three hours); two terms

Prerequisite: Registration in the Honours Biology and Pharmacology program

**PHARMAC 3B06 METHODS IN PHARMACOLOGY**

Methods to study effects of drugs in vitro (such as organ baths, ligand binding, and electrophysiological actions) and analysis of pharmacological data.

One lab (six hours); two terms

Prerequisite: Credit or registration in PHARMAC 3A06

**PHARMAC 4A03 RECEPTOR-DRUG INTERACTIONS**

Receptor classification, receptor theory, stimulus response coupling, second messengers.

One tutorial (three hours); one term

Prerequisite: PHARMAC 3A06

**PHARMAC 4AA3 ADVANCED TOPICS IN PHARMACOLOGY**

New developments in pharmacology, with an emphasis on mechanisms of drug action.

One tutorial (three hours); one term

Prerequisite: PHARMAC 4A03

**PHARMAC 4C03 PRINCIPLES OF TOXICOLOGY**

General principles of toxicology, adverse effects of selected agents on man and other organisms.

One tutorial (three hours); one term

Prerequisite: PHARMAC 3A06

**PHARMAC 4D03 DRUG DESIGN**

Principles of drug design based on drug transport, metabolism and selectivity of action at the target sites with emphasis on quantitative structure-activity relationships.

One tutorial (three hours); one term

Prerequisite: PHARMAC 3A06, 4A03

**PHARMAC 4E03 SOCIAL PHARMACOLOGY**

Epidemiological analysis of drug use in humans; adverse drug reactions; legal and economic aspects of drug utilization; prescribing patterns in national and international contexts.

One tutorial (three hours); one term

Prerequisite: PHARMAC 3A06

**PHARMAC 4F09 SENIOR THESIS**

A thesis based upon a research project carried out under the direction of a supervisor approved by the Committee of Instruction.

Prerequisite: PHARMAC 3A06

Antirequisite: BIOLOGY 4C09, 4F06, 4FF3, 4GG9, 4I03, HTH SCI 3H03, 4A09, 4B06, MOL BIOL 4R09

**PHILOSOPHY**

WEB ADDRESS: <http://www.humanities.mcmaster.ca/~philos>

University Hall, Room 209

Ext. 24275

**Faculty as of January 15, 2006****Chair**

Richard T.W. Arthur

**Professors**

Barry Allen/B.A., (Lethbridge), Ph.D. (Princeton)

Richard T.W. Arthur/B.A. (Oxford), M.A. (McGill), Ph.D. (Western Ontario)

Nicholas Griffin/B.A. (Leicester), Ph.D. (Australian National)

David L. Hitchcock/B.A. (McMaster), Ph.D. (Claremont)

Wilfrid Waluchow/B.A., M.A. (Western Ontario), D.Phil. (Oxford)

**Adjunct Professor**

Kenneth M. Blackwell/(Russell Archivist, Mills Library), B.A. (Victoria),

M.L.S. (Western Ontario), M.A. (McMaster), Ph.D. (Guelph)

**Associate Professors**

Elisabeth Gedge/B.A., M.A. (Alberta), Ph.D. (Calgary), MTh. (Newman Theological College)

Jill LeBlanc/B.A. (McMaster), M.A., Ph.D. (Toronto)

Spiro Panagiotou/B.Sc., M.A. (Guelph), Ph.D. (St. Andrews)

Brigitte Sassen/B.A. (Toronto), M.A., Ph.D. (Pennsylvania State)

Mark Vorobej/B.A. (Carleton), M.A., Ph.D. (Toronto)

**Assistant Professors**

Diane Enns/B.A. (Ottawa), M.A. (Carleton), Ph.D. (SUNY-Binghamton)

Brian Garrett/B.A., M.A. (Auckland), Ph.D. (McGill)

Violetta Ignieski/B.A., M.A. (Western Ontario), Ph.D. (Toronto)

**Associate Members**

Caroline Bayard/(French) L. ès L., M. ès L. (Toulouse), M.A., Ph.D. (Toronto)

Howard Jones/(Classics) B.A. (London), M.A., Ph.D. (Indiana)

Geoffrey Rockwell/(School of the Arts), B.A. (Haverford), M.A., Ph.D. (Toronto)

**Department Notes:**

1. The Department of Philosophy offers courses in four major areas of Philosophy, namely History of Philosophy, Logic, Ethics and Theory of Value, and Theory of Knowledge and Metaphysics. Students are advised to include courses from each of these areas in their programs.
2. Students who do not meet the specified prerequisites for a course may, in exceptional circumstances, obtain permission of the instructor to take the course.
3. An Undergraduate Philosophy Handbook is available in the Departmental Office.
4. Students interested in registering in PHILOS 3W03, 4W03 or 4Z06 are strongly encouraged to obtain permission from the Departmental Undergraduate Counsellor by the end of May of the preceding year. Access to these courses cannot be guaranteed beyond that date.

**Courses** *If no prerequisite is listed, the course is open.***PHILOS 1A03 PHILOSOPHICAL TEXTS**

An introduction to philosophy through the close reading of selected classical texts. Authors to be considered may include Plato, Descartes, Hobbes, Hume, Marx, Mill, Nietzsche, Russell, and De Beauvoir.

Two lectures, one tutorial; one term

**PHILOS 1B03 PHILOSOPHY, LAW AND SOCIETY**

An introduction to social, political, legal and moral philosophy. Topics to be discussed may include ecology, health-care ethics, civil rights, and alternative views of human nature, the state, social conflict, inequality and justice.

Two lectures, one tutorial; one term

*Alternates with PHILOS 1C03.*

**PHILOS 1C03 PHILOSOPHY IN LITERATURE**

An introduction to philosophy through the study of literature. The course shows how works of literary art treat such philosophical issues as the nature of morality, the possibility of freedom, human nature, the self, and religious belief.

Two lectures, one tutorial; one term

*Alternates with PHILOS 1B03.*

**PHILOS 1D03 PHILOSOPHY AND THE SCIENCES**

An introduction to philosophical issues arising from modern science and technology. Topics to be discussed may include science versus pseudo-science, the nature of scientific explanation, the impact of science on society, and the contribution of society to the development of science.

Two lectures, one tutorial; one term

*Not open to students with credit or registration in PHILOS 3D03.*

**PHILOS 1E03 PROBLEMS OF PHILOSOPHY**

A critical investigation of philosophical arguments concerning such topics as God, politics, morality, human nature, knowledge, and art.

Two lectures, one tutorial; one term

**PHILOS 2A06 ANCIENT GREEK PHILOSOPHY**

A study of Western philosophical thought from its earliest beginnings to late Roman times, with emphasis on Plato and Aristotle.

Three lectures; two terms

Prerequisite: One of three units of Philosophy, ARTS&SCI 1A06, registration in a program in Classics or Philosophy, or permission of the Department

Cross-list: CLASSICS 2P06

**PHILOS 2B03 INTRODUCTORY LOGIC**

Sentential and quantification logics are introduced and applied to arguments in English.

Three lectures; one term

Prerequisite: Registration in Level II or above

**PHILOS 2C06 DESCARTES TO HUME**

A comprehensive survey of early modern philosophy, concentrating on the metaphysical and epistemological innovations of the period.

Three lectures; two terms

Prerequisite: Registration in Level II or above

**PHILOS 2D03 MORAL ISSUES**

An introduction to moral philosophy, through a consideration of issues in health care ethics. Topics such as abortion, human experimentation, euthanasia, and genetic screening will be investigated.

Two lectures, one tutorial; one term

Prerequisite: Registration in Level II or above

Cross-list: RELIG ST 2C03

*Enrolment is limited to 475 students.*



**PHILOS 2F03 PHILOSOPHICAL PSYCHOLOGY**

A consideration of such questions as: In what terms might human nature be described? How do intentional and unintentional behaviour differ? How do physical and mental states differ? When is action free? Can intelligence be duplicated artificially?

Three lectures; one term

Prerequisite: Registration in Level II or above

**PHILOS 2G03 SOCIAL AND POLITICAL ISSUES**

A philosophical examination of some contemporary issues in public policy, such as environmental problems, the question of a just distribution of society's goods and services, and problems of liberty and coercion.

Two lectures, one tutorial; one term

Prerequisite: Registration in Level II or above

Cross-list: PEACE ST 2I03

**PHILOS 2H03 AESTHETICS**

An introduction to some main theories of the nature of art, criticism, and the place of art in life and society.

Two lectures, one tutorial; one term

Prerequisite: Registration in Level II or above

Cross-list: ART HIST 2H03, CMST 2O03

Offered in alternate years.

**PHILOS 2N03 BUSINESS ETHICS**

An analysis of ethical issues arising in contemporary business life. Sample topics include: fair and unfair competition; responsibilities towards employees, society and the environment; honesty and integrity in business; the moral status of corporations.

Two lectures, one tutorial; one term

Prerequisite: Registration in Level II or above

Cross-list: COMMERCE 2SB3

**PHILOS 3A06 FROM KANT TO HEGEL**

The philosophies of Kant and Hegel viewed in relation to each other and to other philosophies of the period, such as those of Rousseau or Schelling.

Three lectures; two terms

Prerequisite: PHILOS 2C06

**PHILOS 3B03 PHILOSOPHIES OF EXISTENCE**

An examination of the 19th-century forerunners of contemporary existential philosophy, concentrating principally on the thought of Kierkegaard and Nietzsche.

Three lectures; one term

Prerequisite: At least six units of Philosophy and registration in Level III or above

Offered in alternate years.

**PHILOS 3C03 ADVANCED BIOETHICS**

An advanced study of the application of ethical theory to selected problems in health care, such as our reproductive practices, care of the dying, the therapeutic relationship.

Three lectures; one term

Prerequisite: A grade of at least B in PHILOS 2D03 or RELIG ST 2C03, and at least three additional units of Philosophy; or registration in Level III or above of an Honours program in Philosophy

Offered in alternate years.

**PHILOS 3D03 PHILOSOPHY OF SCIENCE**

A survey of philosophical problems concerning science. Topics to be considered include explanation, causation, scientific laws, and instrumentalism vs. realism.

Three lectures; one term

Prerequisite: At least six units of Philosophy and registration in Level III or above

Offered in alternate years.

**PHILOS 3E03 PHILOSOPHY OF LANGUAGE**

A survey of philosophical problems concerning language. Topics to be considered include reference, synonymy, truth, and linguistic knowledge.

Three lectures; one term

Prerequisite: At least six units of Philosophy and registration in Level III or above

Cross-list: CMST 3Y03

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 above

**PHILOS 3H03 PHILOSOPHY OF RELIGION**

An analysis of the concept of religion in light of the philosophical claims of religious experience, practice, and belief.

Three lectures; one term

Prerequisite: Six units of Philosophy and registration in Level III or above

Offered in alternate years.

**PHILOS 3I03 PHILOSOPHY AND FEMINISM**

A study of philosophical issues in feminist thought.

Three lectures; one term

Prerequisite: Six units of Philosophy or WOMEN ST 1A06 or (1A03 and 1AA3); and registration in Level III or above

Cross-list: WOMEN ST 3I03

Offered in alternate years.

**PHILOS 3J03 MODERN JEWISH THOUGHT**

Three hours (lectures and discussion); one term

Cross-list: RELIG ST 3A03

This course is administered by the Department of Religious Studies.

**PHILOS 3L03 ENVIRONMENTAL PHILOSOPHY**

A consideration of the characterization of nature and/or our evaluative responses to it.

Three lectures; one term

Prerequisite: At least six units of Philosophy and registration in Level III or above

Offered in alternate years.

**PHILOS 3M03 ARGUMENTATION THEORY**

A study of some theoretical issues concerning the identification, analysis and evaluation of arguments.

Three hours (lectures and discussion); one term

Prerequisite: One of ARTS&SCI 1B06, CMST 2W03, HUMAN 2C03 or PHILOS 2B03; and registration in Level II or above

Cross-list: CMST 3E03

**PHILOS 3N03 POLITICAL PHILOSOPHY**

A study of major political concepts and issues, such as social contract, ideology, justice, freedom vs. equality, reform vs. revolution, state vs. individual.

Three lectures; one term

Prerequisite: At least six units of Philosophy and registration in Level III or above

Offered in alternate years.

**PHILOS 3O03 THEORY OF KNOWLEDGE**

A study of scepticism and certainty, knowledge and belief, perception, memory, and truth.

Three lectures; one term

Prerequisite: PHILOS 2C06

**PHILOS 3P03 PHILOSOPHIES OF WAR AND PEACE**

A philosophical appraisal of the rationality and morality of the conduct of war and proposals for fostering peace among nations.

Three lectures; one term

Prerequisite: At least six units of Philosophy and registration in Level III or above; or registration in Level III or IV of the Combined Honours in Peace Studies Program

Cross-list: PEACE ST 3M03

Offered in alternate years.

**PHILOS 3Q03 PHILOSOPHY OF LAW**

An investigation of the nature of law and of issues arising within legal systems. These issues include legal reasoning, equality, legal insanity, punishment, and the Charter of Rights and Freedoms.

Three lectures; one term

Prerequisite: At least six units of Philosophy and registration in Level III or above

**PHILOS 3W03 READING COURSE**

A tutorial course in which individual students meet regularly with an instructor on a list of readings outside normally available course offerings. It is the student's responsibility to secure the agreement of an instructor and to complete a proposal form (available in the Philosophy Department office), before attempting to register in the course.

Prerequisite: Registration in Level III or IV of any program in Philosophy, with a Cumulative Average of at least 8.5 and permission of the Department

**PHILOS 4A03 EARLY MODERN PHILOSOPHY**

A critical study of one or more 17th or 18th-Century European or British philosophers, such as Descartes, Leibniz, Hume.

Seminar (Two hours); one term

Prerequisite: PHILOS 2C06 and registration in Level III or above

Offered in alternate years.

**PHILOS 4B03 THEORY OF VALUE**

A study of human practices of evaluation in morality, politics, art, religion, and economics.

Seminar (Two hours); one term

Prerequisite: PHILOS 3G03 and registration in Level III or above

Cross-list: PEACE ST 4C03

Offered in alternate years.

**PHILOS 4D03 20TH-CENTURY ANALYTIC PHILOSOPHY**

A study of some main currents of 20th-Century philosophy, including the work of such figures as Russell, Wittgenstein, Quine, and Davidson.

Seminar (two hours); one term

Prerequisite: At least six units of Philosophy and registration in Level III or above

Offered in alternate years.

**PHILOS 4E03 EXISTENTIALISM AND PHENOMENOLOGY**

A study of selected texts of major existential and phenomenological philosophers in the 20th-century, such as Camus, Heidegger, Jaspers, Marcel.

Seminar (two hours); one term

Prerequisite: At least six units of Philosophy and registration in Level III or above

**PHILOS 4F03 RECENT EUROPEAN PHILOSOPHY**

Contemporary trends in European Philosophy as represented by such writers as Derrida, Foucault and Habermas.

Seminar (two hours); one term

Prerequisite: At least six units of Philosophy and registration in Level III or above

Offered in alternate years.

**PHILOS 4H03 METAPHYSICS**

An investigation of metaphysical concepts, such as substance, individuation, identity, essence, quality, process, mind, time and causality. Some contemporary criticisms of metaphysics will be discussed.

Seminar (two hours); one term

Prerequisite: PHILOS 2A06, 2C06 and registration in Level III or above of a program in Philosophy

**PHILOS 4I03 MEDIEVAL PHILOSOPHY**

A study of one or more central medieval philosophers, such as Augustine, Aquinas, or William of Ockham.

Seminar (two hours); one term

Prerequisite: PHILOS 2A06 or 2C06

Offered in alternate years.

**PHILOS 4K03 ANCIENT PHILOSOPHY**

A critical study of one or more ancient Greek philosophers such as Parmenides, Plato, Aristotle.

Seminar (two hours); one term

Prerequisite: PHILOS 2A06 and registration in Level III or above

Antirequisite: PHILOS 4C03, 4J03

Cross-list: CLASSICS 4K03

Offered in alternate years.

**PHILOS 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 any Honours program in Philosophy, with a Cumulative Average of at least 8.5 and permission of the Department

Antirequisite: PHILOS 4Z06

**PHILOS 4Z06 THESIS**

Reading and research under the supervision of two members of the Department. A major paper is required as well as a formal examination. It is the student's responsibility to secure the agreement of an instructor and to complete a proposal form (available in the Philosophy Department office), before attempting to register in the course.

Prerequisite: Registration in Level IV of any Honours program in Philosophy, with a Cumulative Average of at least 8.5 and permission of the Department

Antirequisite: PHILOS 4W03

**PHYSICS AND ASTRONOMY**

WEB ADDRESS: <http://www.physics.mcmaster.ca/>

A.N. Bourns Science Building, Room 241

Ext. 24559

**Faculty as of January 15, 2006****Chair**

D.E. Venus

**Associate Chair**

K. Dalnoki-Veress

**Professors**

A. John Berlinsky/B.Sc. (Fordham), M.Sc., Ph.D. (Pennsylvania)

Cliff Burgess/B.Sc. (Waterloo), Ph.D. (Texas)

Hugh M. Couchman/B.A., M.A., Ph.D. (Cambridge)

Bruce D. Gaulin/B.Sc. (McGill), Ph.D. (McMaster), Brockhouse Chair in the Physics of Materials

William E. Harris/B.Sc. (Alberta), M.Sc., Ph.D. (Toronto)

Harold K. Haugen/B.Sc. (Acadia), M.Eng. (McMaster), Ph.D. (Aarhus)

Paul G. Higgs/B.Sc., Ph.D. (Cambridge), Senior Canada Research Chair

Catherine Kallin/B.Sc. (British Columbia), A.M., Ph.D. (Harvard)

Graeme M. Luke/B.Sc. (Queen's), Ph.D. (British Columbia)

Ralph E. Pudritz/B.Sc. (British Columbia), M.Sc. (Toronto), Ph.D. (British Columbia)

An-Chang Shi/B.Sc. (Fudan), M.Sc., Ph.D. (Illinois)

Eric Sorensen/B.Sc., M.Sc. (Aarhus), Ph.D. (California-Santa Cruz)

Peter G. Sutherland/B.Sc. (McGill), M.S., Ph.D. (Illinois)

David E. Venus/B.Sc. (Queen's), Ph.D. (Toronto)

Douglas L. Welch/B.Sc., Ph.D. (Toronto)

Christine D. Wilson/B.Sc. (Toronto), Ph.D. (California Institute of Technology)

**Associate Professors**

Takashi Imai/B.Sc., M.Sc., Ph.D. (Tokyo)

Kari Dalnoki-Veress/B.Sc., M.Sc., Ph.D. (Guelph)

**Assistant Professors**

Alan A. Chen/B.Sc. (Toronto), Ph.D. (Yale)

Cécile Fradin/B.Sc., M.Sc. (Ecole Normale Supérieure), Ph.D. (Paris VI), Canada Research Chair

Karen Hughes/B.Sc. (Lakehead), M.Sc., Ph.D. (McMaster)

Brian E. King/B.Sc. (Simon Fraser), M.Sc., Ph.D. (Colorado)

Neil McKay/B.Sc. (Queen's), M.Sc., Ph.D. (McMaster)

Reza Nejat/B.Sc. (Tehran), M.Sc., Ph.D. (Missouri-Rolla)

Alison Sills/B.Sc. (Western Ontario), Ph.D. (Yale)

James Wadsley/B.Sc. (Monash), M.Sc., Ph.D. (Toronto)

**Associate Member**

John S. Preston/(Engineering Physics) B.Sc. (McMaster), M.Sc., Ph.D. (Toronto)

**Lecturer**

Ken Sills/B.Sc. (Western Ontario), M.Sc. (St. Mary's)

**Instructional Assistant**

Alex Vorobyov/M.S., Ph.D. (Kharkov)

**Department Notes:**

1. The Department reserves the right to withdraw a Level III or IV course which is not specifically required in a Physics program if the registration falls below four.
2. Students in Level III or IV of Physics programs will find a number of relevant electives among the offerings of the Department of Biology, the Department of Engineering Physics and the School of Geography and Earth Sciences.

**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: Grade 12 Advanced Functions and Introductory Calculus U and Grade 12 Physics U; or PHYSICS 1P03

Antirequisite: SCIENCE 1D03

*Intended for Science students. Non-science students interested in these topics are directed to SCIENCE 1D03.*

**ASTRON 2E03 PLANETARY ASTRONOMY**

Physical and mathematical foundation of planetary astronomy. Historical development of ideas about the solar system. A modern view of the planets; the origin and evolution of the solar system and planets around other stars.

Three lectures; one term

Prerequisite: One of PHYSICS 1B03, 1D03 or ARTS&SCI 2D06; and one of MATH 1A03, 1N03 or ARTS&SCI 1D06

**ASTRON 3X03 GALAXIES AND COSMOLOGY**

Basic stellar evolution, star formation and the interstellar medium in galaxies. The Milky Way Galaxy; normal and active galaxies and large scale structure in the universe; observational and theoretical cosmology.

Three lectures and occasional lab periods; one term

Prerequisite: PHYSICS 2D03 or 2E03; and one of ENG PHYS 2A03, 2A04, PHYSICS 2A03 or 2B06; and either one of CHEM 2R03, ENG PHYS 2H04 or PHYSICS 2H04, or both CHEM 2PA3 and 2PB3

*Alternates with ASTRON 3Y03.*

*Not offered in 2006-2007.*

**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. Taught in an inquiry style.

Three lectures; one term

Prerequisite: PHYSICS 2D03 or 2E03; and one of ENG PHYS 2A03, 2A04, PHYSICS 2A03 or 2B06; and either one of CHEM 2R03, ENG PHYS 2H04 or PHYSICS 2H04, or both CHEM 2PA3 and 2PB3. PHYSICS 2G03 is strongly recommended.

*Alternates with ASTRON 3X03.*

**PHYSICS ...****COURSES** *If no prerequisite is listed, the course is open.***PHYSICS 1B03 MECHANICS AND WAVES**

Mechanics of a point particle, emphasising work and energy. Fluids. Simple Harmonic Motion and Waves, including properties of sound and light waves, interference and diffraction.

Three lectures, one lab (two hours) every week; one term

Prerequisite: Either PHYSICS 1P03 or at least 60% in Grade 12 Physics U; and credit or registration in SCIENCE 1A00 and either MATH 1A03 or 1AA3

**PHYSICS 1BA3 INTRODUCTION TO MODERN PHYSICS A**

A course for students intending to proceed in the physical sciences. Linear and angular momentum. Atomic and quantum physics. Nuclear and Particle Physics. Cosmology.

Three lectures, one lab (three hours) every other week; one term

Prerequisite: PHYSICS 1B03

Antirequisite: PHYSICS 1BB3

**PHYSICS 1BB3 INTRODUCTION TO MODERN PHYSICS B**

Linear and angular momentum. Electric fields. Atomic and quantum physics. Nuclear Physics. Applications directed to topics in the life sciences.

Three lectures, one lab (three hours) every other week; one term

Prerequisite: PHYSICS 1B03

Antirequisite: PHYSICS 1BA3

**PHYSICS 1D03 INTRODUCTORY MECHANICS**

A course for engineering students. Statics, Kinematics, Newtonian dynamics, energy.

Three lectures; one lab (three hours) every other week; one term

Prerequisite: Registration in Engineering

**PHYSICS 1E03****WAVES, ELECTRICITY AND MAGNETIC FIELDS**

A course for engineering students. Oscillations and waves, interference; electrostatics, electric potential, circuit elements; magnetic fields. Three lectures, one lab (three hours) every other week; one term

Prerequisite: Registration in Engineering

**PHYSICS 1P03 INTRODUCTORY PHYSICS**

Foundations of physics for students without Grade 12 Physics U. Topics include vectors, graphical analysis, kinematics and Newton's Laws.

Three lectures; one term

Prerequisite: Any Grade 12 U or M Mathematics credit

*Not open to students with 60% or higher in Grade 12 Physics U.*

**PHYSICS 2A03 INTRODUCTORY ELECTRICITY AND MAGNETISM**

Electrostatics, D.C. circuits, the magnetic field; Faraday's law of induction; Maxwell's equations.

Three lectures; one term

Prerequisite: PHYSICS 1B03; and ARTS&SCI 1D06 or MATH 1AA3

Antirequisite: PHYSICS 2B06

**PHYSICS 2B06 ELECTRICITY AND MAGNETISM**

Electrostatics, D.C. and A.C. circuits, the magnetic field; Faraday's law of induction; Maxwell's equations.

Three lectures, first term; two lectures, second term; one lab (three hours) every other week; two terms

Prerequisite: PHYSICS 1B03

Corequisite: MATH 2A03, 2C03

Antirequisite: PHYSICS 2A03

**PHYSICS 2C03 MODERN PHYSICS**

Special Relativity. Introductory quantum physics.

Three lectures; first term

Prerequisite: PHYSICS 1BA3 or 1BB3

Antirequisite: PHYSICS 3M03

**PHYSICS 2D03 MECHANICS**

Dynamics of a particle, central field problem, many-particle systems, the mechanics of rigid bodies, Lagrange's equations.

Three lectures, first term

Prerequisite: Registration in a program in the Faculty of Engineering; or permission of the instructor

Antirequisite: PHYSICS 2E03

**PHYSICS 2E03 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 a program in Physics or Medical and Health Physics; or PHYSICS 1B03 and credit or registration in MATH 2C03

Antirequisite: PHYSICS 2D03

**PHYSICS 2G03 SCIENTIFIC COMPUTING**

A comprehensive introduction to modern, scientific structured programming using FORTRAN 95. The course will discuss modules, operator overloading, scripting, program management, etc., and features a series of programming problems under Linux.

Three lectures; one term

Prerequisite: MATH 1A03

**PHYSICS 2H04 THERMODYNAMICS**

An introduction to thermodynamics and its statistical basis at the microscopic level, with applications.

Three lectures, one tutorial every other week, one lab (three hours); second term

Prerequisite: MATH 2A03, PHYSICS 1B03; and credit or registration in MATH 2C03 and PHYSICS 1BA3 (or 1BB3)

Antirequisite: CHEM 2PA3, 2R03, ENGINEER 2H03, MATLS 2B03

Cross-list: ENG PHYS 2H04

*This course is administered by the Department of Engineering Physics.*

**PHYSICS 3A03 RELATIVITY**

An introduction to general relativity.

Three lectures; one term

Prerequisite: PHYSICS 2C03; and registration in any Honours program in Science or any program in the Faculty of Engineering

*Alternates with PHYSICS 3C03.*

**PHYSICS 3BA3 ELECTRONICS I**

P-N junctions, diodes, bipolar junction transistors, field effect transistors, dc and ac modeling, differential amplifiers and operational amplifiers, feedback and oscillators, digital circuits and multivibrators, signal processing.

Two lectures, one lab (two hours); first term

Prerequisite: One of ENG PHYS 2A03, 2A04, 2E04 or PHYSICS 2B06

Antirequisite: PHYSICS 3B06

**PHYSICS 3BB3 ELECTRONICS II**

Design and synthesis project in electronics, based on the material presented in PHYSICS 3BA3.

One tutorial (one hour), two labs (three hours); second term

Prerequisite: PHYSICS 3BA3

Antirequisite: PHYSICS 3B06

**PHYSICS 3C03 ANALYTICAL MECHANICS**

Stability theory; Lagrange's equations, conservative Hamiltonian systems; transformation theory and action angle variables; perturbation theory, resonances; non-integrable systems and chaos.

Three lectures; one term

Prerequisite: Credit or registration in MATH 3C03 and registration in any Honours program in Science or any program in the Faculty of Engineering; or registration in Honours Mathematics and Physics; or permission of the instructor

Alternates with PHYSICS 3A03.

Not offered in 2006-2007.

**PHYSICS 3H03 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 2C03 or 3M03

Antirequisite: PHYSICS 3H04, 3HC1

**PHYSICS 3HC1 INTERMEDIATE LABORATORY (I)**

Experiments in atomic physics, neutron physics, optics, spectroscopy, mechanics.

One lecture, one lab (three hours), first term

Prerequisite: PHYSICS 2B06; and credit or registration in PHYSICS 2C03 or 3M03; and registration in Level III of Honours Physics Co-op or Honours Medical and Health Physics Co-op

Antirequisite: PHYSICS 3H03, 3H04

**PHYSICS 3HD2 INTERMEDIATE LABORATORY (II)**

The continuation of PHYSICS 3HC1.

One lab (three hours); second term

Prerequisite: PHYSICS 3HC1

**PHYSICS 3K03 THERMODYNAMICS AND STATISTICAL MECHANICS**

The laws of thermodynamics, with emphasis on the mathematical structure of the theory; classical and quantum statistical mechanics.

Three lectures; one term

Prerequisite: MATH 2A03, 2C03, PHYSICS 2H04

**PHYSICS 3MM3 QUANTUM MECHANICS I**

Schrödinger equation for 3D systems with applications to atomic and modern physics.

Three lectures; one term

Prerequisite: MATH 3C03; and PHYSICS 2C03 or 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: MATH 2A03 or 2Q04; and MATH 2C03 or 2P04; and either PHYSICS 2B06 or both ENG PHYS 2A04 (or 2A03) and 2E04

**PHYSICS 3S03 SOFT CONDENSED MATTER PHYSICS**

Soft materials include polymers, liquid crystals, surfactants and colloids. The course will cover structure, dynamics, phase transitions and self-assembly, and discuss applications and links to the life sciences.

Three lectures; first term

Prerequisite: CHEM 2R03 or PHYSICS 2H04

**PHYSICS 4A03 INQUIRY IN PHYSICS**

Independent study of the scientific literature, including the preparation of seminars and reports on assigned topics.

Two lectures or seminars; two terms

Prerequisite: Registration in a program in which PHYSICS 4A03 is required or is a specified option

Antirequisite: MED PHYS 4A03, 4AA1, 4AB2, PHYSICS 4AA1

**PHYSICS 4AA1 INQUIRY IN PHYSICS (I)**

Independent study of the scientific literature, including the preparation of seminars and reports on assigned topics.

Two lectures or seminars; first term

Prerequisite: Registration in Level IV of Honours Physics Co-op

Antirequisite: MED PHYS 4A03, PHYSICS 4A03

**PHYSICS 4AB2 INQUIRY IN PHYSICS (II)**

The continuation of PHYSICS 4AA1.

Two lectures or seminars; second term

Prerequisite: PHYSICS 4AA1

**PHYSICS 4B03 ELECTROMAGNETIC THEORY**

Potential theory, electrostatics and magnetostatics in matter, electrodynamics, electromagnetic waves and wave guides.

Two lectures; one term

Prerequisite: MATH 3D03 and either PHYSICS 2B06 or both ENG PHYS 2A04 (or 2A03) and 2E04; or registration in Honours Mathematics and Physics

Antirequisite: PHYSICS 4B04

**PHYSICS 4D06 DIGITAL LOGIC AND COMPUTER SYSTEMS**

The design and use of digital logic systems and their application to data acquisition and control techniques. The project-oriented laboratory involves both hardware and software.

Two lectures, one lab (three hours); two terms

Prerequisite: PHYSICS 2B06; or ENG PHYS 2A04 (or 2A03) and 2E04

Antirequisite: COMP ENG 3DJ4, PHYSICS 4DA3, 4DB3

**PHYSICS 4DA3 DIGITAL LOGIC AND COMPUTER SYSTEMS I**

The design and use of digital logic systems and their application to data acquisition and control techniques. The project-oriented laboratory involves both hardware and software.

Two lectures, one lab (three hours); first term

Prerequisite: PHYSICS 2B06; or ENG PHYS 2A04 (or 2A03) and 2E04

Antirequisite: COMP ENG 3DJ4, PHYSICS 4D06

Not open to students with credit or registration in PHYSICS 3B06, 3BA3, 3BB3.

**PHYSICS 4DB3 DIGITAL LOGIC AND COMPUTER SYSTEMS II**

The continuation of PHYSICS 4DA3

Two lectures, one lab (three hours); second term

Prerequisite: PHYSICS 4DA3

Antirequisite: PHYSICS 4D06

**PHYSICS 4E03 NUCLEAR PHYSICS**

Nuclear masses and stability; radioactivity and nuclear reactions; elementary nuclear models.

Three lectures; one term

Prerequisite: PHYSICS 3MM3

**PHYSICS 4F03 QUANTUM MECHANICS II**

A sequel to Physics 3MM3, including general structure of quantum mechanics, matrix mechanics, scattering, perturbation theory and the variational method.

Three lectures; one term

Prerequisite: MATH 3D03, PHYSICS 3MM3; or registration in Honours Mathematics and Physics

**PHYSICS 4G03 COMPUTATIONAL PHYSICS**

A course using computers 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 2G03, 3MM3

**PHYSICS 4J03 ADVANCED LABORATORY**

Projects in atomic, nuclear and solid state physics. Four projects are required, one of which may be associated with a faculty research program.

One lab (three hours); two terms

Prerequisite: Registration in a program in which PHYSICS 4J03 is required or is a specified option; or permission of the Chair of the Department

Antirequisite: PHYSICS 4J04

**PHYSICS 4K03 SOLID STATE PHYSICS**

Crystal structure and bonding; lattice vibrations; electron energy bands; metals and semiconductors; magnetism.

Three lectures; one term

Prerequisite: PHYSICS 3MM3 or registration in Level IV of an Honours Medical and Health Physics program

**PHYSICS 4P06 SENIOR RESEARCH PROJECT**

An experimental or theoretical project to be carried out under the supervision of a faculty member. A report will be required.

Two terms

Prerequisite: Registration in Level IV of any Physics program; and a CA of at least 9.0; and permission of the Chair of the Department.

Antirequisite: PHYSICS 4Q03, 4Q04

Enrolment is limited. See the heading *Limited Enrolment Courses* in the *Faculty of Science* section of the Calendar.

**PHYSICS 4Q03 RESEARCH PROJECT**

An experimental or theoretical project to be carried out under the supervision of a faculty member. A report will be required.

First or second term

Prerequisite: Registration in Level IV of any Physics program; and a CA of at least 9.0 or registration in Level IV of the Biophysics Specialization; and permission of the Chair of the Department. In exceptional cases students registered in Level III of any Honours Physics program will be considered, in which case Physics 4Q03 may be repeated on a different project.

Antirequisite: PHYSICS 4P06, 4Q04

Enrolment is limited. See the heading *Limited Enrolment Courses* in the Faculty of Science section of the Calendar.

**PHYSICS 4S03 INTRODUCTION TO MOLECULAR BIOPHYSICS**

A presentation of recent contributions made to the fields of molecular and cell biology by the use of physical approaches. In particular, the following topics are discussed: physical properties of biomolecules, protein folding, molecular motors, cell motion and cell adhesion. Emphasis on the critical evaluation of current research literature.

Three lectures; first term

Prerequisite: One of CHEM 2R03, MATLS 2B03 or PHYSICS 2H04. PHYSICS 3S03 is recommended.

Cross-list: BIOCHEM 4S03

**BIOCHEM 4Y03 GENOMES AND EVOLUTION**

Molecular evolution and comparative analysis of genomes. Bacterial evolution, phylogenetics, origins of eukaryotes. Organelles and their genomes. Comparison of the human genome with other species. Use of microarrays and proteomics.

Three lectures; second term

Prerequisite: BIOCHEM 2B03 or 3G03

Antirequisite: BIOLOGY 4DD3

**GEO 3V03 ENVIRONMENTAL GEOPHYSICS**

Introduction to principles and applications of geophysics in groundwater and environmental investigations. Practical demonstrations in magnetics, gravity, shallow seismic, radar, borehole logging, surface EM and electrical methods.

Two lectures, one lab (three hours); one term

Prerequisite: ENVIR SC 1G03, PHYSICS 1B03

**MATH 3C03 MATHEMATICAL PHYSICS I**

Linear algebra and eigenvalue problems; partial differential equations, orthogonal functions, Fourier series, Legendre functions, spherical harmonics.

Three lectures; one term

Prerequisite: One of MATH 2A03, 2Q04 or 2X03; and MATH 2C03 or 2P04. One of PHYSICS 2B06, 2D03 or 2K03 is recommended.

Not open to students with credit or registration in MATH 3FF3 or credit in MATH 3J04.

**MATH 3CY3\* CRYPTOGRAPHY**

Introduction to cryptosystems used in modern security systems: elementary number theory, primality testing and factorization, discrete logarithm, SRA cryptosystems, elliptic curve cryptosystems.

Three lectures; one term

Prerequisite: MATH 2R03

**MATH 3D03 MATHEMATICAL PHYSICS II**

Functions of a complex variable, probability and statistics, boundary value problems, Bessel functions.

Three lectures; one term

Prerequisite: MATH 3C03

Antirequisite: MATH 3K03

Not open to students with credit or registration in MATH 3X03 or credit in MATH 3J04.

Not open to students registered in Honours Mathematics and Physics.

**MATH 3GP3\* GEOMETRIC IDEAS IN PHYSICS**

Minkowski space, Lorentz metric, Maxwell's equations, general relativity, geodesics, curvature, black hole geometries and other selected topics.

Three lectures; one term

Prerequisite: MATH 2A03 or 2X03; and MATH 2R03 or credit or registration in MATH 3C03

**MATH 3QC3\* INTRODUCTION TO QUANTUM COMPUTING**

Postulates of quantum mechanics for finite dimensional systems; information on quantum bits, logical operations and quantum gates; quantum parallelism and complexity theory; examples of quantum algorithms.

Three lectures; one term

Prerequisite: MATH 2A03 or 2X03; and MATH 2R03

**MED PHYS 4B03 RADIOACTIVITY AND RADIATION INTERACTIONS**

Radioactivity and radiation phenomenology: interaction of radiations with matter, dosimetry, radiation in medicine, biological effects, radiation levels and regulations, radiation protection.

Three lectures; one term

Prerequisite: One of PHYSICS 1BA3, 1BB3 or permission of the instructor

Antirequisite: BIOL 3L03, MED PHYS 3T03, PHYSICS 3T03

**MED PHYS 4T03 CLINICAL APPLICATIONS OF PHYSICS IN MEDICINE**

Basic physical concepts underlying medical imaging, nuclear medicine, physiological measurement, radiation therapy and biomedical laser applications with an overview of their technical implementation.

Three lectures; one term

Prerequisite: MATH 2A03 or 2Q04; and MATH 2C03 or 2P04; and one of BIOLOGY 3L03, ENG PHYS 3D03, MED PHYS 3T03, 4B03, PHYSICS 3T03

Antirequisite: PHYSICS 4T03

**POLISH**

(SEE LINGUISTICS AND LANGUAGES, POLISH)

**POLITICAL SCIENCE**

WEB ADDRESS: <http://www.socsci.mcmaster.ca/polisci/>

Kenneth Taylor Hall, Room 527

Ext. 24741

**Faculty as of January 15, 2006****Chair**

Tony Porter

**Distinguished University Professor**

William D. Coleman/B.A. (Carleton), A.M., Ph.D. (Chicago)/Canada Research Chair in Global Governance and Public Policy

**Professors**

Barbara A. Carroll/B.A. (Manitoba), M.A. (Carleton), Ph.D. (American)  
Henry J. Jacek/B.S.S. (Fairfield), M.A., Ph.D. (Georgetown)  
Robert J. O'Brien/B.A. (Carleton), M.Sc. (London), Ph.D. (York)  
Tony Porter/B.A. (McGill), M.A., Ph.D. (Carleton)  
Mark Sproule-Jones/B.Sc. (London), M.A., Ph.D. (Indiana)/N.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)  
Charlotte A. B. Yates/(Labour Studies) B.A. (Winnipeg), M.A. (Queen's),  
Ph.D. (Carleton)

**Associate Professors**

Karen Bird/B.A. (Wilfrid Laurier), Ph.D. (Minnesota)  
Nibaldo H. Galleguillos/B.A. (Chile), M.A., Ph.D. (Toronto)  
Stefania Szlek Miller/M.A. (McMaster), Ph.D. (Toronto)  
John W. Seaman/B.A. (Mount Allison), M.A. (Dalhousie), Ph.D. (Toronto)  
Donald M. Wells/(Labour Studies) B.A. (Western Ontario), M.A. (British Columbia), Ph.D. (Toronto)

**Assistant Professors**

Marshall Beier/B.A., M.A., Ph.D. (York)  
Catherine Frost/(Communication Studies and Multimedia) B.A. (Lakehead), M.A., Ph.D. (Toronto)  
Alina Gildiner/(Health Studies) B.Sc., M.Sc., Ph.D. (Toronto)  
Peter Graefe/B.A. (McGill), M.A. (York), Ph.D. (Montreal)  
Martin Hering, B.A., M.A. (Philipps-Universität Marburg), Ph.D. (Johns Hopkins)  
Ahmed Shafiq Huque, B.A., M.A. (Dhaka), M.A. (Manitoba), Ph.D. (British Columbia)  
Greg McElligott/(Labour Studies) B.A., M.A. (Carleton), Ph.D. (York)  
Peter Nyers/B.A., M.A. (Victoria), Ph.D. (York)  
Lana Wylie/B.A. (McMaster), M.A. (Calgary), Ph.D. (Massachusetts)

**Associate Members**

Julia Abelson/(C.E.P.A.) B.A., B.Sc. (McMaster), M.Sc., (Harvard), Ph.D. (Bath)  
Robert C. A. Andersen (Sociology) B.A., M.A., (Western), Ph.D. (McMaster)  
John Lavis/(C.E.P.A.) M.D. (Queen's), M.Sc. (LSE), Ph.D. (Harvard)

**Department Notes:**

1. The Department of Political Science offers courses in Canadian Politics, Comparative Politics, Political Theory, International Politics and Research Methods.
2. Not every Political Science course listed in this Calendar is offered every year. Students should consult the Department after April 1st for the list of courses that will be offered in the following academic year.
3. All students are encouraged to seek advice from members of the Department in developing a program of study. All Honours students are strongly advised to discuss their program with an undergraduate advisor to ensure that it meets Departmental requirements.
4. POL SCI 2006 (previously 2F06) and 3N06 are required for students in Honours Political Science programs. These two courses are recommended for students in B.A. programs.
5. Students should be alerted to those Level II and III courses that are required to qualify for a number of Level IV courses. Students who wish to enter courses but who lack the necessary prerequisites must obtain the permission of the instructor.
6. Level III courses identified as *Enrolment is limited* have a limit of 50 students. Although priority is given to students registered in Level III or above of a Political Science program, many Level III courses have spaces for other students.
7. Some Level III courses do not have course prerequisites. However, students without related Level II courses should contact one of the Department's undergraduate advisors or the course instructor to determine whether they have the appropriate academic background for any specific Level III course.
8. With the exception of POL SCI 4Z06, enrolment in all Level IV courses is limited. Admission to Level IV limited enrolment courses is by preregistration preferential ballot. Permission from the Department of Political Science is required before students can register in any Level IV Political Science course. POL SCI 4Z06 requires written permission from the faculty member supervising the Honours Essay. Permission to take all other Level IV courses will be granted based on a preferential ballot which all full- and part-time students are required to fill out and submit to the Department of Political Science (Kenneth Taylor Hall, Room 527) no later than **15 March, 2007**. Priority for all Level IV courses will be given to students registered in Level IV of any Honours Political Science program. Ballots may be picked up from the Department of Political Science in mid-January, or will be available on the Department's web site.

**Courses** *If no prerequisite is listed, the course is open.***POL SCI 1G06 POLITICS AND GOVERNMENT**

An introduction to the study of politics, emphasizing critical discussion of issues such as: social conflict, prospects for democracy, citizens' rights and responsibilities and Canada's future as a state and its role in the world. Antirequisite: POL SCI 1A06, 1B03, 1C03, 2G06

**POL SCI 2A06 COMPARATIVE POLITICS**

An introduction to comparative politics with emphasis on the different forms of government in a number of selected countries including Canada. Three hours (lectures and tutorials); two term3

**POL SCI 2B03 U.S. POLITICS**

An examination of the development and functioning of the American political system including institutions, processes, and public participation. Three hours (lectures and tutorials); one term  
Antirequisite: POL SCI 2B06

**POL SCI 2BB3 U.S. FOREIGN POLICY**

An examination of the development as well as theories and practice of American foreign policy. Three hours (lectures and tutorials); one term  
*Not open to students with credit or registration in POL SCI 3I03 if the topic was U.S. Foreign Policy.*

**POL SCI 2C03 FORCE AND FEAR**

This course examines the use of state force as a means of addressing and instilling fear in North America and the United Kingdom. Three hours (lectures and tutorials); one term

**POL SCI 2DD3 PARTICIPATION AND ELITIST POLITICS IN CANADA**

An examination of the changing impact of citizen participation and of elitist politics on major Canadian political institutions and on the overall performance of the Canadian political system. Three hours (lectures and tutorials); one term  
Antirequisite: POL SCI 3DD3, 3DD6

**POL SCI 2H03 GLOBALIZATION AND THE STATE**

An overview of the impact that globalization has had on the powers of the state and an assessment of how states have tried to preserve their authority in the face of globalization. Three hours (lectures and tutorials); one term

**POL SCI 2I03 GLOBAL POLITICS**

A study of institutions and processes of the international political system. Three hours (lectures and tutorials); one term  
Antirequisite: POL SCI 2E06

**POL SCI 2J03 GLOBAL POLITICAL ECONOMY**

A study of institutions and processes of the international political economy. Three hours (lectures and tutorials); one term  
Antirequisite: POL SCI 2E06

**POL SCI 2K03 INTRODUCTION TO CANADIAN PUBLIC POLICY**

An introduction to the study of public policy in Canada with particular attention to how formal political institutions and patterns of social inequality shape policy-making processes and outcomes. Three hours (lectures and tutorials); one term

**POL SCI 2L03 BUREAUCRACY IN CANADIAN POLITICS**

An examination of the structures and processes of public administration in Canada, including an assessment of their effectiveness, efficiency, and accountability. Three hours (lectures and tutorials); one term  
Antirequisite: POL SCI 3ZZ3

**POL SCI 2N03 POLITICS OF INDIA AND SOUTH ASIA**

An examination of the political systems of South Asia with emphasis on the government, politics and administration of India and other selected countries in the region, such as Pakistan. Three hours (lectures and tutorials); one term

**POL SCI 2O06 POLITICAL THEORY**

An introduction to political theory that includes Classical Greek thought, early modern natural right theory and contemporary political theory. Three hours (lectures and tutorials); two terms  
(See Note 4 above.)

**POL SCI 2XX3 POLITICS OF THE THIRD WORLD**

An examination of major theoretical approaches to the study of development and underdevelopment, such as modernization, politics of order, dependency and modes of production. Three hours (lectures and tutorials); one term  
Antirequisite: POL SCI 3XX3

**POL SCI 2Z03 POLITICS AND THE MEDIA**

Theories and practices of the reciprocal relationship between the communications media and the political system. Three hours (lectures and tutorials); one term  
Prerequisite: CMST 1A03 and 1B03; or POL SCI 1G06  
Cross-list: CMST 2Z03

**POL SCI 3A06 HISTORY OF POLITICAL IDEAS**

A study of the political ideas of some eminent thinkers from classical times to the 19th century. Three hours; two terms  
Prerequisite: Registration in Level III or above  
*Enrolment is limited. Priority will be given to students registered in a Political Science program. (See Notes 6 and 7 above.)*

**POL SCI 3AA3 INTERNATIONAL POLITICS IN THE POSTWAR PERIOD**

A survey of international relations from 1945 focusing on the various approaches to international politics. Three hours; one term  
Prerequisite: Registration in Level III or above  
*Enrolment is limited. Priority will be given to students registered in a Political Science program. (See Notes 6 and 7 above.)*

**POL SCI 3BB3 POLITICAL COMMUNICATION**

The relationship between politics and the media is analysed in terms of issues such as political news coverage, electioneering, political marketing, policy formation and publicity, and agenda setting and public opinion. Three hours; one term  
Prerequisite: Registration in a Communication Studies or Political Science program  
Cross-list: CMST 3D03

- POL SCI 3CC3 POLITICAL AUTHORITY:  
20TH CENTURY POLITICAL THEORY**  
An examination of major themes in political theory in the twentieth century focusing on concerns about legitimate political authority and the nature of power and human relations in modern society.  
Three lectures; one term  
Prerequisite: POL SCI 2O06 and registration in Level III or above. (See Note 7 above.)
- POL SCI 3D03 POLITICS OF RESTRUCTURING:  
THE STATE AND THE ECONOMY**  
An examination of the politics of economic restructuring in selected industrialized countries during the past decade; major issues include privatization, labour policies, and trade agreements.  
Three hours; one term  
Prerequisite: Registration in Level III or above. (See Note 7 above.)
- POL SCI 3E03 THE POLITICS OF INTERNATIONAL  
ECONOMIC ORGANIZATIONS**  
An analysis of the structure, function and politics of the principal multilateral organizations governing the postwar international economy.  
Three lectures; one term  
Prerequisite: Registration in Level III or above  
*Enrolment is limited. Priority will be given to students registered in a Political Science program. (See Notes 6 and 7 above.)*
- POL SCI 3EE3 INTERNATIONAL RELATIONS: NORTH-SOUTH**  
An examination of recent North-South relations concentrating on such issues as commodity trade, protectionism, the debt crisis and negotiations over a new international economic order.  
Three hours; one term  
Prerequisite: Registration in Level III or above  
*Enrolment is limited. Priority will be given to students registered in a Political Science program. (See Notes 6 and 7 above.)*
- POL SCI 3F03 CONTEMPORARY SOCIAL MOVEMENTS  
AND POPULAR COALITIONS**  
An examination of selected social movements and popular coalitions primarily in Canada and the United States. Movements may include the labour, environmental, peace, feminist, indigenous rights, and/or religious fundamentalist movements.  
Three hours; one term  
Prerequisite: Registration in Level III or above. (See Note 7 above.)
- POL SCI 3FF3 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; one term  
Prerequisite: Registration in Level III or above  
*Enrolment is limited. Priority will be given to students registered in a Political Science program. (See Notes 6 and 7 above.)*
- POL SCI 3G03 ETHNICITY AND MULTICULTURALISM:  
THEORY AND PRACTICE**  
An examination of ethnicity, multiculturalism and citizenship in theoretical and comparative perspectives, principally in industrially advanced societies.  
Three lectures; one term  
Prerequisite: Six units of Political Science and registration in Level III or above. (See Note 7 above.)  
*Not open to students with credit in POL SCI 3WW3 if the topic was Ethnicity and Multiculturalism: Theory and Practice.*
- POL SCI 3GG3 FEDERALISM: THEORETICAL, CONSTITUTIONAL  
AND INSTITUTIONAL ISSUES**  
An analysis of the constitutional framework, evolution, and structure of the federal system in Canada and/or other Western countries.  
Three hours; one term  
Prerequisite: Registration in Level III or above. (See Note 7 above.)
- POL SCI 3HH3 INTERGOVERNMENTAL POLICY  
ISSUES IN CANADA**  
A survey of the policy processes and substantive policy concerns in the operation of the federal system of Canada, including economic, social and ethno-cultural policy areas.  
Three hours; one term  
Prerequisite: Registration in Level III or above. (See Note 7 above.)
- POL SCI 3I03 TOPICS IN AMERICAN POLITICS**  
The study of a central component of the U.S. political system.  
Three hours; one term  
Prerequisite: Registration in Level III or above  
*Enrolment is limited. Priority will be given to students registered in a Political Science program. (See Notes 6 and 7 above.)*  
*POL SCI 3I03 may be repeated, if on a different topic, to a total of six units.*

- POL SCI 3JJ3 PROVINCIAL POLITICS IN CANADA**  
A study of the development, nature and functioning of the political systems of the Canadian provinces.  
Three hours; one term  
Prerequisite: Registration in Level III or above. (See Note 7 above.)
- POL SCI 3KK3 GENOCIDE: SOCIOLOGICAL  
AND POLITICAL PERSPECTIVES**  
An examination of genocide and other extreme crimes against humanity.  
Three hours; one term  
Cross-list: SOCIOL 3KK3  
Prerequisite: Registration in Level III or above  
Antirequisite: SOC SCI 2C03  
*Enrolment is limited. Priority will be given to students registered in a Political Science or Sociology program. (See Notes 6 and 7 above.)*
- POL SCI 3LL3 DEVELOPMENT AND PUBLIC POLICY**  
An examination of critical issues in public policy as they impact on the process of development.  
Three hours (lectures); one term  
Prerequisite: Registration in Level III or above  
*Not open to students with credit in POL SCI 3YY3 if the topic was Development or Public Policy.*
- POL SCI 3M03 HEALTH POLICY IN A CHANGING WORLD**  
This course examines major models of health care and policy systems, and the key ideas and instruments that underlie health policy in selected countries such as Canada.  
Three hours; one term  
Prerequisite: Registration in Level III or above of a Political Science or Health Studies program  
Cross-list: HEALTHST 3M03  
*Not open to students with credit in POL SCI 3YY3 if the topic was Health Policy in a Changing World.*
- POL SCI 3MM3 THE INTERNET AND PUBLIC LIFE**  
This course examines how the Internet and other digital media may be reshaping political and personal relationships and altering the nature of the public sphere.  
Three hours; one term  
Prerequisite: One of CMST 2Z03 or POL SCI 2Z03; and registration in Level III or above  
Cross-list: CMST 3MM3
- POL SCI 3N06 RESEARCH METHODS, STATISTICS  
AND POLITICAL ANALYSIS**  
An introduction to the study of concept and theory formation, and an overview of the scope, research methods and statistical techniques of political science.  
Three hours; two terms  
Prerequisite: Registration in Level III or above  
Antirequisite: POL SCI 2F06  
*(See Notes 4 and 7 above.)*
- POL SCI 3NN6 PUBLIC LAW**  
A study of the nature and function of public law, with special reference to constitutional law and judicial behaviour.  
Three hours; two terms  
Prerequisite: Registration in Level III or above  
*Enrolment is limited. Priority will be given to students registered in a Political Science program. (See Notes 6 and 7 above.)*
- POL SCI 3P03 THE POLITICAL ECONOMY  
OF REGIONAL INTEGRATION**  
An examination of regional integration in Europe, the Americas and Asia-Pacific and the implications for global politics and global economics.  
Three hours; one term  
Prerequisite: POL SCI 2E06; or POL SCI 2I03 and 2J03
- POL SCI 3Q03 THE CAUSES OF WAR**  
An examination of theoretical perspectives on the causes of war and conditions for peace between and within political communities.  
Three hours; one term  
Prerequisite: Registration in Level III or above  
*Enrolment is limited. Priority will be given to students registered in a Political Science program. (See Notes 6 and 7 above.)*
- POL SCI 3S03 LOCAL GOVERNMENT  
AND POLITICS IN CANADA**  
A description of the laws and institutions of local government; examination of relationships with citizens and other levels of government; the dynamics of local politics.  
Three hours; one term  
Prerequisite: Registration in Level III or above  
*Enrolment is limited. Priority will be given to students registered in a Political Science program. (See Notes 6 and 7 above.)*

**POL SCI 3SP3****SERVICE DELIVERY IN THE MODERN  
CANADIAN CITY: PLACEMENT EXPERIENCE**

A civic placement providing students the opportunity to gain valuable experience and insight into the municipal administration and political process. Provides the essential links between classroom knowledge and civic internship practice.

Placement experience requires a minimum of 80 hours; one term  
Prerequisite: Credit or registration in POL SCI 3S03; and permission of the instructor

**POL SCI 3T03****PROBLEMS OF POSTCOMMUNIST TRANSITION**

An examination of the legacy of communism and system transformation in selected countries, including Poland and the successor states of Czechoslovakia and the former Yugoslavia.

Three hours; one term  
Prerequisite: Registration in Level III or above. (See Note 7 above.)  
Antirequisite: POL SCI 3M06, 4J06

**POL SCI 3U03****POLITICS IN EUROPE**

Politics, government and policies of the European Union and/or selected countries within Europe.

Three hours; one term  
Prerequisite: Registration in Level III or above  
*Enrolment is limited. Priority will be given to students registered in a Political Science program. (See Notes 6 and 7 above.)*

**POL SCI 3UU3****READING COURSE**

Topics to be arranged between an individual student and instructor.  
One term

Prerequisite: Registration in Level III or IV of any program 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 by the instructor prior to the term in which the course is to be taken.

**POL SCI 3V03****WOMEN AND POLITICS**

An introduction to a broad range of theoretical and empirical approaches to the study of women and politics, including feminist theory and the history and evolution of the organized women's movement.

Three hours; one term  
Prerequisite: Registration in Level III or above. (See Note 7 above.)

**POL SCI 3X03****CONTEMPORARY SECURITY ISSUES**

This course critically examines developments in theory and practice of international security since the end of the cold war.

Three hours; one term  
Prerequisite: Either POL SCI 2E06 or both POL SCI 2I03 and 2J03; and registration in Level III or above

**POL SCI 3Y03****DEMOCRATIZATION AND HUMAN RIGHTS**

A review of the process of democratization and the forces that drive it and an assessment of the place of human rights in emerging democracies.

Three hours; one term  
Prerequisite: Registration in Level III or above. (See Note 7 above.)

**POL SCI 3YY3****TOPICS IN PUBLIC POLICY**

An examination of emerging theoretical and substantive issues in the field of public policy studies.

Three hours; one term  
Prerequisite: Registration in Level III or above  
*POL SCI 3YY3 may be repeated, if on a different topic, to a total of six units. Enrolment is limited. Priority will be given to students registered in a Political Science program. (See Notes 6 and 7 above.)*

**POL SCI 3Z03****CANADIAN PUBLIC SECTOR:  
IMPLEMENTATION OF POLICIES**

The organizational arrangements for implementing public policies in Canada, including an assessment of their efficiency, effectiveness and accountability.

Three hours; one term  
Prerequisite: Registration in Level III or above. (See Note 7 above.)  
Antirequisite: POL SCI 3Z06

**POL SCI 4A03****SOCIAL POLICY AND THE  
AGING POPULATION**

Critical examination of the social and economic implications of the aging population and the nature of social welfare policy with respect to respect to the elderly.

Three hours (problem-based tutorial); one term  
Prerequisite: Registration in Level IV of an Honours Political Science program and permission of the Department. (See Note 8 above.)  
Antirequisite: GERONTOL 4S03, SOC WORK 4A03, 4L03, 4V03  
*Enrolment is limited.*

*This course is administered by the Department of Health, Aging and Society.*

**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: One course in American or Comparative Politics and permission of the Department.

*Enrolment is limited.*

**POL SCI 4D06****HUMAN RIGHTS AND  
INTERNATIONAL POLITICS**

An examination of the concept of human rights as reflected in international declarations and practices.

Three hours (seminar); two terms  
Prerequisite: A course in International Relations and permission of the Department

Prerequisite (Beginning 2007-2008): One of POL SCI 2E06, 2I03, 2J03, 3Y03; and permission of the Department  
Antirequisite: POL SCI 4D03, 4F06

*Enrolment is limited. (See Note 8 above.)*

**POL SCI 4E06****ISSUES IN LIBERAL-DEMOCRATIC THEORY**

An analysis of liberal and liberal-democratic approaches to a select issue, such as justice, religion, education, political authority or community.

Three hours (seminar); two terms  
Prerequisite: Registration in Level IV of any Honours program; and a course in Political Theory; and permission of the Department

*Not open to students with credit in POL SCI 4U06 PROBLEMS OF POLITICAL PHILOSOPHY if taken in 1995-1996.*

*Enrolment is limited. (See Note 8 above.)*

**POL SCI 4G06****POLITICS OF PUBLIC POLICY**

An examination of the political causes and mechanisms that shape public policies, such as political parties, interest groups, policy legacies, and how they influence policy choices on challenging issues as well as account for cross-national differences.

Three hours (seminar); two terms  
Prerequisite: Six units of Comparative Politics and permission of the Department  
*Enrolment is limited.*

**POL SCI 4L03****THE POLITICS OF CHANGE  
IN SOCIAL WELFARE**

An examination of how social welfare policy establishes the boundary between public and private roles, and how the boundary changes.

Three hours (seminar); one term  
Prerequisite: HEALTHST 3M03 or POL SCI 3M03; and registration in Level IV of an Honours Health Studies or Political Science program; and permission of the Department

Cross-list: HEALTHST 4L03

*Enrolment is limited. (See Note 8 above.)*

**POL SCI 4M06****TOPICS IN INTERNATIONAL POLITICS**

An examination of selected topics in international politics and foreign policy.

Three hours (seminar); two terms  
Prerequisite: POL SCI 2I03 and 2J03 (or POL SCI 2E06); and permission of the Department  
*Enrolment is limited. (See Note 8 above.)*

**POL SCI 4MM6****TOPICS IN INTERNATIONAL  
POLITICAL ECONOMY**

An examination of selected topics in the international political economy.

Three hours (seminar); two terms  
Prerequisite: POL SCI 2I03 and 2J03 (or POL SCI 2E06); and permission of the Department  
*Enrolment is limited. (See Note 8 above.)*

**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 1G06 or 2G06; and registration in Level IV of any honours program; and permission of the Department  
*Enrolment is limited. (See Note 8 above.)*

**POL SCI 4P06****TOPICS IN POLITICAL THEORY**

An examination of selected topics in political theory

Three hours (seminar); two terms  
Prerequisite: POL SCI 2O06 and permission of the Department  
Antirequisite: POL SCI 4BB6  
*Enrolment is limited. (See Note 8 above.)*



**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 2XX3 and permission of the Department  
*Enrolment is limited.*

**POL SCI 4R06 INNOVATION AND ACCOUNTABILITY IN PUBLIC SECTOR GOVERNANCE**  
 An examination of the theory and practice of public sector governance with emphases on Canadian, comparative, and international organizations. Three hours (seminar); two terms  
 Prerequisite: One of POL SCI 2L03, 3Z03, 3ZZ3; and permission of the Department  
*Enrolment is limited. (See Note 8 above.)*

**POL SCI 4T06 TOPICS IN CANADIAN POLITICS**  
 An examination of major issues in contemporary Canadian politics. Three hours (seminar); two terms  
 Prerequisite: POL SCI 1G06 or 2G06; and permission of the Department  
*Enrolment is limited. (See Note 8 above.)*

**POL SCI 4Z06 HONOURS ESSAY**  
 A major research paper, supervised by a faculty member. The subject matter is to be different from that covered in 3UU3, if the student is registered or has credit in that course.  
 Prerequisite: Registration in Level IV of an Honours Political Science program and written permission of the faculty member supervising the student's Honour Essay.

## PSYCHOLOGY, NEUROSCIENCE AND BEHAVIOUR

WEB ADDRESS: <http://www.mcmaster.ca/psychology>

Psychology Building, Room 102

Ext. 23000

### Faculty as of January 15, 2006

#### Chair

Ronald J. Racine

#### Associate Chairs

Bruce Milliken/Graduate Studies  
 Louis Schmidt/Undergraduate  
 Tracy Vaillancourt/Undergraduate

#### Professors

Lorraine G. Allan/B.A., M.A. (Toronto), Ph.D. (McMaster)  
 Suzanna Becker/B.A., M.Sc. (Queen's), Ph.D. (Toronto)  
 Patrick Bennett/B.Sc. (Tufts), Ph.D. (California-Berkeley)/Senior Canada Research Chair  
 Martin Daly/B.A. (Toronto), M.A. (McGill), Ph.D. (Toronto)  
 Denys deCatanzaro/B.A., M.A. (Carleton), Ph.D. (British Columbia)  
 Betty A. Levy/B.A. (Dalhousie), M.A., Ph.D. (Toronto)  
 Terri L. Lewis/B.A. (Toronto), Ph.D. (McMaster)  
 Daphne M. Maurer/B.A. (Swarthmore), M.A. (Pennsylvania), Ph.D. (Minnesota)  
 Kathryn M. Murphy/B.A. (Western Ontario), M.A., Ph.D. (Dalhousie)  
 Ronald J. Racine/B.Sc. (Oregon), M.Sc., Ph.D. (McGill)  
 Allison Sekuler/B.A. (Pomona), Ph.D. (California-Berkeley)/Canada Research Chair  
 Laurel J. Trainor/B.Mus., M.A., Ph.D. (Toronto)  
 Margo I. Wilson/B.A. (Alberta), M.A. (California), Ph.D. (London)

#### Adjunct Professors

Mertice M. Clark/B.A., Ph.D. (McMaster)  
 Ivan Kiss/B.Sc. (Toronto), M.A., Ph.D. (Concordia)  
 Bruce A. Linder/B.E.S. (Minnesota), Ph.D. (McMaster)

#### Associate Professors

Sigal Balshine-Earn/B.Sc. (Toronto), Ph.D. (Cambridge)  
 Richard B. Day/B.A. (Massachusetts), M.A. (Iowa), Ph.D. (McMaster)  
 Daniel Goldreich/B.Sc. (California-San Diego), Ph.D. (California-San Francisco)  
 Bruce Milliken/B.A., Ph.D. (Waterloo)  
 Louis A. Schmidt/B.A. (Maryland), M.S. (Baltimore), Ph.D. (Maryland)  
 Judith M. Shedden/B.Sc. (Alberta), M.S., Ph.D. (Pittsburgh)  
 Hongjin Sun/B.Sc., M.Sc. (Peking), M.A. (Western Ontario), Ph.D. (Queen's)

#### Assistant Professors

Reuven Dukas/B.Sc. (Jerusalem), Ph.D. (North Carolina State)  
 Paul Faure/B.Sc., M.Sc. (Calgary), Ph.D. (Cornell)  
 Deda C. Gillespie/B.Sc. (Yale), Ph.D. (California-San Francisco)  
 Karin Humphreys/B.A. (Queensland), A.M. (Illinois), Ph.D. (Illinois)  
 Anneke Olthof/B.A., M.A. (Queen's), Ph.D. (Western Ontario)  
 Mel D. Rutherford/B.A. (Yale), Ph.D. (California-Santa Barbara)  
 David I. Shore/B.Sc. (McMaster), M.A., Ph.D. (British Columbia)  
 Tracy Vaillancourt/B.A., M.A., Ph.D. (British Columbia)  
 Scott Watter/B.Med.Sc., M.B.B.S. (Queensland), M.A., Ph.D. (Illinois)

#### Associate Members

Ian C. Bruce/(Electrical and Computer Engineering), B.Eng., Ph.D. (Melbourne)  
 Charles E. Cunningham/(Psychiatry) B.A. (California State), M.A. (San Diego State), Ph.D. (The American University)  
 Kevin W. Ewal/(Clinical Epidemiology and Biostatistics), B.Sc., Ph.D. (McMaster)  
 Eleni Hapidou/(Psychiatry) B.A. (The American College of Greece), M.A. (New Brunswick), Ph.D. (McMaster)  
 Joel P. Hundert/(Psychiatry) B.A., M.A. (McMaster), Ph.D. (Western Ontario)  
 Ellen Lipman/(Psychiatry) B.Sc. (Western Ontario), M.D., M.Sc. (McMaster)  
 Harriet L. MacMillan/(Psychiatry) M.D. (Queen's), M.Sc. (McMaster), F.R.C.P.S.  
 William Mahoney/(Pediatrics) M.D. (McMaster)  
 Catherine L. Mancini/(Psychiatry) B.Sc., M.Sc., M.D. (Western Ontario)  
 Alison G. Niccols/(Psychiatry) B.A., M.A., Ph.D. (York)  
 Geoff R. Norman/(Clinical Epidemiology and Biostatistics) B.Sc. (Manitoba), M.A. (Michigan State), Ph.D. (McMaster)  
 Christopher David Rollo/(Biology) B.Sc., M.Sc. (Guelph), Ph.D. (British Columbia)  
 Patricia I. Rosebush/(Psychiatry) B.Sc.N., M.Sc.N. (Toronto), M.D. (McMaster), F.R.C.P.S.  
 William Sulis/(Psychiatry) B.Sc. (Carleton), M.D., M.A., Ph.D. (Western Ontario), F.R.C.P.C.  
 Henry Szechtman/(Biomedical Sciences) B.Sc., Ph.D. (Pittsburgh)  
 Larry Tuffi/(Psychiatry) B.Sc., Ph.D. (McMaster)  
 Michael A. Van Ameringen/(Psychiatry) B.Sc., M.D. (McMaster)

#### Department Notes:

1. The University reserves the right to limit enrolment in any course. Where priorities have to be established first consideration will be given to Honours B.Sc. and Honours B.A. Psychology students.
2. The Psychology, Neuroscience and Behaviour Department pre-registration ballot will be done in two phases. The first phase will include the thesis courses (PSYCH 4D06, 4D09), and the Individual Study courses (PSYCH 2QQ3, 3Q03, 3QQ3, 4Q03, 4QQ3). Students wishing to take these courses must complete and submit a ballot by **February 15, 2006**. Students will be informed of the outcome of the first phase by March 13, 2006. The second phase will include lab courses (PSYCH 3BL3, 3EE3, 3LQ3, 3LL3, 3S03, 3V03) and limited enrolment courses (PSYCH 3BN3, 4B03, 4BN3, 4F03, 4J03, 4R03, 4Y03). Students wishing to take these courses must complete and submit a ballot by **March 31, 2006**. Ballots can be obtained from the Psychology, Neuroscience and Behaviour Department web site at <http://www.mcmaster.ca/psychology>. Priority will be given to students registered in Honours Psychology and Combined Honours Psychology programs.
3. PSYCH 1A03 and 1AA3 are available for elective credit for students enrolled in a non-Psychology program. In the case of PSYCH 2AA3, 2B03, 2C03, 2D03, 2E03, 2F03, 2H03, 2TT3, 3A03, 3AA3, 3B03, 3F03, 3FA3, 3GG3, 3HH3, 3II3, 3J03, 3JJ3, 3K03, 3KK3, 3M03, 3N03, 3T03, 3UU3 and 3VV3, enrolment for non-Psychology students is limited.

#### Courses If no prerequisite is listed, the course is open.

##### PSYCH 1A03 INTRODUCTION TO EXPERIMENTAL PSYCHOLOGY

This course introduces experimental psychology, and includes basic research methods in psychology, the relationship between the brain and behaviour, sensation and perception, conditioning and learning, and memory and reasoning.

Three hours (lectures and tutorials); one term

Antirequisite: PSYCH 1A06

Not open to students registered in the Bachelor of Health Sciences (Honours) program or the B.Sc.N. (D) Stream (Mohawk College and Conestoga College site).

**PSYCH 1AA3 THE PSYCHOLOGY OF INTERPERSONAL BEHAVIOUR**

A discussion of phenomena and theory in areas of psychology related to interpersonal behaviour. Topics include child development, personality, abnormal psychology, social psychology, and sociobiology.

Three hours (lectures and tutorials); one term

Prerequisite: PSYCH 1A03; or registration in the Bachelor of Health Sciences (Honours) program or Level II of a Medical Radiation Sciences Specialization

Antirequisite: PSYCH 1A06

*Not open to students registered in the B.Sc.N. (D) Stream (Mohawk College and Conestoga College site).*

**PSYCH 2AA3 SURVEY OF DEVELOPMENTAL PSYCHOLOGY**

A general survey of theories and mechanisms of development, illustrated through examples from neural, perceptual, cognitive, social and emotional development. This is a general survey course and is an anti-requisite for the advanced developmental courses. Students wishing to do further work in developmental psychology are referred to PSYCH 3GG3.

Three lectures; one term

Prerequisite: PSYCH 1A03, 1AA3; or registration in Honours Biology and Psychology or the Bachelor of Health Sciences (Honours) program

Antirequisite: PSYCH 2A03, 3G03, 3GG3

*This course may be taken as elective credit by undergraduate students registered in a non-Psychology program. However, enrolment for such students is limited.*

**PSYCH 2B03 PERSONALITY**

An introduction to the scientific study of personality which will consider theory, assessment and research in five approaches to personality: psychodynamic, biological, trait, behavioural and humanistic.

Three lectures; one term

Prerequisite: PSYCH 1A03, 1AA3; or registration in Honours Biology and Psychology or the Bachelor of Health Sciences (Honours) program

*This course may be taken as elective credit by undergraduate students registered in a non-Psychology program. However, enrolment for such students is limited.*

**PSYCH 2C03 INTRODUCTION TO SOCIAL PSYCHOLOGY**

An overview of research and theory in areas such as social perception, attitude and attitude change, social influence, interpersonal attraction, altruism, aggression, small group processes.

Three lectures; one term

Prerequisite: PSYCH 1A03, 1AA3; or registration in Honours Biology and Psychology or the Bachelor of Health Sciences (Honours) program

*This course may be taken as elective credit by undergraduate students registered in a non-Psychology program. However, enrolment for such students is limited.*

**PSYCH 2D03 NEUROPSYCHOLOGY**

Neural organization and the relationship between human brain function and behaviour.

Three lectures; one term

Prerequisite: PSYCH 1A03, 1AA3; or registration in Honours Biology and Psychology or the Bachelor of Health Sciences (Honours) program or the Honours Linguistic Cognitive Science program

Antirequisite: PSYCH 2O03

*This course may be taken as elective credit by undergraduate students registered in a non-Psychology program. However, enrolment for such students is limited.*

*Not offered in 2006-2007.*

**PSYCH 2E03 SENSORY PROCESSES**

General processes mediating sensation and perception. Topics include neural principles of sensory pathways, the measurement of perception and the role of sensory processes in behaviour.

Three lectures; one term

Prerequisite: PSYCH 1A03, 1AA3; or registration in Honours Biology and Psychology, the Bachelor of Health Sciences (Honours) program, or the Honours Linguistic Cognitive Science program

*This course may be taken as elective credit by undergraduate students registered in a non-Psychology program. However, enrolment for such students is limited.*

**PSYCH 2F03 FUNDAMENTALS OF NEUROSCIENCE**

Fundamentals of nervous system and endocrine function in humans and animals, including neurophysiology, neural transmission and neuroanatomy. Prerequisite: PSYCH 1A03, 1AA3, and credit or concurrent registration in BIOLOGY 1A03 or 1K03; or registration in Honours Biology and Psychology or the Bachelor of Health Sciences (Honours) program; or credit

or registration in BIOLOGY 1A03 or 1K03 and registration in the Honours Linguistic Cognitive Science program

*This course may be taken as elective credit by undergraduate students registered in a non-Psychology program. However, enrolment for such students is limited.*

**PSYCH 2H03 HUMAN LEARNING AND COGNITION**

The psychological study of knowledge and how people use it. Topics include pattern recognition, remembering and reasoning.

Three lectures, one tutorial; one term

Prerequisite: PSYCH 1A03, 1AA3; or registration in Honours Biology and Psychology or the Bachelor of Health Sciences (Honours) program or the Honours Linguistic Cognitive Science program

*This course may be taken as elective credit by undergraduate students registered in a non-Psychology program. However, enrolment for such students is limited.*

**PSYCH 2QQ3 RESEARCH PRACTICUM**

Independent research practicum that provides students the opportunity to participate in experimental psychology projects in a research laboratory. Students must obtain permission from a faculty supervisor and the course coordinator.

One lab; one or two terms

Prerequisite: A grade of at least B in PSYCH 1A03; and registration in Level II of an Honours Psychology program; and permission of the course coordinator. *Enrolment is limited. Permission is by preregistration ballot. (See Department Note 2 above.)*

**PSYCH 2RA3 RESEARCH DESIGN AND STATISTICS FOR BEHAVIOURAL SCIENCES I**

Research methods, experimental design, and statistics: Topics include parametric and nonparametric techniques; probability; hypothesis testing; central limit theorem; effect size; power; t-tests; linear regression.

Three lectures, one tutorial; one term

Prerequisite: Registration in Honours Biology (Biodiversity Specialization), Honours Biology and Pharmacology, the Bachelor of Health Sciences (Honours), Honours Linguistic Cognitive Science or any Honours Psychology program

Antirequisite: PSYCH 2RR3, STATS 2D03, 2R06

**PSYCH 2RB3 RESEARCH DESIGN AND STATISTICS FOR BEHAVIOURAL SCIENCES II**

Advanced research methods, experimental design, and statistics: Advanced topics include the general linear model; multiple regression; analysis of variance; repeated measures; data transformations; factor analysis.

Three lectures, one tutorial; one term

Prerequisite: PSYCH 2RA3

Antirequisite: PSYCH 2RR3, STATS 2MB3, 2R06

**PSYCH 2TT3 ANIMAL BEHAVIOUR**

A discussion of the major classes of behaviour shared by most animals including humans. The course will integrate evolutionary analyses with an in-depth discussion of the genetic and cognitive mechanisms that generate behaviour.

Three lectures; one term

Prerequisite: PSYCH 1A03, 1AA3 and one of BIOLOGY 1AA3, 1K03; or registration in Honours Biology and Psychology or the Bachelor of Health Sciences (Honours) program

Antirequisite: PSYCH 2T03, 3R03

*This course may be taken as elective credit by undergraduate students registered in a non-Psychology program. However, enrolment for such students is limited.*

**PSYCH 3A03 AUDITION**

An introduction to the biology of hearing with an emphasis on fundamental auditory principles and underlying physiological mechanisms. Topics include physical acoustics, sound analysis, anatomy and physiology of mammalian auditory system, and perception and psychoacoustics.

Three lectures; one term

Prerequisite: One of BIOLOGY 2A03, PSYCH 2E03 or 2F03

*This course may be taken as elective credit by undergraduate students registered in a non-Psychology program. However, enrolment for such students is limited.*

**PSYCH 3AA3 PERCEPTION AND COGNITION OF MUSIC**

The perception and neural basis of melody, harmony, rhythm and expectancy will be considered in relation to innate and experiential factors.

Three lectures; one term

Prerequisite: Registration in an Honours program and either PSYCH 2E03 or both PSYCH 1A03 and SCIENCE 2J03; or permission of the instructor

*This course may be taken as elective credit by undergraduate students registered in a non-Psychology program. However, enrolment for such students is limited.*

**PSYCH 3B03 SPECIAL POPULATIONS**  
 Discusses selected topics related to normal and abnormal development in children, including behavioral and affective disorders, developmental disability, and perceptual or cognitive disorder.  
 Three lectures; one term  
 Prerequisite: PSYCH 3GG3 or 3N03; and six units from PSYCH 2D03, 2E03, 2F03, 2H03, 2TT3; and one of HTH SCI 1F03, 2A03, PSYCH 2RA3, STATS 1A03, 1CC3, 2D03  
*This course may be taken as elective credit by undergraduate students registered in a non-Psychology program. However, enrolment for such students is limited.*

**PSYCH 3BB3 PSYCHOLINGUISTICS**  
 The course discusses biological foundations of language and the way language is represented and processed in the brain (in norm and pathology). Special attention is paid to methods of psycho- and neurolinguistic research and to their connection with theoretical linguistics.  
 Three lectures (lectures and discussion); one term  
 Prerequisite: LINGUIST 3I03 or 3M03; or LINGUIST 1A03, 1AA3, PSYCH 2H03; or permission of the Department  
 Cross-list: LINGUIST 3B03  
*Offered in alternate years.  
 Offered in 2006-2007.*  
*This course is administered by the Department of Linguistics and Languages.*

**PSYCH 3BL3 LABORATORY IN HUMAN ELECTROPHYSIOLOGY**  
 Principles of acquisition and analysis of functional brain imaging data, including electroencephalography (EEG), event-related potentials (ERP), magnetoencephalography (MEG) and other techniques, applied to the design, conduct and analysis of experiments on human cognition and behaviour.  
 One lab (three hours); one term  
 Prerequisite: Six units from PSYCH 2D03, 2E03, 2F03, 2H03; and one of PSYCH 2RB3, 2RR3 or STATS 2MB3  
*Enrolment is limited. Permission is by preregistration ballot. (See Department Note 2 above.)*

**PSYCH 3BN3 BEHAVIOURAL NEUROSCIENCE I: SURVEY**  
 An introduction to the behavioural neurosciences, which are aimed at the study of psychological, computational, and neuroscientific bases of perception and cognition. The course will focus on behavioural neuroscience methods and their application to contemporary research issues.  
 Three lectures; one term  
 Prerequisite: Six units from PSYCH 2D03, 2E03, 2F03, 2H03; and one of PSYCH 2RB3, 2RR3 or STATS 2MB3  
*Enrolment is limited. Permission is by preregistration ballot. (See Department Note 2 above.)*

**PSYCH 3C03 CHILD LANGUAGE ACQUISITION**  
 Language behaviour and development in children, from birth to school age. The course examines how data from children's language acquisition can inform linguistic theory.  
 Three lectures; one term  
 Prerequisite: LINGUIST 1A03; and LINGUIST 1AA3 or PSYCH 2H03  
 Cross-list: LINGUIST 3C03  
*This course is administered by the Department of Linguistics and Languages*

**PSYCH 3CC3 FORENSIC PSYCHOLOGY**  
 Provides students with advanced knowledge of Forensic Psychology. Includes topics such as criminal responsibility, fitness to stand trial, duty to warn, homicide and psychopathy.  
 Three lectures; second term  
 Prerequisite: Registration in Level III or IV of a Psychology program

**PSYCH 3EE3 PERCEPTION LABORATORY**  
 Students will conduct experiments in visual and auditory perception with an emphasis on research methods, data analysis and writing skills.  
 One tutorial (one hour), one lab (three hours); one term  
 Prerequisite: One of PSYCH 2RB3, 2RR3 or STATS 2MB3; and PSYCH 2E03; and registration in Level III or IV of an Honours Psychology program, or registration in Level III of the Honours Linguistic Cognitive Science program  
*Enrolment is limited. Permission is by preregistration ballot. (See Department Note 2 above.)*

**PSYCH 3F03 EVOLUTION AND HUMAN BEHAVIOUR**  
 The study of human social psychology and behaviour in light of evolutionary theories. Topics include family relations, sex differences, mate choice, cooperation and conflict, and universality and diversity across cultures.  
 Three lectures; one term

Prerequisite: PSYCH 2TT3 or six units of Level I Biology  
*This course may be taken as elective credit by undergraduate students registered in a non-Psychology program. However, enrolment for such students is limited.*

**PSYCH 3FA3 THE NEUROBIOLOGY OF LEARNING AND MEMORY**  
 Learning and memory mechanisms will be discussed from several perspectives ranging from cognitive neuroscience to synaptic physiology.  
 Three lectures; one term  
 Prerequisite: PSYCH 2F03  
*This course may be taken as elective credit by undergraduate students registered in a non-Psychology program. However, enrolment for such students is limited.*

**PSYCH 3GG3 ESSENTIALS OF DEVELOPMENTAL PSYCHOLOGY**  
 This course concentrates on theories and mechanisms of development. The evidence for biological and environmental influences on development are examined and the principles and mechanisms of development are illustrated through examples from neural, perceptual, cognitive, social and emotional development.  
 Three lectures; one term  
 Prerequisite: Six units from PSYCH 2D03, 2E03, 2F03, 2H03, 2T03, 2TT3; and one of HTH SCI 1F03, 2A03, PSYCH 2RA3, STATS 1CC3, 2D03  
 Antirequisite: PSYCH 2A03, 2AA3, 3G03  
*This course may be taken as elective credit by undergraduate students registered in a non-Psychology program. However, enrolment for such students is limited.*

**PSYCH 3HH3 DEVELOPMENT DURING INFANCY**  
 An intensive examination of development during the first year of life, with an emphasis on perceptual development.  
 Three lectures; one term  
 Prerequisite: PSYCH 2E03; 3GG3  
*This course may be taken as elective credit by undergraduate students registered in a non-Psychology program. However, enrolment for such students is limited.*

**PSYCH 3I06 PRACTICA IN PSYCHOLOGY**  
 Supervised laboratory and field placements will be arranged for a maximum of 16 students each year. The placements may vary from year to year, but will include cognitive, language, perceptual, memory, neuropsychological and behavioural disorders. A 20 page final report must be submitted to the coordinator by April 1. Applications must be submitted to the coordinator by February 1 of the preceding academic year, with selection for placements announced by March 15.  
 Prerequisite: One of PSYCH 2RB3, 2RR3 or STATS 2MB3; and registration in Level III or IV of an Honours Psychology or Combined Honours Psychology program; and permission of the coordinator. This course cannot be combined with any independent study course (PSYCH 3Q03, 3QQ3, 4Q03, 4QQ3, 4D06, 4D09) with the same supervisor.  
*Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.*

**PSYCH 3I13 COGNITIVE DEVELOPMENT**  
 The development of attention, concepts, memory, reasoning and language.  
 Three lectures; one term  
 Prerequisite: PSYCH 2H03, 3GG3  
*This course may be taken as elective credit by undergraduate students registered in a non-Psychology program. However, enrolment for such students is limited.*

**PSYCH 3J03 VISUAL NEUROSCIENCE**  
 Visual perception and attention as revealed by behavioural, brain-imaging, and physiological studies examining anatomy, circuitry, and function of visual processing systems.  
 Three lectures; one term  
 Prerequisite: PSYCH 2E03; and one of PSYCH 2D03, 2F03 or 2H03  
*This course may be taken as elective credit by undergraduate students registered in a non-Psychology program. However, enrolment for such students is limited.*

**PSYCH 3JJ3 SOCIO-EMOTIONAL DEVELOPMENT**  
 Discusses historical and contemporary topics related to socio-emotional development from infancy to middle childhood, with an emphasis on the development of maladaptive social behaviours.  
 Three lectures; one term  
 Prerequisite: PSYCH 2C03, 3GG3  
*This course may be taken as elective credit by undergraduate students registered in a non-Psychology program. However, enrolment for such students is limited.*

**PSYCH 3K03 PSYCHOLOGICAL MEASUREMENT**

Theory of psychological testing and measurement. Topics include the statistical bases and assumptions of measurement, test validity and reliability and the measurement of human characteristics.

Three lectures; one term

Prerequisite: PSYCH 1A03, 1AA3, and one of HTH SCI 1F03, 2A03, PSYCH 2RA3, STATS 1CC3, 2D03; or registration in Honours Biology and Psychology; or registration in the Bachelor of Health Sciences (Honours) program  
*This course may be taken as elective credit by undergraduate students registered in a non-Psychology program. However, enrolment for such students is limited.*

**PSYCH 3KK3 INTRODUCTION TO BAYESIAN INFERENCE**

This course introduces a sophisticated method for data analysis and guide to scientific reasoning, derived remarkably from a single, intuitive equation. Requires only basic mathematical background.

Three lectures; one term

Prerequisite: One of ECON 2B03, PSYCH 2RB3, 2RR3 or STATS 2MB3  
*This course may be taken as elective credit by undergraduate students registered in a non-Psychology program. However, enrolment for such students is limited.*

**PSYCH 3L03 NEUROSCIENCE LABORATORY**

Seminars and laboratory experience in current problems in neurobiology. Two hours, seminar; three hours lab; one term

Prerequisite: One of PSYCH 2E03, 2F03, BIOLOGY 3P03; and registration in Level III or IV of an Honours program

*Enrolment is limited. Permission is by preregistration ballot. (See Department Note 2 above.)*

**PSYCH 3LL3 GENERAL EXPERIMENTAL PSYCHOLOGY LABORATORY**

Working in research teams, students select a topic area, design an experiment based on background readings, obtain ethical approval, collect and analyze data, make oral presentations, and prepare written reports. One lecture, one lab (two hours); one term

Prerequisite: One of PSYCH 2RB3, 2RR3 or STATS 2MB3 and registration in an Honours Psychology program; or registration in Level III of the Honours Linguistic Cognitive Science program

*Enrolment is limited. Permission is by preregistration ballot. (See Department Note 2 above.)*

**PSYCH 3M03 MOTIVATION AND EMOTION**

Theory and data concerning human and nonhuman motivation and emotion, drawing on perspectives from evolution, physiology, learning, and culture. Three lectures; one term

Prerequisite: One of PSYCH 2F03, 2T03, 2TT3

*Not open to students with credit or registration in PSYCH 3Y03 or 4Y03  
This course may be taken as elective credit by undergraduate students registered in a non-Psychology program. However, enrolment for such students is limited.*

**PSYCH 3N03 ABNORMAL PSYCHOLOGY: FUNDAMENTALS AND MAJOR DISORDERS**

Provides students with a current and comprehensive survey of psychopathology and the fundamentals of clinical psychology, including viewpoints on the nature of behavioural disorders and diagnostic systems.

Three lectures; one term

Prerequisite: Six units from PSYCH 2D03, 2E03, 2F03, 2H03, 2T03, 2TT3; or nine units of Psychology and registration in Level III or IV of a Nursing or Social Work program or the Bachelor of Health Sciences (Honours) program  
Antirequisite: PSYCH 3NN3

*This course may be taken as elective credit by undergraduate students registered in a non-Psychology program. However, enrolment for such students is limited.*

**PSYCH 3Q03 INDIVIDUAL LIBRARY STUDY**

A library project under the supervision of a faculty member that may extend over both terms.

Prerequisite: Registration in Level III or IV. If PSYCH 3Q03 is taken concurrently with PSYCH 4D06, a different faculty member must supervise each course. PSYCH 3Q03 may not be taken concurrently with PSYCH 4D09.  
*Enrolment is limited. Permission is by preregistration ballot. (See Department Note 2 above.)*

**PSYCH 3QQ3 INDIVIDUAL LAB STUDY**

A laboratory project under the supervision of a faculty member that may extend over both terms.

Prerequisite: Registration in Level III or IV. If PSYCH 3QQ3 is taken concurrently with PSYCH 4D06, a different faculty member must supervise each course. PSYCH 3QQ3 may not be taken concurrently with PSYCH 4D09.  
*Enrolment is limited. Permission is by preregistration ballot. (See Department Note 2 above.)*

**PSYCH 3S03 ANIMAL BEHAVIOUR LABORATORY**

Laboratory and field studies involving a wide variety of species.

One lab; (three hours); one term

Prerequisite: One of PSYCH 2RB3, 2RR3, STATS 2MA3, 2MB3 or permission of the instructor; and registration in Level III or IV of an Honours program in Biology or Psychology; and one of PSYCH 2TT3, 3F03; or six units of Level I Biology

*Enrolment is limited. Permission is by preregistration ballot. (See Department Note 2 above.)*

**PSYCH 3T03 SOCIOBIOLOGY**

Social behaviour from the perspective of evolutionary theory. Topics include aggression, altruism, kinship, parent-offspring interaction, sex and reproduction.

Three lectures; one term

Prerequisite: One of BIOLOGY 2C03, 3FF3, PSYCH 2TT3

*This course may be taken as elective credit by undergraduate students registered in a non-Psychology program. However, enrolment for such students is limited.*

**PSYCH 3U03 PSYCHOLOGY OF READING**

Cognitive processes involved in encoding, storing and retrieving written language will be discussed in terms of information processing models.

Three lectures; one term

Prerequisite: PSYCH 2H03 and registration in Level III or IV of a Psychology program or the Honours Linguistic Cognitive Science program; or permission of the instructor

**PSYCH 3UU3 PSYCHOLOGY OF LANGUAGE**

This course discusses the cognitive and neurological basis of language comprehension and production, from an experimental perspective. The emphasis is on the processing of spoken language.

Three lectures; one term

Prerequisite: PSYCH 2H03; or LINGUIST 1A03, 1AA3; or permission of the instructor

*This course may be taken as elective credit by undergraduate students registered in a non-Psychology program. However, enrolment for such students is limited.*

**PSYCH 3V03 LABORATORY IN HUMAN MEMORY AND COGNITION**

Experiments illustrating important issues in human memory and cognition. Problems in the design, analysis, and reporting of experiments will be emphasized. Individual projects required.

One lab (three hours); one term

Prerequisite: PSYCH 2H03 and one of PSYCH 2RB3, 2RR3 or STATS 2MB3 and registration in Level III or IV of an Honours Psychology program; or PSYCH 2H03 and registration in Level III of the Honours Linguistic Cognitive Science program. PSYCH 3VV3 is strongly recommended.  
*Enrolment is limited. Permission is by preregistration ballot. (See Department Note 2 above.)*

**PSYCH 3VV3 HUMAN MEMORY**

Cognitive processes involved in encoding, storage and retrieval will be discussed in terms of current theories of memory and information processing.

Three lectures; one term

Prerequisite: PSYCH 2H03; and registration in Level III or IV of a Psychology, B.Sc. Life Science or the Honours Science (Life Science) program  
*This course may be taken as elective credit by undergraduate students registered in a non-Psychology program. However, enrolment for such students is limited.*

**PSYCH 3Z03 CONCEPTUAL AND ASSESSMENT ISSUES FOR PEOPLE WITH DEVELOPMENTAL DISABILITIES**

Conceptual and assessment issues related to interventions for problems associated with children and adults with developmental disabilities.

Three lectures; one term

Prerequisite: Credit or concurrent registration in PSYCH 3N03 and registration in a Psychology program

**PSYCH 3ZZ3 TREATMENT APPROACHES FOR PEOPLE WITH DEVELOPMENTAL DISABILITIES**

Treatment issues related to problems associated with children and adults with developmental disabilities.

Three lectures; one term

Prerequisite: PSYCH 3Z03 and registration in a Psychology program

**PSYCH 4B03 HISTORY OF PSYCHOLOGY**

An account of the various schools of thought leading up to contemporary psychology including a history of how philosophers and physiologists influenced the earliest roots of Psychology as a science.

Three lectures; one term

Prerequisite: Registration in Level IV of an Honours Psychology program  
*Enrolment is limited. Permission is by preregistration ballot. (See Department Note 2 above.)*

**PSYCH 4BN3 BEHAVIOURAL NEUROSCIENCE II: SPECIAL TOPICS**

Seminar course on one or more selected topics in cognitive neuroscience, including biological and computational models of learning and memory, sensory science, neuropsychology, and functional brain imaging.

Three lectures; one term

Prerequisite: PSYCH 3BN3

*Enrolment is limited. Permission is by preregistration ballot. (See Department Note 2 above.)*

**PSYCH 4D06 SENIOR THESIS**

Students conduct an individual research project under the supervision of a faculty member.

Prerequisite: Registration in Level IV of an Honours or Combined Honours program in Psychology for which this course is a specified option; and permission of the department. A maximum of three units of PSYCH 3Q03, 3QQ3, 4Q03, or 4QQ3 may be taken concurrently with PSYCH 4D06, and a different faculty member must supervise each course. For information and guidelines regarding this course, refer to the Psychology web site at <http://www.science.mcmaster.ca/psychology/courses.html> and click on PSYCH 4D06, or contact the Course Administrator.

Antirequisite: HTH SCI 3H03, 4A09, 4B06, PSYCH 4D09, 4J03

*Not open to students with credit or registration in courses from the Science Capstone Course List in the Faculty of Science section of the Calendar. Enrolment is limited. Permission is by preregistration ballot. (See Department Note 2 above.)*

**PSYCH 4D09 SENIOR HONOURS THESIS**

Students conduct an individual research project under the supervision or co-supervision of a Department of Psychology faculty member.

Prerequisite: Registration in Level IV of an Honours Psychology program for which this course is a specified option; and permission of the department. Students are expected to have a C.A. of at least 8.5. PSYCH 3Q03, 3QQ3, 4Q03, or 4QQ3 may not be taken concurrently with PSYCH 4D09. For information and guidelines regarding this course, refer to the Psychology web site at <http://www.science.mcmaster.ca/psychology/courses.html> and click on PSYCH 4D09, or contact the Course Administrator.

Antirequisite: HTH SCI 3H03, 4A09, 4B06, PSYCH 4D06, 4J03

*Not open to students with credit or registration in courses from the Science Capstone Course List in the Faculty of Science section of the Calendar. Enrolment is limited. Permission is by preregistration ballot. (See Department Note 2 above.)*

**PSYCH 4F03 SPECIAL TOPICS IN BIOPSYCHOLOGY**

An advanced seminar focusing on selected topics in biopsychology. Topics for discussion selected in consultation with students and instructor, with focus on animal models of neurobiological processes.

Seminar and discussions (three hours); one term

Prerequisite: PSYCH 2F03 and registration in an Honours Biology or Psychology program

*Enrolment is limited. Permission is by preregistration ballot. (See Department Note 2 above.)*

**PSYCH 4J03 INQUIRY IN PSYCHOLOGY**

This course will provide students with an opportunity to develop skills required to launch investigations of selected psychological themes.

Prerequisite: Registration in Level IV of an Honours Psychology program

Antirequisite: PSYCH 4D06, 4D09

*Not open to students with credit or registration in courses from the Science Capstone Course List in the Faculty of Science section of the Calendar. Enrolment is limited. Permission is by preregistration ballot. (See Department Note 2 above.)*

**PSYCH 4Q03 ADVANCED INDIVIDUAL LIBRARY STUDY**

A library project under the supervision of a faculty member that may extend over both terms.

Prerequisite: Registration in Level IV of an Honours Psychology program. If PSYCH 4Q03 is taken concurrently with PSYCH 4D06, a different faculty member must supervise each course. PSYCH 4Q03 may not be taken concurrently with PSYCH 4D09.

*Enrolment is limited. Permission is by preregistration ballot. (See Department Note 2 above.)*

**PSYCH 4QQ3 ADVANCED INDIVIDUAL LAB STUDY**

A laboratory project under the supervision of a faculty member that may extend over both terms.

Prerequisite: Registration in Level IV of an Honours Psychology program. If PSYCH 4QQ3 is taken concurrently with PSYCH 4D06 a different faculty member must supervise each course. PSYCH 4QQ3 may not be taken concurrently with PSYCH 4D09.

*PSYCH 4QQ3 may be repeated once with permission of the course coordinator.*

*Enrolment is limited. Permission is by preregistration ballot. (See Department Note 2 above.)*

**PSYCH 4R03 SPECIAL TOPICS IN ANIMAL BEHAVIOUR**

An advanced seminar focusing on selected topics in animal behaviour. Seminar and discussions (three hours); one term

Prerequisite: PSYCH 2TT3; and one of PSYCH 3F03, 3S03, 3T03; and registration in an Honours Biology or Psychology program

*Enrolment is limited. Permission is by preregistration ballot. (See Department Note 2 above.)*

**PSYCH 4Y03 HORMONES, NEUROCHEMISTRY AND BEHAVIOUR**

Steroids, peptides, monoamines, and interacting neural structures are considered in relation to feeding, reproductive behaviour, aggression, stress; and learning in humans and other vertebrates.

Seminar and discussions (three hours); one term

Prerequisite: Six units from PSYCH 2F03, 2TT3, 3M03; and six units of Biochemistry and/or Biology; and registration in Level III or above of an Honours program

*Enrolment is limited. Permission is by preregistration ballot. (See Department Note 2 above.)*

**PSYCH 4Z03 TOPICS IN PSYCHOLINGUISTICS**

Consult the Department of Linguistics and Languages for topics to be offered.

Prerequisite: LINGUIST 3B03 or PSYCH 3BB3 or PSYCH 3UU3

Cross-list: LINGUIST 4Z03

*PSYCH 4Z03 may be repeated if on a different topic to a total of six units.*

*Offered in alternate years.*

*This course is administered by the Department of Linguistics and Languages.*

**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 lectures, one tutorial (three hours); one term

Prerequisite: BIOLOGY 3P03 and registration in Level III or above of any Honours program. One or more of BIOLOGY 3H03, 3HH3, 3UU3, PSYCH 2F03, 3FA3 is also recommended.

*Offered in alternate years.*

*Offered in 2006-2007.*

**RELIGIOUS STUDIES**

**WEB ADDRESS:** <http://www.socsci.mcmaster.ca/relstud/>

**University Hall, Room 105**

**Ext. 24567**

**Faculty as of January 15, 2006****Chair**

Travis Kroeker

**Professors**

P. Travis Kroeker/B.A. (Winnipeg), M.A. (Manitoba), Ph.D. (Chicago)

Eileen Schuller/B.A. (Alberta), M.A. (Toronto), Ph.D. (Harvard)

Stephen R. Westerholm/B.A., M.A. (Toronto), D.Th. (Lund)

**Associate Professors**

Ellen Badone/B.A., M.A. (Toronto), Ph.D. (California-Berkeley)

Graeme MacQueen/B.A., M.A. (McMaster), Ph.D. (Harvard)

Zdravko Planinc/B.A., M.A. (York), A.M., Ph.D. (Harvard)

Peter Widdicombe/B.A. (Manitoba), M.Phil. (Oxford), M.Div. (Toronto), D.Phil. (Oxford)

**Assistant Professors**

James Benn/ B.A., M.A. (Cambridge), M.A. (London), Ph.D. (California-Los Angeles)

Phillippa Carter/B.A. (Toronto), M.A., Ph.D. (McMaster)

Dana Hollander/B.A. (Oberlin College), M.A., Ph.D. (Johns Hopkins)

Anne Pearson/B.A. (Toronto), M.A., Ph.D. (McMaster)  
 Annette Reed/B.A. (McGill University), M.T.S. (Harvard), M.A., Ph.D. (Princeton)  
 Celia Rothenberg/B.A. (Wellesley College), M.S. (Oxford), Ph.D. (Toronto)  
 Anders Ruesson/B.A., M.Div., M.A., Lic.Theol., Ph.D. (Lund)  
 Donna Seamone/B.A. (Acadia), M.Div. (Waterloo), Ph.D. (California-Berkeley)

#### Associate Member

Virginia Aksan/(History) B.A. (Allegheny College), M.L.S. (California-Berkeley), M.A., Ph.D. (Toronto)  
 Jeremy Stölow (Sociology; Communication Studies and Multimedia) B.A. (Toronto), M.A., Ph.D. (York)

#### Department Note:

Students are advised to consult both the Department's Handbook (available in University Hall 105) and the Undergraduate Timetable for a list of the courses offered in the current year. It is especially important that students interested in the Level IV Advanced Reading courses (RELIG ST 4AA3, 4BB3, 4CC3, and 4DD3) consult a departmental undergraduate advisor.

#### Fields of Study

The Department offers courses in four fields of study. Students are encouraged to specialize in any one of these fields: Level II, III and IV courses are allocated to the fields as follows:

##### I. ASIAN RELIGIONS

RELIG ST 2E03, 2F03, 2I03, 2L03, 2P06, 3AA3, 3E03, 3L03, 3P03, 3S03, 3U03, 3UU3, 3V03, 4H03  
 SANSKRIT 3A06, 4B06

##### II. BIBLICAL STUDIES

RELIG ST 2B03, 2DD3, 2EE3, 2GG3, 2HH3, 2VV3, 2YY3, 2Z03, 3DD3, 3GG3, 3J03, 3K03, 3M03, 3N03, 3R03, 3T03, 4I03  
 HEBREW 2A03, 2B03, 3A03, 3B03

##### III. WESTERN RELIGIOUS THOUGHT

RELIG ST 2C03, 2EA3, 2EB3, 2FF3, 2II3, 2JJ3, 2KK3, 2MM3, 2Q03, 2U03, 2V03, 2ZZ3, 3A03, 3B03, 3CC3, 3D03, 3GG3, 3KK3, 3LL3, 3MM3, 3NN3, 3W03, 3X03, 3Z03, 3ZZ3, 4N03

##### IV. CONTEMPORARY AND COMPARATIVE RELIGIONS

RELIG ST 2BB3, 2H03, 2M03, 2N03, 2QQ3, 2SS3, 2W03, 2WW3, 3EE3, 4P03

Students wishing to specialize in Asian Religions should consider beginning language training in Sanskrit or Japanese or both early in their program (see offerings listed under these headings). Students wishing to specialize in Biblical Studies should consider work in Greek (see offerings under *Classics, Greek*) or Hebrew or both. For further study of the Hebrew Bible, RELIG ST 2DD3, 2EE3, 3M03 are recommended.

#### 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 1E03 LOVE IN WESTERN CIVILIZATION

A discussion of the variety of accounts of love in Western civilization from the time of the ancient Greeks and the rise of Christianity to modernity. Two lectures, one tutorial; one term  
 Antirequisite: RELIG ST 1E06

##### RELIG ST 1I03 RELIGIOUS THEMES IN MODERN LITERATURE

An introduction to religious themes, imagery and issues through a study of selected modern literature. Two lectures, one tutorial; one term  
 Antirequisite: RELIG ST 1I06

##### RELIG ST 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 2BB3 IMAGES OF THE DIVINE FEMININE

An examination of goddesses and female religious symbols in a variety of cultures: tribal, eastern and western. Two lectures, one tutorial; one term

##### RELIG ST 2C03 MORAL ISSUES

An introduction to moral philosophy accenting biomedical ethics. Issues such as abortion, human experimentation, euthanasia, and genetic screening will be investigated in cooperation with members of the Faculty of Health Sciences. Two lectures, one tutorial; one term

Prerequisite: Registration in Level II or above  
 Cross-list: PHILOS 2D03

Enrolment is limited to 475 students.

*This course is administered by the Department of Philosophy.*

##### RELIG ST 2DD3 THE FIVE BOOKS OF MOSES

An examination of selected texts from the Pentateuch and their significance for Ancient Israelite religion and modern thought. Two lectures, one tutorial; one term

##### RELIG ST 2EE3 PROPHETS OF THE BIBLE

The role and teaching of biblical prophets in their ancient setting and their impact on modern religious life and thought. Two lectures, one tutorial; one term

##### RELIG ST 2F03 STORYTELLING IN EAST ASIAN RELIGIONS

An in-depth study of selected examples of story literature in China and Japan with attention to the way religion is represented. Two lectures, one tutorial; one term

Cross-list: JAPAN ST 3H03

Antirequisite: RELIG ST 3H03

##### RELIG ST 2FF3 MEDITERRANEAN ENCOUNTERS 1500-1800

This course examines the Mediterranean region as a zone of intense cultural interaction. Particular emphasis will be given to the interaction between Christian, Jewish and Islamic societies. Three hours (lectures and discussion); one term

Prerequisite: Registration in Level II or above

Cross-list: HISTORY 2HH3

*This course is administered by the Department of History.*

##### RELIG ST 2GG3 EARLIEST PORTRAITS OF JESUS

A study of the Gospels of Matthew, Mark, and Luke. Special attention will be given to the possible literary relationships among them as well as to the distinctive features of their Jesus stories. Two lectures, one tutorial; one term

Two lectures, one tutorial; one term

##### RELIG ST 2H03 THEORY AND PRACTICE OF NON-VIOLENCE

An introduction to the history, theory and practice of non-violence, with attention to the relations between religious representatives of the tradition such as Tolstoy, Gandhi and King and secular or political figures such as Gene Sharp and James Scott. Two lectures, one tutorial; one term

Two lectures, one tutorial; one term

##### RELIG ST 2HH3 PAUL AND CHRISTIAN ORIGINS

A study of the controversial role played by Paul in the definition and expansion of early Christianity, based on the Acts of the Apostles and Paul's own extant correspondence. Two lectures, one tutorial; one term

Two lectures, one tutorial; one term

##### RELIG ST 2I03 STORYTELLING IN INDIAN RELIGION

A survey of some of the many stories that were told by Buddhists, Jains and Hindus as a form of popular religious instruction and of the various uses made of humour and wit in religious teaching. Two lectures, one tutorial; one term

Two lectures, one tutorial; one term

Antirequisite: RELIG ST 3I03

##### RELIG ST 2II3 CHRISTIANITY IN THE PATRISTIC 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 2JJ3 CHRISTIANITY IN THE MEDIEVAL PERIOD (800-1500)

The development of Christianity in the Middle Ages and its relation to the political and intellectual context. Primary texts will illustrate typical aspects of medieval religion, learned and popular. Two lectures, one tutorial; one term

Two lectures, one tutorial; one term

##### RELIG ST 2KK3 CHRISTIANITY IN THE REFORMATION PERIOD

The place of the Reformation in the development of Christian thought and practice -its background, context and sequels. Attention is given to such figures and movements as Martin Luther, John Calvin, the Anabaptists, the reformation in England; the Catholic Reformation. Two lectures, one tutorial; one term

Two lectures, one tutorial; one term

- RELIG ST 2L03 LIFE, WORK AND TEACHINGS OF MAHATMA GANDHI**  
A study of the central religious and ethical ideas of Gandhi in the context of his life; in particular: his doctrines of Non-violent Struggle and Truth-act; his place in contemporary consciousness, particularly in the struggle for human harmony and preservation of the earth and its living species; and his revolutionary view of Truth itself as God.  
Two lectures, one tutorial; one term
- RELIG ST 2M03 DEATH AND DYING: COMPARATIVE VIEWS**  
A comparative survey of the diversity of social and ritual practices, religious beliefs, and emotional responses surrounding death in a variety of non-Western cultural contexts.  
Two lectures, one tutorial; one term  
Prerequisite: Registration in Level II or above
- RELIG ST 2MM3 WAR AND PEACE IN THE CHRISTIAN TRADITION**  
Christian thinking and practice on militarism, the restraint of war and paths to peace, including just war, nonviolence, pacifism and revolution.  
Two lectures, one tutorial; one term
- RELIG ST 2N03 DEATH AND DYING: THE WESTERN EXPERIENCE**  
Drawing on theoretical perspectives and evidence from anthropology and sociology, this course examines death and dying in Western contexts, focusing on biomedical, social and cultural themes.  
Two lectures, one tutorial; one term  
Prerequisite: Registration in Level II or above
- RELIG ST 2P06 JAPANESE CIVILIZATION**  
Introduction to Japanese history, society, and culture through a study of the religious traditions, literature, and art of Japan.  
Two lectures, one tutorial; two terms  
Cross-list: JAPAN ST 2P06
- RELIG ST 2Q03 INTRODUCTION TO ISLAM**  
The origins and early history of Islam with an emphasis on the Koran and the early Muslim community.  
Two lectures, one tutorial; one term
- RELIG ST 2QQ3 CULTS IN NORTH AMERICA**  
An examination of recent religious trends in North America. The Hare Krishna Movement, the Church of Scientology, the "Family" Branch Davidians and Satanism will be covered.  
Two lectures, one tutorial; one term
- RELIG ST 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 2U03 RELIGION AND THE MORAL IMAGINATION**  
An exploration of religious and ethical themes/symbols/practices in selected ancient and modern literature (including plays, stories, poetry) and art in the western traditions.  
Two lectures, one tutorial; one term  
Antirequisite: RELIG ST 2UU3
- RELIG ST 2V03 ISLAM AND THE MODERN WORLD**  
The spread of Islam, Islam as a minority community, the role of women in Islam and fundamentalism.  
Two lectures, one tutorial; one term
- RELIG ST 2VV3 THE BIBLE AS LITERATURE**  
An examination of narratives from the Hebrew Bible, Intertestamental literature, and New Testament, from a literary perspective. Attention is paid to narrative features such as character, plot, irony and symbolism, as well as to the dynamics of the reading experience.  
Two lectures, one tutorial; one term  
Cross-list: COMP LIT 2G03
- RELIG ST 2W03 RELIGION AND ECOLOGY**  
Attitudes toward nature or the environment in Native, Asian and Western Religious Traditions; the underlying assumptions of our contemporary view of the natural world.  
Two lectures, one tutorial; one term
- RELIG ST 2WW3 HEALTH, HEALING AND RELIGION**  
An examination of the different ways in which religion and health are related. Ideas of sickness and techniques of healing will be studied in a variety of traditional and modern religious contexts.  
Two lectures, one tutorial; one term

- RELIG ST 2YY3 THE BIBLE AND FILM**  
An examination of the use of the Bible in film. A variety of film genres will be studied including the Disney cartoon, biblical epic, horror film, contemporary comedy and drama and the rock music video. Issues to be discussed include the transformation of biblical images in popular media and film as a vehicle for conveying religious values.  
Two lectures, one tutorial; one term
- RELIG ST 2ZZ3 SHAKESPEARE: RELIGIOUS AND POLITICAL THEMES**  
An examination of ethical, political and religious themes in several of Shakespeare's plays, including *The Merchant of Venice*.  
Two lectures, one tutorial; one term
- RELIG ST 3A03 MODERN JEWISH THOUGHT**  
Introduction to different conceptions of the connection between Jewish traditions and philosophical questioning. Authors may include: Maimonides, Spinoza, Mendelssohn, Cohen, Buber, Rosenzweig, Strauss, Levinas, Soloveitchik.  
Three hours (lectures and discussion); one term  
Cross-list: PHILOS 3J03
- RELIG ST 3AA3 POPULAR RELIGION IN THE INDIAN TRADITION**  
The music, dance and festivals associated with temples in India and its diaspora will be analyzed in terms of their social, psychological and political implications.  
Two lectures, one tutorial; one term
- RELIG ST 3B03 CHRIST THROUGH THE CENTURIES**  
A study of the varied theological and artistic conceptions of Jesus Christ in the principal periods of Christian thought: the Biblical, Patristic, Medieval, Reformation, and Modern.  
Two lectures, one tutorial; one term
- RELIG ST 3CC3 SOVEREIGNTY AND SECULARIZATION**  
Exploration of key modern Western texts concerning the nature of leadership and authority in both religious and secular contexts. Readings by Hobbes, Weber, Schmitt, Buber, plus case studies of important modern or contemporary dilemmas regarding the place of religion in public life.  
Three hours (lectures and discussion); one term
- RELIG ST 3D03 GOD, REASON AND EVIL**  
An examination of understandings of reason and evil in ancient Greek, medieval Christian and modern times, and of how these understandings are related to accounts of the nature of God.  
Two lectures, one tutorial; one term
- RELIG ST 3DD3 THE JEWISH WORLD IN NEW TESTAMENT TIMES**  
A study of Judaism in the Greco-Roman world. The course will explore selected questions in political history, the development of sects and parties, the role of the temple, apocalypticism, and the Dead Sea Scrolls.  
Two lectures, one tutorial; one term  
Cross-list: HISTORY 3DD3  
Antirequisite: RELIG ST 2NN3
- RELIG ST 3E03 JAPANESE RELIGION**  
A study of Japanese religion and how it functions in Japanese society. Topics will include Shinto, Shamanism, Ancestor Worship, Japanese Buddhism and the New Religions of Japan.  
Two lectures, one tutorial; one term  
Cross-list: JAPAN ST 3E03
- RELIG ST 3EE3 SACRED JOURNEYS**  
A study of the significance of travel in various religious traditions, focusing on shrines, pilgrimages, and the inter-relationships between secular and sacred travel.  
Two lectures, one tutorial; one term
- RELIG ST 3F03 APPROACHES TO THE STUDY OF RELIGION**  
A study of the various ways religious phenomena can be studied, e.g. psychologically, sociologically, philosophically, theologically, comparatively, etc. Attention is also given to the history of the discipline of religious studies.  
Two lectures, one tutorial; one term  
Prerequisite: Six units of Religious Studies courses above Level I
- RELIG ST 3GG3 TOPICS IN JEWISH STUDIES**  
An exploration of selected themes in Jewish thought, history, and/or culture.  
Three hours (lectures and discussion); one term  
*RELIG ST 3GG3 may be repeated, to a total of six units, if on a different topic.*

**RELIG ST 3J03****JEWS, CHRISTIANS, AND OTHERS IN ANTIQUITY**

An examination of the contacts, conflicts, and competition among Jews, Christians, and their non-Jewish, non-Christian neighbours (Greeks, Romans, Egyptians) in the ancient world.  
Two lectures, one tutorial; one term

**RELIG ST 3KK3****CHRISTIANITY IN THE MODERN PERIOD**

Topics in Christianity (Catholic and Protestant) from the 17th to the 20th centuries. Attention is given to the interaction between secular and religious thought.  
Two lectures, one tutorial; one term

**RELIG ST 3K03****THE BIBLE THROUGH THE AGES**

A study of the different ways in which the Bible has been read, from antiquity to the modern world, both inside and outside the communities for which it serves as sacred scripture. The course will focus on selected key figures in the history of biblical interpretation.  
Two lectures, one tutorial; one term

**RELIG ST 3L03****THE INDIAN RELIGIOUS TRADITION**

Readings of Indian religious texts in translation will concentrate on themes such as the nature of human nature; free will and determinism; personal identity and the quest for perfection; renunciation and social action; violence and non-violence; altruism and selfishness.  
Two lectures, one tutorial; one term

Prerequisite: Registration in Level III and above

Cross-list: ARTS&SCI 3L03

**RELIG ST 3LL3****RELIGION AND HUMAN NATURE**

What is the nature of human nature and its fulfilment? A study of recent philosophical, scientific and religious anthropology.  
Two lectures, one tutorial; one term

**RELIG ST 3M03****SONGS OF DAVID:****POETRY IN THE HEBREW BIBLE**

A study of poetry in the Hebrew Bible (in translation). The course will give primary attention to the study of the psalms. Some examples of early epic poetry and wisdom poetry will also be included.  
Two lectures, one tutorial; one term

**RELIG ST 3MM3****SCEPTICISM, ATHEISM****AND RELIGIOUS FAITH**

A study of conceptions of religious belief, knowledge and God, in the history of modern thought up to the 20th century, with special attention to major challenges to the role of religious faith in human existence. Authors may include: Descartes, Hume, Kant, Schleiermacher, Nietzsche, Dostoevsky, Kierkegaard, Camus, Buber, Levinas.  
Two lectures, one tutorial; one term

**RELIG ST 3N03****JOHN'S PORTRAIT OF JESUS**

An examination of the Gospel of John, with emphasis on its historical background, its literary character and its distinctive theology. The history of the Johannine community will also be considered.  
Two lectures, one tutorial; one term

Antirequisite: RELIG ST 2O03

**RELIG ST 3NN3****THE ENCOUNTER OF SCIENCE AND RELIGION**

A study of contemporary discussions of: (a) methods of inquiry in science and religion, (b) the human being's relation to nature and (c) God's relation to nature.  
Two lectures, one tutorial; one term

**RELIG ST 3P03****BUDDHISM IN TIBET**

This course takes particular religious themes in Tibetan Buddhism such as revelation, the dying process, or visionary techniques, and locates them within their historical context.  
Two lectures, one tutorial; one term

**RELIG ST 3R03****DEATH AND THE AFTERLIFE IN EARLY****JUDAISM AND CHRISTIANITY**

An examination of the variety of ways in which physical death and the afterlife were understood in biblical and post-biblical Judaism as well as in the New Testament and early Christianity. Among the topics to be considered are the netherworld, immortality and resurrection, as well as the relationship of these concepts to issues of faith and morality.  
Two lectures, one tutorial; one term

**RELIG ST 3S03****THE EAST ASIAN RELIGIOUS TRADITION**

Readings in East Asian religious texts in translation will concentrate on themes such as culture vs. nature, virtue vs. power, social responsibility vs. personal cultivation, bookish learning vs. meditation.  
Two lectures, one tutorial; one term

Prerequisite: Registration in Level III and above

Cross-list: ARTS&SCI 3S03, JAPAN ST 3S03

**RELIG ST 3T03****THE QUEST FOR THE HISTORICAL JESUS**

A look at the continuing scholarly effort to reconstruct the career and teaching of the historical Jesus.  
Two lectures, one tutorial; one term

**RELIG ST 3U03****THE BUDDHIST TRADITION IN INDIA**

A study of the origins and early development of Indian Buddhism, largely through readings in Buddhist scripture (pre-Mahayana and Mahayana) in translation.  
Two lectures, one tutorial; one term

**RELIG ST 3UU3****BUDDHISM IN EAST ASIA**

An examination of myth, history, doctrine, monastic culture, and ritual practices in East Asian Buddhism.  
Two lectures, one tutorial; one term

Cross-list: JAPAN ST 3UU3

**RELIG ST 3V03****INDIAN PHILOSOPHY**

Exploration of 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

Antirequisite: RELIG ST 2T03

**RELIG ST 3W03****PLATO: RELIGIOUS AND POLITICAL THEMES**

An examination of ethical, political, philosophic and religious themes in selected Platonic dialogues, including the *Apology of Socrates*, *Phaedo*, *Symposium*, *Gorgias* and *Republic*.  
Two lectures, one tutorial; one term

**RELIG ST 3X03****CHRISTIAN MYSTICAL****AND SPIRITUAL WRITINGS**

Close reading of selected primary texts in Eastern and Western traditions of Christian spiritual life. Possible readings include: the Desert Fathers, Augustine, the Philokalia, John of the Cross, Simone Weil, Thomas Merton.  
Two lectures, one tutorial; one term

**RELIG ST 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

Cross-list: HISTORY 3Z03

Antirequisite: RELIG ST 2XX3

**RELIG ST 3ZZ3****JUDAISM AND THE JEWISH PEOPLE****IN THE TWENTIETH CENTURY**

Jews and Judaism in a century of catastrophe and renewal. The progress of Emancipation: Jews in Canada and the U.S.; the Jewish catastrophe in Europe; the Jewish state; Jewish identities in literature and the arts.  
Two lectures, one tutorial; one term

Cross-list: HISTORY 3ZZ3

Antirequisite: RELIG ST 2XX3

**RELIG ST 4H03****TOPICS IN ASIAN RELIGIONS**

Advanced seminar in Asian religions.  
One term

Prerequisite: Registration in Level III or above of an Honours Religious Studies program or permission of the instructor

Offered in alternate years.

**RELIG ST 4I03****TOPICS IN BIBLICAL STUDIES**

Advanced seminar in Early Judaism and Early Christianity.  
One term

Prerequisite: Registration in Level III or above of an Honours Religious Studies program or permission of the instructor

Offered in alternate years.

**RELIG ST 4N03****TOPICS IN WESTERN RELIGIOUS THOUGHT**

Advanced seminar in philosophy, theology and political thought dealing with contemporary and historical materials.  
One term

Prerequisite: Registration in Level III or above of an Honours Religious Studies program or permission of the instructor

Offered in alternate years.

**RELIG ST 4P03****TOPICS IN CONTEMPORARY AND****COMPARATIVE RELIGION**

Advanced seminar in contemporary and comparative religion, from the perspectives of the anthropology and sociology of religion.  
One term

Prerequisite: Registration in Level III or above of an Honours Religious Studies program or permission of the instructor

Offered in alternate years.



**RELIG ST 4Q03      ADVANCED READINGS  
IN RELIGIOUS STUDIES**

Independent study of special topics in Religious Studies.  
One term

Prerequisite: Registration in Level III or above of an Honours Religious Studies program or permission of the instructor  
*RELIG ST 4Q03 may be repeated, to a total of six units, if on a different topic.*

**RELIG ST 4R06      HONOURS THESIS**

Students in this course will work closely with faculty members who specialize in the fields of study in which they plan to write their honours essay.  
Two terms

Prerequisite: Registration in Level IV of an Honours Religious Studies program with a minimum C.A. of 9.5; or permission of the instructor  
Antirequisite: RELIG ST 4J06

**HEBREW ...****HEBREW 2A03      INTRODUCTION TO BIBLICAL HEBREW I**

An introduction to the basics of grammar, syntax and vocabulary of the language of the Hebrew Bible. The student will begin to read in the Hebrew Bible.

Four hours (two lectures); one term

Antirequisite: HEBREW 2A06

**HEBREW 2B03      INTRODUCTION TO BIBLICAL HEBREW II**

An introduction to more grammar, syntax and vocabulary of the language of the Hebrew Bible. The knowledge acquired should enable the student to read the simple prose and poetry of the Hebrew Bible.

Four hours (two lectures); one term

Prerequisite: HEBREW 2A03 or permission of the instructor

Antirequisite: HEBREW 2A06

**HEBREW 3A03      INTERMEDIATE HEBREW I**

A reading course in classical (biblical) Hebrew. Sample texts will be read from some or all of the following: the Hebrew Bible, Mishnah, ancient Hebrew inscriptions and the Dead Sea Scrolls.

Four hours (two lectures); one term

Prerequisite: HEBREW 2B03 or permission of the instructor

Antirequisite: HEBREW 3A06

**HEBREW 3B03      INTERMEDIATE HEBREW II**

Further sample texts will be read from some or all of the following: the Hebrew Bible, the Mishnah, ancient inscriptions and the Dead Sea Scrolls.

Four hours (two lectures); one term

Prerequisite: HEBREW 2B03 or permission of the instructor

Antirequisite: HEBREW 3A06

**SANSKRIT ...****SANSKRIT 3A06      INTRODUCTION TO SANSKRIT GRAMMAR**

Basic course in the elements of Sanskrit grammar. No previous knowledge of Sanskrit is required.

Three lectures; two terms

**SANSKRIT 4B06      READINGS IN SANSKRIT TEXTS**

Intermediate course with readings in selected texts.

Three lectures; two terms

Prerequisite: SANSKRIT 3A06

**RUSSIAN**

(SEE LINGUISTICS AND LANGUAGES, RUSSIAN)

**SANSKRIT**

(SEE RELIGIOUS STUDIES, SANSKRIT)

**SCHOOL OF THE ARTS**

WEB ADDRESS: <http://www.humanities.mcmaster.ca/~sota/index.html>

Togo Salmon Hall, Room 414

Ext. 27671

**Faculty as of January 15, 2006****Director**

Hayden B.J. Maginnis

**Professors**

Hayden B.J. Maginnis/B.A. (Western Ontario), M.F.A., Ph.D. (Princeton) (Art History)

William Renwick/B.Mus. (British Columbia), Ph.D. (CUNY), A.A.G.O., F.R.C.C.O. (Music)

**Associate Professors**

Donald F. Carr/B.A. (Guelph), M.F.A. (Chicago) (Art)

Susan Fast/B.M. (Western Washington), M.A., Ph.D. (Iowa) (Music)

Catherine Graham/B.A., M.A., Ph.D. (McGill) (Theatre & Film Studies)

Frederick A. Hall/Assoc. Dipl., B.Mus. (McGill), M.A., Ph.D. (Toronto) (Music)

Hugh K. Hartwell/Assoc. Dipl., B. Mus. (McGill), A.M., Ph.D. (Pennsylvania) (Music)

Janice Hladki/B.A. (York), M.A., Ph.D. (Toronto) (Theatre & Film Studies)

Keith W. Kinder/Dip.F.A. (Calgary), B.Mus. (Western Ontario), M.Mus. (Northwestern), Ph.D. (Colorado) (Music)

Judy N. Major-Girardin/B.F.A. (Windsor), M.F.A. (Alabama) (Art)

Alison McQueen/B.A. (McGill), M.A., Ph.D. (Pittsburgh)

Angela Sheng/B.A. (Toronto), M.A. (Toronto), Ph.D. (Pennsylvania)

Joseph Sokalski/B.E. (Alberta), M.A., Ph.D. (Toronto) (Theatre & Film Studies)

Graham Todd/L.D.A.D. Dip. (Chelsea School of Art) M.F.A. (Guajuato) (Art)

**Associate Members**

Katherine M.D. Dunbabin/(Classics) M.A., D.Phil. (Oxford)

Michèle G. George/(Classics) B.A. (Toronto), M.A., Ph.D. (McMaster)

David C. Wilson/(Kinesiology) Cert. Ed. (St. Paul's College), B.Ed. (Bristol), M.A. (York)

**Music Studio Instructors**

Eiise Bédard/B.Mus., L.Mus., M.Mus. (McGill)/voice

John Brownell/B.F.A., M.A., Ph.D. (York) (Music)/percussion

Lita Classen/B.Mus. (Ottawa), M.Mus. (Vincent d'Indy Montréal) Dipl. Perf. (Vienna)/voice

Richard Cunningham/B.Mus. (Toronto)/voice

Kevin Dempsey/percussion

Cecile Desrosiers/B.Mus. (McGill), M.Mus. (Western Ontario)/piano

Lance Elbeck/B.Mus. (Curtis Inst. of Music, Philadelphia)/violin

Paula Elliott/B.Mus. (Oberlin), M.M. (New England Conservatory)/flute

Don Englert/jazz saxophone

Robert Fekete/Dipl. (Mohawk College), B.Mus., B. Ed. (Toronto)/jazz piano

Tom Forsyth/B.F.A., M.F.A. (York), B. Ed. (Toronto) /jazz band

David Gerry/A.R.C.T., B.Mus. (Toronto), Dipl. Ped. (Japan)/flute

Paul Grimwood/B.Mus. (Western Ontario)/harpichord and organ

Judy Hunter/A.R.C.T. (Toronto), A.Mus., Mus.G. Paed., B.A. (Western Ontario), L.T.C.L., F.T.C.L., A.T.C.L. (Trinity College, London)/piano

Willy Jarvis/electric bass

Zoltan Kalman/Dipl. (Franz Liszt Academy of Music, Budapest)/clarinet

Leokadia Kanovich/B.Mus. (Vilnius), M.A. (Moscow)/piano

Leon Karan/B. Mus. (Music College, USSR), M.F.A. (Uralskaya Univ. of Music, USSR)/piano

Jeffrey McFadden/B.Mus. (Western Ontario), M. Mus. (Toronto)/classical guitar

Troy Milleker/M.M. Perf. (Indiana Univ.)/double bass

Willem Moolenbeek/A.R.C.T., B.Sc., M.Sc. (Guelph)/saxophone

Rebecca Morton/cello

Nancy Nelson/B.Mus. (McMaster) /oboe

Stephen Pierre/jazz clarinet

Mike Polci/B.Mus. (Western Ontario) /trumpet

Philip Sarabura/A.R.C.T., B.Mus. (Western Ontario)/choir

Bob Shields/Dipl. (Mohawk), B.Mus. (Toronto)/jazz guitar

Suzanne Shulman/A.R.C.T., Dipl. Perf. (Toronto)/flute

Valerie Tryon/L.R.A.M., F.R.A.M., A.R.C.M., D.Litt/piano

Pamela Vanweelden/A.R.C.T. (Toronto), A.Mus. (Western Ontario), L.T.C.L., F.T.C.L. (Trinity, London), B.Ed. (Althouse), B.Mus. (Western Ontario), M.M. (Toronto)/piano

Sonia Vizante/B.A. (Univ. of Bucharest), B.Ed. (Brock)/violin

Timothy White/B.Ed. (Toronto), B.Mus., M.Mus. (Michigan)/trumpet

Aila Zacarelli/Dipl. Perf. (Odessa, St. Petersburg)/piano

**School Note:**

Art, Art History, Music and Theatre & Film Studies courses can be found listed alphabetically within the **Course Listings** section of this Calendar.

In order to foster interdisciplinarity in the Arts, the School of the Arts offers the following SOTA courses for students who wish to combine various disciplines within the School.

**Courses****SOTA 2G03****PERFORMANCE AND PERFORMATIVITY**

An introduction to the study of performative modes of communication such as storytelling, gesture, movement, dress. Students will learn to analyze the relationship between cultural performances, such as games, garage bands, group facilitation, or live theatre and social structures.

Three hours (lectures and discussion); one term

Prerequisite: Three units of Communication Studies and registration in Level II or above

Cross-list: CMST 2G03

**SOTA 3B03****PERFORMANCE ART**

This course will examine historical and contemporary concerns related to performance art including the relevance of traditional categories of artistic production, the roles of the audience, the institution and market, and the body as artistic medium.

Three hours (lectures and discussion); one term

Prerequisite: Registration in Level II or above

Cross-list: CMST 3U03

**SOTA 3C03****TOPICS IN VISUAL CULTURE**

This course will examine a variety of topics in the critical study of visual culture, including gender and spectatorship, consumerism and the arts, and visual literacy in the 21st century.

Three hours (lectures and discussion); one term

Prerequisite: Registration in Level II or above

Cross-list: CMST 3F03

**SCIENCE**

With the exception of SCIENCE 1A00, 1B00, 2B03, 2C00 and 2L03, the Science courses are designed primarily for students in the Humanities and Social Sciences to give an appreciation of important areas of modern science and do not assume any specific background in science. Other science courses that may be of interest to students in the Humanities and Social Sciences are listed by Department. They are:

BIOLOGY 1K03	Biology For The Humanities And Social Sciences
COMP SCI 1SA3	Computing Fundamentals
COMP SCI 1TA3	Elementary Computing and Computer Use
GEO 2GG3	Natural Disasters
GEO 2WW3	Water and the Environment
GEO 3CC3	Earth's Changing Climate
GEO 3DD3	Geoarchaeology of the Underwater Realm
GEO 3NN3	Northern Environments
KINESIOL 1Y03	Human Anatomy and Physiology I
KINESIOL 1YY3	Human Anatomy and Physiology II
STATS 1A03	Statistical Reasoning
STATS 1L03	Probability and Linear Algebra

**Courses**

If no prerequisite is listed, the course is open.

**SCIENCE 1A00****WHMIS, HEALTH AND SAFETY**

Introduction to safety guidelines at McMaster University, acceptable safety conduct and positive safety attitudes and practices in laboratories and Workplace Hazardous Materials Information System (WHMIS). Evaluation: one multiple choice examination graded Pass or Fail; students who fail will be required to attend the course again during the same academic year.

One session (one hour)

Antirequisite: ENGINEER 1A00, NURSING 1A00

**SCIENCE 1B00****UNIVERSITY SURVIVAL**

Web-based (through WebCT) introduction to university life and expectations. University services and resources available to students will be covered. Modules, consisting of quizzes and assignments, will include such topics as basic orientation, library usage, time management, academic dishonesty and career options. Online surveys (for students to give their views on the course) are to be completed in both December and April (follow-up).

One term

Prerequisite: Registration in Science I, Mathematics and Statistics I or Medical Radiation Sciences I

**SCIENCE 1D03****ASTRONOMY**

A survey of modern and historical concepts in astronomy. Light and the telescope; distance measurement in space; the structure and evolution of stars, galaxies, cosmology.

Three lectures; one term

Prerequisite: Open to students registered in any faculty other than Science or Engineering. OSS Grade 11 or OSIS Grade 12 Mathematics required.

Antirequisite: ASTRON 1F03, SCIENCE 2D03

**SCIENCE 2B03****THE BIG QUESTIONS**

Ultimate questions in modern science: origin of the universe, nature of space and time, origin and evolution of life, creation of the elements, search for other worlds, and more.

Three lectures, one tutorial; first term

Prerequisite: Registration in Level II or above

Cross-list: ORIGINS 2B03

Note: Students who intend to fulfill the Origins Research Specialization should register in ORIGINS 2B03.

This course is administered by the Origins Institute.

**SCIENCE 2C00****SKILLS FOR CAREER SUCCESS IN SCIENCE**

Develop career skills (resumé, cover letter, interview, job search) necessary to create a career path.

Six one hour lectures/workshops; one term

Prerequisite: Full-time registration in Level II or above of any program in the Faculty of Science

**SCIENCE 2J03****PHYSICS OF MUSICAL SOUND**

Sound waves, production of sound by musical instruments; properties of the ear, musical scales and intervals; auditorium acoustics.

Three lectures with demonstrations; one term

Prerequisite: Registration in Level II or above of a non-science program

Antirequisite: PHYSICS 2J03

Knowledge of OSS Grade 11 Mathematics or OSIS Grade 12 Mathematics would be helpful.

**SCIENCE 2K03****HEREDITY, EVOLUTION AND THE ENVIRONMENT**

Introduction to the principles of human genetics and evolutionary biology, the adaptation of organisms to their environment, biological diversity and integrated ecosystems.

Three lectures or two lectures and one tutorial; one term

Prerequisite: Registration in Level II or above

Antirequisite: BIOLOGY 1A03, 1A06, 1AA3

Offered in alternate years.

Offered in 2006-2007.

**SCIENCE 2L03****TEACHING AND LEARNING FOR TUTORS**

The course provides an opportunity to explore teaching and learning using a variety of methods from the traditional lecture to more experiential methods (e.g., simulation). Self-directed learning will include experience in the classroom, reading and reflection and discussion.

Prerequisite: Registration in Level II or above of an Honours program in the Faculty of Science

Cross-list: SOC SCI 2L03

Antirequisite: HTH SCI 4X03, INQUIRY 3S03, 4S03

Enrolment is Limited.

**SOCIAL SCIENCES****Notes:**

- All students are strongly recommended to complete SOC SCI 2E00. Completion of SOC SCI 2E00 is required for students who participate in an internship.
- Students who previously completed SOC SCI 2E03 and 2F03 may substitute these units as Level II Sociology.
- SOC SCI 2O03, 2P03, 2Q03 and 2R03 may be substituted as units of Level II Sociology.

**Courses**

If no prerequisite is listed, the course is open.

**SOC SCI 2E00****INTRODUCTION TO CAREER PLANNING THROUGH EXPERIENTIAL LEARNING**

Provides an opportunity to engage in a variety of hands-on exploration activities to provide a strong foundation for career and education planning. Students will better understand the skills acquired in academic studies, extracurricular activities, work experience and how this relates to making occupational choices and job searching.

Six, two hour lectures/workshop; one term

Prerequisite: Registration in a Kinesiology or Social Sciences program

Antirequisite: SOC SCI 3E00

(See Note 1 above.)

**SOC SCI 2J03 INTRODUCTION TO STATISTICS**

An introduction to basic statistical concepts and their application to the analysis of data from the social sciences. The use of spreadsheets is emphasized.

Three hours; one term

Prerequisite: Registration in Level II and above

Not open to students with credit or registration in: *COMMERCE 2QA3, ECON 2B03, 3O06, 3U03, GEO 2S03, GEOG 2LL3, 2N03, HTH SCI 1F03, 2A03, KINESIOL 1B03, 1B06, 3C03, POL SCI 2F06, 3N06, PSYCH 2G03, 2R03, 2RR3, SOCIOLOGY 2Y03, 3H06, STATS 1A03, 1CC3 or any Level II, III or IV statistics course.*

**SOC SCI 2L03 TEACHING AND LEARNING FOR TUTORS**

Provides an opportunity to explore teaching and learning using a variety of methods from the traditional lecture to more experiential methods (e.g., simulation). Self-directed learning will include experience in the classroom, reading and reflection, and discussion.

Three hours; one term

Prerequisite: Registration in Level II or above of an Honours Social Sciences, Kinesiology or a B.A./B.S.W. program

Cross-list: SCIENCE 2L03

Antirequisite: HTH SCI 4X03, INQUIRY 3S03, 4S03

Enrolment is limited.

**SOC SCI 2O03 CANADIAN CHILDREN**

This course deals with a spectrum of issues related to Canadian children such as family, socialization, identity formation, moral development, abuse and strategies for a better future.

Three hours (lectures and discussion); one term

Not open to students with credit in *SOC SCI 2E03 SELECTED TOPICS IN INTERDISCIPLINARY STUDIES I* if the topic was *Canadian Children*. (See Note 3 above.)

**SOC SCI 2P03 CANADIAN ADOLESCENTS**

This course deals with a spectrum of issues related to Canadian adolescents such as identity formation, sexuality, peer groups and power and the social politics of career formation.

Three hours (lectures and discussion); one term

Not open to students with credit in *SOC SCI 2F03 SELECTED TOPICS IN INTERDISCIPLINARY STUDIES II* if the topic was *Canadian Adolescents*. (See Note 3 above.)

**SOC SCI 2Q03 WOMEN AND FAMILY IN CANADA**

A discussion of contrasting approaches to the study of the family from a Symbolic Interactionist perspective. Topics include mother-daughter, father-daughter, mother-son relationships and motherless daughters.

Three hours (lectures and discussion); one term

Not open to students with credit in *SOC SCI 2E03 SELECTED TOPICS IN INTERDISCIPLINARY STUDIES I* if the topic was *The Structure of the Family and the Role of Women in Historical and Contemporary Society*. (See Note 3 above.)

**SOC SCI 2R03 WOMEN AND WORK IN CANADA**

The life cycle of contemporary women, the increased integration into the labour force and the impact this has had upon their traditional roles as wife and mother will be discussed. The experiences of women will be interfaced with those of men.

Three hours (lectures and discussion); one term

Not open to students with credit in *SOC SCI 2F03 SELECTED TOPICS IN INTERDISCIPLINARY STUDIES II* if the topic was *Women and Work in Canada*. (See Note 3 above.)

**SOC SCI 3F03 FULL-TIME INTERNSHIP**

Full-time, non-credit, paid work opportunities of four, eight, or 12 month duration allowing students to explore careers, develop employability skills and make important contacts for job searches.

Normally 30 to 35 hours per week

Prerequisite: Registration in a program in the Faculty of Social Sciences; and credit or registration in SOC SCI 2EL0; and permission of the Career Development Coordinator

*SOC SCI 3F03 may be repeated.*

**SOC SCI 3IP0 PART-TIME INTERNSHIP**

Part-time, non-credit, paid work opportunities of four, eight, or 12 month duration allowing students to explore careers, develop employability skills and make important contacts for job searches.

Normally 5 to 10 hours per week

Prerequisite: Registration in a program in the Faculty of Social Sciences; and credit or registration in SOC SCI 2EL0; and permission of the Career Development Coordinator

*SOC SCI 3IP0 may be repeated.*

**SOC SCI 3IS0 SUMMER INTERNSHIP**

Full-time, non-credit, paid work opportunities normally lasting four months during the Spring/Summer Session allowing students to explore careers, develop employability skills and make important contacts for job searches. Students selected to complete a McMaster Summer or NSERC USRA may use this experience toward a Summer Internship.

Normally 30 to 35 hours per week

Prerequisite: Registration in a program in the Faculty of Social Sciences; and credit or registration in SOC SCI 2EL0; and permission of the Career Development Coordinator

*SOC SCI 3IS0 may be repeated.*

**SOC SCI 3MP3 COMMUNITY LEADERSHIP IN SPORT AND PHYSICAL ACTIVITY**

This placement course provides the essential links between classroom knowledge and professional practice. Working with special needs populations, children, adolescents, adults and the elderly, students will experience the challenges faced by community agencies that deliver sport and physical activity programs.

Placement experience equivalent to one day per week (60 hrs.), seminars; one term

Prerequisite: Credit or registration in KINESIOL 3M03 and registration in Level III or above

Antirequisite: KINESIOL 3MP0, 3MP3

Not open to students with credit or registration in *KINESIOL 4EE3* if the placement is in the area of coaching or leadership.

*This course is administered by the Department of Kinesiology.*

**SOCIAL WORK**

WEB ADDRESS: <http://www.socsci.mcmaster.ca/socwork/>

Kenneth Taylor Hall, Room 319

Ext. 23795

**Faculty as of January 15, 2006****Director**

Jane Aronson

**Professors**

Jane Aronson/B.Sc. (*New University of Ulster*), B.S.W., M.S.W. (*McGill*), Ph.D. (*Toronto*)

Roy Cain/B.S.W., M.S.W., Ph.D. (*McGill*)

James W. Gladstone/B.A. (*McGill*), M.S.W. (*British Columbia*), Ph.D. (*Toronto*)

M. Susan Watt/B.A., M.S.W., Adv. Dip. S.W. (*Toronto*), D.S.W. (*UCLA*)

**Associate Professors**

Donna Baines/*(Labour Studies)* B.S.W. (*Calgary*), M.S.W. (*Ottawa*), Ph.D. (*Toronto*)

Patricia M. Daenzer/ B.A., B.S.W., (*York*), M.S.W., Ph.D. (*Toronto*)

L. William Lee/B.A. (*St. Thomas, Texas*), M.S.W., Adv. Dip. S.W., Ed.D. (*Toronto*)

Sheila Sammon/B.A. (*Nazareth College, New York*), M.S.W. (*Toronto*)

**Assistant Professors**

Gary C. Dumbrell/B.Sc. (*South Bank, London*), M.S.W. (*York*), Ph.D. (*Toronto*)

Christina Sinding/*(Health Studies)* B.A. (*Western Ontario*), M.A. (*McMaster*), Ph.D. (*Toronto*)

**Lecturers**

Mirna Carranza/ B.S.W. (*University of El Salvador, San Salvador*), M.T.S. (*Wilfrid Laurier University*)

Rick Sin/ B.S.W., (*Hong Kong Baptist University*), M.S.W. (*McGill*)

**Associate Members**

M. Dooley/*(Economics)* B.A. (*Indiana*), M.S., Ph.D. (*Wisconsin-Madison*)

Robert D. Wilton/*(Geography and Earths Sciences)* B.A. (*Hull*), M.A., Ph.D. (*Southern California*)

**Practice Instructors**

Michael Balkwill/B.A., B.S.W., M.A. (*McMaster*)

Suzanne Brown/B.A. (*Wilfrid Laurier*), B.S.W., M.S.W. (*McMaster*)

Chris Cardy/B.A., B.S.W. (*McMaster*), M.S.W. (*Toronto*)

Janice Chaplin/B.A. (*Mount Allison*), B.S.W., M.S.W. (*McMaster*)

Andrew Debicki/B.A., B.S.W., M.S.W. (*McMaster*)

Mark Fraser/B.A. (*Acadia*), B.S.W. (*McMaster*), M.S.W. (*Toronto*)

Niki Gomez-Perales/B.A. (Winnipeg), B.S.W. (McMaster), M.S.W. (Toronto)  
 Patricia Grunauer-Spinner/B.S.W. (Santiago), M.S.W. (McMaster)  
 Gordon Greenway/B.A., M.S.W. (Carleton)  
 Barbara Hill/B.S.W. (Western Ontario), M.S.W. (Wilfrid Laurier)  
 Liz Lamb/B.A., B.S.W. (McMaster), M.S.W. (Carleton)  
 Maxine Lane/B.A., B.S.W. (McMaster), M.Ed. (Brock)  
 Kelly Lazure-Valconi/B.A., B.S.W. (McMaster), M.S.W. (York)  
 Carol McKenna/B.S.W. (Western Ontario), M.S.W. (Toronto)  
 John Medeiros/B.A. (Ottawa), M.S.W. (Toronto)  
 Jennifer Penton/B.S.W. (Memorial), M.S.W. (Carleton)  
 Anna Marie Pietrantonio/B.A. (McMaster), M.S.W. (Toronto)  
 Malcolm Powell/B.A., B.S.W., M.S.W. (McMaster)  
 Sandy Rowan/B.A. (Concordia), B.S.W., M.S.W. (McGill)  
 Brenda Symons-Moulton/B.A., B.S.W. (McMaster), M.S.W. (Wilfrid Laurier)  
 Helen Tobias/B.A., B.S.W. (McMaster), M.S.W. (Wilfrid Laurier)  
 Karen Van Dyke/B.A. (Dordt College), M.S.W. (SUNY-Buffalo)

### School Notes:

- SOC WORK 1A06 is available to all students.
- With the exception of SOC WORK 4Q03, the following courses are available for elective credit for students enrolled in Level III or above of a non-Social Work program. SOC WORK 1A06 is a prerequisite. Enrolment for such students is limited and places are assigned on a first come basis.
  - SOC WORK 3C03 Social Aspects of Health and Illness
  - SOC WORK 3H03 Justice and Social Welfare
  - SOC WORK 3O03 Human Sexuality in Social Context
  - SOC WORK 4B03 Adult Family Violence
  - SOC WORK 4C03 Racism and Social Marginalization in Canadian Society
  - SOC WORK 4F03 Child Abuse
  - SOC WORK 4G03 Selected Topics
  - SOC WORK 4I03 Social Work and Indigenous Peoples
  - SOC WORK 4J03 Social Change: Social Movements and Advocacy
  - SOC WORK 4L03 Social Work with an Aging Population
  - SOC WORK 4Q03 Inquiry into Anti-Oppression: Facilitating the Dialogue
  - SOC WORK 4R03 Social Work with Women
  - SOC WORK 4W03 Child Welfare

### Courses

All courses are open only to Social Work students unless otherwise specified. (See Notes 1 and 2 above.)

#### SOC WORK 1A06 INTRODUCTION TO SOCIAL WORK

General introduction to the values, perspectives, ideologies, settings and methods of social work within the broad field of social welfare. This course combines a practical and theoretical orientation to the field. Lectures and discussions; two terms  
(See Note 1 above.)

#### SOC WORK 2A06 THEORY, PROCESS AND COMMUNICATION SKILLS FOR SOCIAL WORK

Knowledge, value base and intervention methods of social work practice; basic skill development in interpersonal communication and interviewing. Lectures, discussions, exercises; two terms  
Antirequisite: SOC WORK 2C03, 2C06, 2D03  
Enrolment is limited.

#### SOC WORK 2B03 SOCIAL WELFARE: GENERAL INTRODUCTION

Purpose, values underlying development of social welfare programs; Canada's social security system in historical perspective. Lectures, discussion; one term  
Cross-list: LABR ST 2B03  
Antirequisite: SOC WORK 2B06  
Students in a Social Work program must register for this course as SOC WORK 2B03.

#### SOC WORK 2BB3 SOCIAL WELFARE: ANTI-OPPRESSIVE POLICIES AND PRACTICES IN SOCIAL WORK

Exploration and analysis of systematic patterns of oppression, their relationships to social policies and practices and the implications for social work through a variety of instruction including experiential exercises. Topics could include: race, gender, disability, sexual orientation. Exercises, lectures, discussion; one term  
Cross-list: LABR ST 2BB3  
Antirequisite: SOC WORK 2B06  
Students in a Social Work program must register for this course as SOC WORK 2BB3.

#### SOC WORK 2E03 HUMAN GROWTH AND DEVELOPMENT IN THE SOCIAL ENVIRONMENT

Human development throughout the life span with emphasis on the interaction between the personal and social contexts and social work concerns at each developmental stage. Lectures, discussion; one term

#### SOC WORK 3A03 SOCIAL WORK WITH INDIVIDUALS AND GROUPS

Examination of theories of social work intervention and current practice models of intervention with individuals and groups. Seminars; one term  
Antirequisite: SOC WORK 3N03, 3R03, 4N03

#### SOC WORK 3C03 SOCIAL ASPECTS OF HEALTH AND ILLNESS

Exploration of the meaning of health and sickness in our society. Organization and delivery of health care. Consideration of ethical and other issues. Lectures, discussion and selective use of community resources; one term  
Prerequisite: Registration in a Social Work program; or SOC WORK 1A06 and registration in Level III or above of any program  
This course may be taken as elective credit by undergraduates in Level III or above of a non-Social Work program who have completed SOC WORK 1A06.  
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 3DD6 (summer). Priority for summer block given to B.S.W. students.  
Prerequisite: SOC WORK 2B06 or both SOC WORK 2B03 and 2BB3; and SOC WORK 2A06 or both SOC WORK 2C03 and 2D03; and PSYCH 2A03 or SOC WORK 2E03  
Corequisite: SOC WORK 3DD6  
Antirequisite: SOC WORK 3D09  
Credit in this course is dependent on achieving a minimum grade of C+ and a Pass in SOC WORK 3DD6.  
Enrolment is limited.

#### SOC WORK 3DD6 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 15 hours per week; two terms  
Option of equivalent: summer block placement in combination with SOC WORK 3D06 taken in the summer. Priority for summer block given to B.S.W. students.  
Prerequisite: SOC WORK 2B06 or both SOC WORK 2B03 and 2BB3; and SOC WORK 2A06 or both SOC WORK 2C03 and 2D03; and PSYCH 2A03 or SOC WORK 2E03  
Corequisite: SOC WORK 3D06  
This course is evaluated on a Pass/Fail basis.  
Credit in this course is dependent on receiving a Pass and a minimum grade of C+ in SOC WORK 3D06.  
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: Registration in a Social Work program; or SOC WORK 1A06 and registration in Level III or above of any program  
This course may be taken as elective credit by undergraduates in Level III or above of a non-Social Work program who have completed SOC WORK 1A06.  
Enrolment is limited.

#### SOC WORK 3O03 HUMAN SEXUALITY IN SOCIAL CONTEXT

Basic information on anatomy, physiology, psychology and sociology of sexuality and fertility. Attitudinal self-awareness, communication skills, values regarding sexual identity and roles; analysis of policy issues. Seminars; one term  
Prerequisite: Registration in a Social Work program; or SOC WORK 1A06 and registration in Level III or above of any program  
This course may be taken as elective credit by undergraduates in Level III or above of a non-Social Work program who have completed SOC WORK 1A06.  
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.

Seminars; one term

Prerequisite: Registration in a Social Work program; or SOC WORK 1A06 and registration in Level III or above of any program

*Not open to students with credit or registration in SOC WORK 4Z03 SELECTED ISSUES IN SOCIAL WELFARE POLICY, if the issue was Family Violence.*

*This course may be taken as elective credit by undergraduates in Level III or above of a non-Social Work program who have completed SOC WORK 1A06.*

*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: Registration in a Social Work program; or SOC WORK 1A06 and registration in Level III or above of any program

*Not open to students with credit or registration in SOC WORK 4Z03 SELECTED ISSUES IN SOCIAL WELFARE POLICY, if the issue was Racial and Cultural Issues in Canadian Welfare.*

*This course may be taken as elective credit by undergraduates in Level III or above of a non-Social Work program who have completed SOC WORK 1A06.*

*Enrolment is limited.*

**SOC WORK 4D06 GENERAL SOCIAL WORK II**

Seminars to deepen understanding and further develop practice skills. Two terms

Option of equivalent block placement in combination with SOC WORK 4DD6  
Prerequisite: SOC WORK 3D06, 3DD6

Corequisite: SOC WORK 4DD6

Antirequisite: SOC WORK 4D12

*Credit in this course is dependent on achieving a minimum grade of C+ and a Pass in SOC WORK 4DD6.*

*Enrolment is limited.*

**SOC WORK 4DD6 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: SOC WORK 3D06, 3DD6

Corequisite: SOC WORK 4D06

This course is evaluated on a Pass/Fail basis.

*Credit in this course is dependent on receiving a Pass and a minimum grade of C+ in SOC WORK 4D06.*

*Enrolment is limited.*

**SOC WORK 4F03 CHILD ABUSE**

Societal and familial context; types of child abuse; child welfare policies; prevention, protection and treatment.

Seminars; one term

Prerequisite: Registration in a Social Work program; or SOC WORK 1A06 and registration in Level III or above of any program

*Not open to students with credit in SOC WORK 4G03 if the topic was Child Abuse.*

*This course may be taken as elective credit by undergraduates in Level III or above of a non-Social Work program who have completed SOC WORK 1A06.*

*Enrolment is limited.*

**SOC WORK 4G03 SELECTED TOPICS**

Critical examination of social work practice in respect to selected social issues. Topics will vary from year to year and the School should be consulted for details for any particular year.

Seminars; one term

Prerequisite: Registration in a Social Work program; or SOC WORK 1A06 and registration in Level III or above of any program

*SOC WORK 4G03 may be repeated, if on a different topic.*

*This course may be taken as elective credit by undergraduates in Level III or above of a non-Social Work program who have completed SOC WORK 1A06.*

*Enrolment is limited.*

**SOC WORK 4I03 SOCIAL WORK AND INDIGENOUS PEOPLES**

Examination of structural and cultural variables underlying the complex relationships between Indigenous communities and mainstream society, with particular attention to how they are played out in social work practice.

Seminars; one term

Prerequisite: Registration in a Social Work program; or SOC WORK 1A06 and registration in Level III or above of any program

*Not open to students with credit in SOC WORK 4G03 if the topic was Social Work and Indigenous Peoples.*

*This course may be taken as elective credit by undergraduates in Level III or above of a non-Social Work program who have completed SOC WORK 1A06.*

*Enrolment is limited.*

**SOC WORK 4J03 SOCIAL CHANGE: SOCIAL MOVEMENTS AND ADVOCACY**

Critical examination of the meaning of social change as a concept and event. Review of strategies of social change and of attempts to effect social change.

Seminars; one term

Prerequisite: Registration in a Social Work program; or SOC WORK 1A06 and registration in Level III or above of any program

*This course may be taken as elective credit by undergraduates in Level III or above of a non-Social Work program who have completed SOC WORK 1A06.*

*Enrolment is limited.*

**SOC WORK 4L03 SOCIAL WORK WITH AN AGING POPULATION**

Analysis of the context of aging within Canadian society; examination of selected themes related to social welfare policies and models of social work practice with the elderly.

Seminars; one term

Prerequisite: Registration in a Social Work program; or SOC WORK 1A06 and registration in Level III or above of any program

Antirequisite: GERONTOL 4S03, POL SCI 4A03, SOC WORK 4A03, 4V03

*This course may be taken as elective credit by undergraduates in Level III or above of a non-Social Work program who have completed SOC WORK 1A06.*

*Enrolment is limited.*

**SOC WORK 4O03 SOCIAL WORK WITH COMMUNITIES**

Analysis of major community work strategies, historical antecedents, current developments and future potential in Canada. Student participation in the analysis of a community project is expected.

Seminars; one term

Prerequisite: Credit or registration in SOC WORK 3D06 and 3DD6; or permission of the instructor

**SOC WORK 4Q03 INQUIRY INTO ANTI-OPPRESSION: FACILITATING THE DIALOGUE**

The study of anti-oppression policies and practice combined with practical application in the form of facilitating small group discussions that focus on issues of social justice.

Seminars, discussion, exercises; one term

Prerequisite: SOC WORK 3D06, 3DD6 and permission of the instructor

**SOC WORK 4R03 SOCIAL WORK WITH WOMEN**

Critical examination of the potential of social policies and programs, community organizations and service practices to challenge women's systemic disadvantage and enhance women's welfare.

Seminars; one term

Prerequisite: Registration in a Social Work program; or SOC WORK 1A06 and registration in Level III or above of any program

Antirequisite: SOC WORK 4E03, 4T03

*This course may be taken as elective credit by undergraduates in Level III or above of a non-Social Work program who have completed SOC WORK 1A06.*

*Enrolment is limited.*

**SOC WORK 4W03 CHILD WELFARE**

This course analyzes the Canadian child welfare system, its policies and programs and teaches skills for working with children, families and substitute caregivers.

Lectures, discussions, skills development; one term

Prerequisite: Registration in a Social Work program; or SOC WORK 1A06 and registration in Level III or above of any program

*This course may be taken as elective credit by undergraduates in Level III or above of a non-Social Work program who have completed SOC WORK 1A06.*

*Enrolment is limited.*

**SOC WORK 4X03 SOCIAL WORK WITH FAMILIES**

Examination of relevant aspects of family theory for social work practice; models of family intervention.

Seminars; one term

Prerequisite: Credit or registration in SOC WORK 3D06 and 3DD6; or permission of the instructor

Antirequisite: SOC WORK 3M03

**SOCIOLOGY**

WEB ADDRESS: <http://socserv.socsci.mcmaster.ca/sociology/>

Kenneth Taylor Hall, Room 627

Ext. 24481

**Faculty as of January 15, 2006****Chair**

Carl Cuneo

**Professors**

W. Peter Archibald/B.A. (Mt. Allison), M.A. (British Columbia), Ph.D. (Michigan)

Carl J. Cuneo/B.A., M.A., Ph.D. (Waterloo)

Margaret Denton/(Gerontological Studies) B.A., M.A., Ph.D. (McMaster)

John Fox/B.A., M.A., Ph.D. (Michigan)

Cyril H. Levitt/B.A., M.A. (Waterloo), Ph.D. (Freie Universitat, Berlin)

Charlene Miall/B.A. (Ottawa), M.A. (Calgary), Ph.D. (York)

Victor Satzewich/B.A., M.A. (Saskatchewan), Ph.D. (Glasgow)

William B. Shaffir/B.A., M.A., Ph.D. (McGill)

Philip G. White/(Kinesiology) B.Sc. (London), M.Sc., Ph.D. (Waterloo)

**Associate Professors**

Robert Andersen/B.A., M.A. (Western Ontario), Ph.D. (McMaster)

Art Budros/B.A. (San Jose State), M.A., Ph.D. (California-Los Angeles)

Ivy Bourgeault/(Health Studies) B.Sc. (Alberta) M.Sc., Ph.D. (Toronto)

Scott Davies/B.A. (Toronto), M.A. (McMaster), Ph.D. (Toronto)

Graham K. Knight/B.A. (Kent); M.A., Ph.D. (Carleton)

Neil McLaughlin/B.A., M.A. (Cleveland State), Ph.D. (City University of New York)

Dorothy Pawluch/B.A. (Laurentian), M.A., Ph.D. (McGill)

Robert H. Storey/(Labour Studies) B.A. (Toronto), M.A. (Dalhousie), Ph.D. (Toronto)

Pamela Sugiman/B.A., M.A., Ph.D., (Toronto)

**Assistant Professors**

Michael Atkinson/B.A. (Waterloo), M.A. (McMaster), Ph.D. (Calgary)

Lori Campbell/(Gerontology) B.A., M.A. (Western Ontario), Ph.D. (Guelph)

Catherine Chiappetta-Swanson/B.A. (York), M.A., Ph.D. (McMaster)

Tina Fetner/B.A. (California, Santa Cruz), M.A., Ph.D. (New York)

James Gillett/(Health Studies) B.A. (Calgary), M.A., Ph.D. (McMaster)

Andrew Hathaway/B.A., M.A. (Calgary), Ph.D. (McMaster)

Jeremy Stoilow (Communication Studies and Multimedia) B.A. (Toronto), M.A., Ph.D. (York)

David Young/B.A., M.A. (Queen's), Ph.D. (McMaster)

**Associate Members**

Jane Aronson/(Social Work) B.Sc. (New University of Ulster), B.S.W., M.S.W. (McGill), Ph.D. (Toronto)

Roy Cain/(Social Work) B.S.W., M.S.W., Ph.D. (McGill)

**Department Notes:**

1. Prior to registration, students should consult the Department of Sociology's website or individual course outlines, for fuller course descriptions and any changes in the list of courses offered in 2006-2007. Students should check to find the term in which 'one term' courses are offered. Please note that some courses in Sociology may require familiarity with the computer, including the Internet.
2. SOCIOL 1A06 and several other courses are divided into independent sections. Prior to registration, students should consult the Department of Sociology's website or individual course outlines.
3. Prerequisite: Academically exceptional students wishing to take a course for which they do not have the prerequisite may seek permission of the instructor to register. However, priority is given in all Level III limited-enrolment courses to Sociology students, and in all Level IV courses to Honours Sociology students.

4. **Limited enrolment courses:** Enrolment in all Level IV courses is limited with the exception of SOCIOL 4M03, 4MM6 and 4N03. Admission to Level IV courses is by pre-registration ballot. All Level IV courses are normally only open to students registered in a Level IV Honours Sociology program.

All students requiring registration in Level IV courses for the 2006-2007 Fall/Winter Session including part-time degree students, must obtain a ballot sheet from the Departmental Office (Kenneth Taylor Hall, Room 627) no later than **April 28, 2006**. Students must return their ballot no later than **May 8, 2006**. Permission from the Department will be required to complete registration in Level IV limited enrolment courses.

**Courses** *If no prerequisite is listed, the course is open.***SOCIOL 1A06 AN INTRODUCTION TO SOCIOLOGY**

A survey of the areas of research which interest the sociologist. Interpretation of human action from the standpoint of the group.

Two lectures, one tutorial, two terms

**SOCIOL 2C06 DEVIANT BEHAVIOUR**

An analysis of deviant behaviour and conformity in relation to social structure and processes, and a discussion of problems of control within the social system.

Three hours (lectures and discussion); two terms

Prerequisite: SOCIOL 1A06

Enrolment is limited. Priority will be given to students registered in a Sociology program.

**SOCIOL 2D06 THE HUMAN GROUP**

An examination of the individual in social interaction, with emphasis upon the relationships among individuals, social interaction and social structure.

Three hours (lectures and discussion); two terms

Prerequisite: SOCIOL 1A06

Enrolment is limited.

**SOCIOL 2E06 RACIAL AND ETHNIC GROUP RELATIONS**

The course deals with the study of racial and ethnic group relations in Canada and the United States.

Three hours (lectures and discussion); two terms

Prerequisite: SOCIOL 1A06

**SOCIOL 2I03 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); two terms

Prerequisite: SOCIOL 1A06

Antirequisite: LABR ST 2I03, 2I06, 3I03, SOCIOL 2I06

**SOCIOL 2L03 MEDIA INSTITUTIONS**

An examination of the institutional structure and production processes of the press, television, and radio. Topics include news gathering, television and radio program production and the relationship between media production and management.

Three hours (lectures); one term

Prerequisite: CMST 1A03 and 1B03; or SOCIOL 1A06

Cross-list: CMST 2L03

Enrolment is limited.

**SOCIOL 2P06 SOCIOLOGY OF EDUCATION**

A comprehensive analysis of educational institutions in modern society.

Three hours (lectures and discussion); two terms

Prerequisite: SOCIOL 1A06

Enrolment is limited. Priority will be given to students registered in a Sociology program.

**SOCIOL 2Q06 SOCIOLOGY OF GENDER**

A theoretical and empirical examination of gender differences and gender inequalities with a focus on women's experiences.

Three hours (lectures and discussion); two terms

Prerequisite: SOCIOL 1A06

Enrolment is limited. Priority will be given to students registered in a Sociology program.

**SOCIOL 2R03 PERSPECTIVES ON SOCIAL INEQUALITY**

This course will introduce the student to major theories of social inequality, such as the Marxian, Weberian and structural-functionalist perspectives.

Three hours (lectures and discussion); one term

Prerequisite: SOCIOL 1A06

Antirequisite: SOCIOL 2O06

**SOCIOL 2RR3 CASE STUDIES OF SOCIAL INEQUALITY**

This course will introduce the student to the empirical literature on social inequality. Depending on the year, the focus will be on class, status, power and elites, income, education, region, age, gender and race/ethnicity. Three hours (lectures and discussion); one term  
Prerequisite: SOCIOL 1A06  
Antirequisite: SOCIOL 2O06

**SOCIOL 2S06 INTRODUCTION TO SOCIOLOGICAL THEORY**

An introduction to the foundations, rise and development of sociological theory. Three hours (lectures and discussion); two terms  
Prerequisite: SOCIOL 1A06 and registration in a Sociology program  
Antirequisite: SOCIOL 2S03, 3A06

**SOCIOL 2T03 SOCIOLOGY OF SPORT**

This course provides a detailed theoretical and empirical examination of how sport is culturally organized, experienced and mediated. Three hours (lectures and discussion); one term  
Prerequisite: SOCIOL 1A06  
Antirequisite: KINESIOL 1H03, 3P03

*Not open to students with credit or registration in SOCIOL 3J03 if the topic was Sociology of Sport.*  
*Enrolment is limited. Priority will be given to students registered in a Sociology program.*

**SOCIOL 2U06 SOCIOLOGY OF THE FAMILY**

An analysis of kinship and family units in comparative, historical, and contemporary perspective. Three hours (lectures and discussion); two terms  
Prerequisite: SOCIOL 1A06  
*Enrolment is limited. Priority will be given to students registered in a Sociology program.*

**SOCIOL 2V06 OCCUPATIONS AND PROFESSIONS**

An examination of the occupational structure of industrial society, the changing nature of work, and problems associated with such change. Three hours (lectures and discussion); two terms  
Prerequisite: SOCIOL 1A06

**SOCIOL 2Z03 INTRODUCTION TO SOCIOLOGICAL RESEARCH**

This course is designed to develop those skills necessary to pursue and understand research. Several general methods of sociological research will be examined. Three hours (lectures and discussion); one term  
Prerequisite: Registration in a Sociology or Social Work program  
Cross-list: ANTHROP 2Z03  
Antirequisite: CMST 2A03, GEO 2HR3, GERONTOL 2C03, HEALTHST 2B03

**SOCIOL 3A03 EUROPEAN SOCIOLOGICAL THEORY**

An advanced examination of classical and contemporary European sociological theory. Three hours (lectures and discussion); one term  
Prerequisite: SOCIOL 2S06 and registration in Level III or IV of an Honours Sociology program  
*Enrolment is limited. However, the Department of Sociology guarantees that all Level III and IV Honours Sociology students will have access to either this course, SOCIOL 3P03 or 3PP3.*

**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. SOCIOL 2P06 is strongly recommended.  
Prerequisite (Beginning 2007-2008): SOCIOL 2P06  
*Enrolment is limited.*  
*SOCIOL 3B03 may be repeated, if on a different topic, to a total of six units.*

**SOCIOL 3C03 MEDIA AND SOCIAL ISSUES**

An analysis of the relationships between mass media and modern society. Topics may include ideology and agenda-setting in the media, representations of social problems (e.g., homelessness, violence), moral panics, media scandals, or public ceremonies. Three hours (lectures); one term

Prerequisite: Registration in Level III or above of a Communication Studies program; or SOCIOL 2L03 and registration in a Sociology program  
Cross-list: CMST 3C03  
*Enrolment is limited.*

**SOCIOL 3CC3 SOCIOLOGY OF THE FAMILY AND THE LIFE CYCLE**

An advanced course allowing detailed study of the family and the life cycle. Special attention will be paid to the mid and later years. Three hours (lectures and discussion); one term  
Prerequisite: SOCIOL 2U06 or registration in a Combined Honours in Sociology and Gerontology program  
Antirequisite: GERONTOL 3M03  
*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

*SOCIOL 3D03 may be repeated, if on a different topic, to a total of six units.*  
*Enrolment is limited. Priority will be given to students registered in a Sociology program*

**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. Priority will be given to students registered in a Sociology program.*

**SOCIOL 3GG3 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  
*SOCIOL 3GG3 may be repeated, if on a different topic, to a total of six units.*  
*Enrolment is limited. Priority will be given to students registered in a Sociology program.*

**SOCIOL 3H06 RESEARCH TECHNIQUES AND DATA ANALYSIS**

A comprehensive introduction to statistical principles of research design and data analysis in the social sciences. Three hours (lectures and labs); two terms  
Prerequisite: Registration in any program in Sociology. Students in Honours Anthropology, Gerontology and Labour Studies will have second priority.  
*Not open to students with credit or registration in any six units of Research Methods as prescribed by all other Social Sciences programs; SOCIOL 2Y03; all Statistics courses except STATS 1A03, 1L03, 2D03, 3S03, 3U03, 4H03*  
*Enrolment is limited.*

**SOCIOL 3HH3 SOCIOLOGY OF HEALTH**

Sociological approaches to the study of health and illness. Three hours (lectures and discussion); one term  
Prerequisite: SOCIOL 1A06  
*Enrolment is limited. Priority will be given to students registered in a Sociology program.*

**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  
*SOCIOL 3J03 may be repeated, if on a different topic, to a total of six units.*  
*Enrolment is limited.*

**SOCIOL 3K03 SPECIAL TOPICS IN SOCIOLOGICAL ANALYSIS II**

Same as SOCIOL 3J03. Three hours (lectures and discussion); one term  
Prerequisite: SOCIOL 1A06  
*SOCIOL 3K03 may be repeated, if on a different topic, to a total of six units.*  
*Enrolment is limited.*

**SOCIOL 3KK3****GENOCIDE:  
SOCIOLOGICAL AND POLITICAL PERSPECTIVES**

An examination of genocide and other extreme crimes against humanity. Three hours (lectures and discussion); one term  
Cross-list: POL SCI 3KK3

Prerequisite: Registration in Level III or above.

Antirequisite: SOC SCI 2C03

*Enrolment is limited. Priority will be given to students registered in a Political Science or Sociology program.*

*This course is administered by the Department of Political Science*

**SOCIOL 3LL3****SOCIOLOGY OF WORK  
AND LABOUR MARKETS**

A consideration of the manner in which labour markets are structured and how they influence the access that people have to employment.

Three hours (lectures and discussion); one term

Prerequisite: SOCIOL 1A06

*Enrolment is limited.*

**SOCIOL 3O03****QUALITATIVE RESEARCH METHODS**

This course will provide a detailed study of selected qualitative methods in Sociology.

Three hours (lectures and discussion); one term

Prerequisite: Registration in Honours Sociology

Antirequisite: GERONTOL 3R03

*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, or 3W03.*

**SOCIOL 3P03****AMERICAN SOCIOLOGICAL THEORY**

An advanced examination of classical and contemporary American sociological theory.

Three hours (lectures and discussion); one term

Prerequisite: SOCIOL 2S06 and registration in Level III or IV of an Honours Sociology program

Antirequisite: SOCIOL 3A06

*Alternates with SOCIOL 3PP3.*

*Enrolment is limited. However, the Department of Sociology guarantees that all Level III and IV Honours Sociology students will have access to either this course, SOCIOL 3A03 or 3PP3.*

**SOCIOL 3PP3****CANADIAN SOCIOLOGICAL THEORY**

An examination of the more or less unique contributions of English Canadians to sociological theory. Emphasis is on the Toronto school, and its left-nationalist progeny and critics.

Three hours (lectures and discussion); one term

Prerequisite: SOCIOL 2S06 and registration in Level III or IV of an Honours Sociology program

*Alternates with SOCIOL 3P03.*

*Enrolment is limited. However, the Department of Sociology guarantees that all Level III and IV Honours Sociology students will have access to either this course, SOCIOL 3A03 or 3P03.*

**SOCIOL 3U03****SOCIAL ASPECTS OF SEXUALITY**

An exploration of the social aspects of sexuality and consideration of how sexual experiences are shaped by, and interpreted through, historically specific social contexts.

Three hours (lectures and discussion); one term

Prerequisite: SOCIOL 1A06. SOCIOL 2Q06 is strongly recommended.

*Enrolment is limited. Priority will be given to students registered in a Sociology program.*

**SOCIOL 3W03****HISTORICAL METHODS IN SOCIOLOGY**

An examination of methods for incorporating historical data and archival sources into sociological argument.

Three hours (seminar and discussions); one term

Prerequisite: Registration in Honours Sociology

*Enrolment is limited. However, the Department of Sociology guarantees that all Level III and IV Honours Sociology students will have access to either this course, or 3O03.*

**SOCIOL 3X03****SOCIOLOGY OF AGING**

This course deals with changing population structure, economic support of the aged, family of later life, the sociology of retirement, widowhood, death, bereavement, and institutionalization.

Three hours (lectures and discussion); one term.

Prerequisite: SOCIOL 1A06

*Not open to students registered in a Gerontology program as of September 1998.*

*Enrolment is limited. Priority will be given to students registered in a Sociology program.*

**SOCIOL 3Z03****ETHNIC RELATIONS**

An analysis of political, social and economic change in selected locales. Three hours (lectures and discussion); one term

Prerequisite: SOCIOL 1A06

*Enrolment is limited. Priority will be given to students registered in a Sociology program.*

**SOCIOL 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.*

**SOCIOL 4AA3****SELECTED TOPICS IN THE  
SOCIOLOGY OF THE FAMILY**

An intensive examination of selected problems in the sociology of the family. Three hours (seminar); one term

Prerequisite: Registration in Level IV Honours Sociology. Students wishing to register in this course must seek the permission of the Department.

*Not open to students with credit in SOCIOL 4GG3 if on a similar topic. SOCIOL 4AA3 may be repeated, on a different topic, to a total of six units.*

*Enrolment is limited.*

**SOCIOL 4BB3****SELECTED TOPICS IN THE  
SOCIOLOGY OF EDUCATION**

This advanced course offers an intensive examination of selected problems involving the relationship between schooling and society.

Three hours (seminar); one term

Prerequisite: Registration in Level IV Honours Sociology. Students wishing to register in this course must seek the permission of the Department.

*Not open to students with credit in SOCIOL 4J03 or 4K03 if on a similar topic. Enrolment is limited.*

**SOCIOL 4D03****PERSPECTIVES ON SOCIOLOGICAL THEORY**

A discussion of various sociological and non-sociological critiques of sociological theory.

Three hours (seminar); one term

Prerequisite: SOCIOL 2S06 and registration in Level IV Honours Sociology. Students wishing to register in this course must seek the permission of the Department.

*Enrolment is limited.*

**SOCIOL 4EE3****SELECTED TOPICS IN THE  
SOCIOLOGY OF CULTURE**

A sociological examination of topics related to the production, dissemination, consumption and/or interpretation of culture. Community service learning may be a component of this course.

Three hours (seminar); one term

Prerequisite: Registration in Level IV Honours Sociology program. Students wishing to register in this course must seek the permission of the Department.

*SOCIOL 4EE3 may be repeated, if on a different topic, to a total of six units. Enrolment is limited.*

**SOCIOL 4G03****ADVANCED TOPICS IN THE  
SOCIOLOGY OF HEALTH AND ILLNESS**

An examination of the social bases of illness. In different years consideration may be given to topics such as gender, social class and occupational and environmental health issues.

Three hours (seminar); one term

Prerequisite: Registration in Level IV Honours Sociology. Students wishing to register in this course must seek the permission of the Department.

*SOCIOL 4G03 may be repeated, if on a different topic, to a total of six units. Enrolment is limited.*

**SOCIOL 4GG3****SPECIAL TOPICS IN THE  
SOCIOLOGY OF DEVIANCE**

An advanced course allowing detailed study of selected topics in the Sociology of Deviance. Topics will vary from year to year.

Three hours (seminar); one term

Prerequisite: SOCIOL 2C06 and registration in Level IV Honours Sociology. Students wishing to register in this course must seek the permission of the Department.

*SOCIOL 4GG3 may be repeated, if on a different topic, to a total of six units. Enrolment is limited.*



**SOCIOLOGY 4J03 SELECTED TOPICS IN SOCIOLOGY I**

Topics of contemporary interest to sociologists, with emphasis upon current theory and research. Students should consult the Department concerning the topics to be examined.

Three hours (seminar); one term

Prerequisite: Registration in Level IV Honours Sociology. Students wishing to register in this course must seek the permission of the Department.

*SOCIOLOGY 4J03 may be repeated, if on a different topic.*

*Enrolment is limited.*

**SOCIOLOGY 4JJ3 SOCIOLOGY OF CYBERSPACE/INTERNET**

The purpose of this course is to examine the economic, political, and social organization of the Internet, and its social effects, in such areas as education, work, and leisure.

Three hours (seminar); one term

Prerequisite: Registration in Level IV Honours Sociology. Students wishing to register in this course must seek the permission of the Department.

**Note:** Students entering this course should be well-versed in basic Internet navigation skills, such as the use of email, usenet, listservs, and the World Wide Web. Such skills are required to complete the research paper using internet electronic sources of information.

*Enrolment is limited.*

**SOCIOLOGY 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.

*SOCIOLOGY 4K03 may be repeated, if on a different topic.*

*Enrolment is limited.*

**SOCIOLOGY 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.

**SOCIOLOGY 4MM6 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.

**SOCIOLOGY 4N03 DIRECTED RESEARCH II FOR HONOURS STUDENTS**

Same as SOCIOLOGY 4M03.

One term

Prerequisite: Registration in Level IV Honours Sociology. Students wishing to register in this course must seek the permission of the Department.

**SOCIOLOGY 4PP3 ISSUES IN THE SOCIOLOGY OF AGING**

A study of selected issues in the sociology of aging such as sociodemographic changes, changes in the family, social and health services, retirement, political economy, and theoretical approaches in aging.

Three hours (seminar); one term

Prerequisite: GERONTOLOGY 1A03 or SOCIOLOGY 3X03; and registration in Level IV Honours Sociology. Students wishing to register in this course must seek the permission of the Department.

Antirequisite: GERONTOLOGY 4K03, SOCIOLOGY 4P03

*Enrolment is limited.*

**SOCIOLOGY 4R03 INDIVIDUAL AND SOCIETY**

An intensive examination of selected problems involving the relationship of individuals to social structures.

Three hours (seminar); one term

Prerequisite: Registration in Level IV Honours Sociology. Students wishing to register in this course must seek the permission of the Department.

*Enrolment is limited.*

**SOCIOLOGY 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.

*SOCIOLOGY 4U03 may be repeated, if on a different topic, to a total of six units.*

*Enrolment is limited.*

**SOCIOLOGY 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.*

**SOCIOLOGY 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.*

**SOFTWARE ENGINEERING**

(SEE COMPUTING AND SOFTWARE)

**SPANISH**

(SEE LINGUISTICS AND LANGUAGES, HISPANIC STUDIES)

**STATISTICS**

(SEE MATHEMATICS AND STATISTICS)

**TECHNOLOGY**

(SEE MANUFACTURING TECHNOLOGY AND ENGINEERING TECHNOLOGY)

**THEATRE & FILM**

WEB ADDRESS: <http://www.humanities.mcmaster.ca/~sota/index.html>

Togo Salmon Hall, Room 414

Ext. 27671

Courses and programs in Theatre & Film are administered within the School of the Arts of the Faculty of Humanities.

**Note:**

Students are advised to note carefully the prerequisites for all courses, and take note which courses are offered in alternate years.

**Courses** *If no prerequisite is listed, the course is open.***THTR&FLM 1A03 INTRODUCTION TO PERFORMANCE ANALYSIS**

An exploration of the ways theatre artists bring different production elements and performance techniques together to get audiences thinking about important social issues.

Two lectures, one tutorial; one term

Antirequisite: DRAMA 1A03, 1AA3

**THTR&FLM 1B03 INTRODUCTION TO FILM ANALYSIS**

An introduction to an interrelated set of approaches to film study, all of which are defined by their attention to the filmic text and which provide students with a grasp of the fundamentals of film analysis.

Two lectures, one tutorial, plus one weekly film screening; one term

Antirequisite: DRAMA 2X06

**THTR&FLM 2AA3 THE ACTOR AS CREATOR**

Students learn basic techniques for creating short dramatic performances that reveal and question the social and political norms that structure contemporary social relationships.

Two studios; one term

Prerequisite: Registration in a program in Theatre and Film Studies or Communication Studies (Performance Studies Stream). Students wishing to register in this course must submit an application form to the School of the Arts by the end of April to guarantee consideration for the following year.

Antirequisite: DRAMA 2A06, THTR & FLM 2A06

*Enrolment is limited to 24 students. Priority will be given first to students registered in the Theatre and Film studies program, and then to students registered in the Performance Studies Stream of the Communication Studies program. Departmental permission required.*

**THTR&FLM 2BB3 CREATING PERFORMANCE ENVIRONMENTS**

An introduction to different techniques used to create an environment in which a specific performance can become meaningful for a particular audience. Students will participate in directed work with theatre artists, who may include designers, technicians and public relations specialists, on program productions.

One studio; one term. (60 practicum hours including evenings and weekends.)

Prerequisite: Registration in a program in Theatre & Film Studies, Multimedia, Art or Communication Studies (Performance Studies Stream). Students wishing to register in this course must submit an application form to the School of the Arts by the end of April to guarantee consideration for the following year.

Antirequisite: DRAMA 3D03, THTR & FLM 2B03

*Enrolment is limited to 30 students. Priority will be given first to students registered in the Theatre & Film Studies program, and then to students registered in the Multimedia, Art, and Communication Studies (Performance Studies Stream) programs. Departmental permission required.*

**THTR&FLM 2C03 DRAMATIC FORMS**

Different performance techniques and conventions demand particular forms of dramatic narrative. By comparing the way similar stories are told in different media and genres, students identify the structuring elements of dramatic texts written for live performance, film television and music theatre.

Three hours (lectures and group presentations); one term

Prerequisite: DRAMA 1A03, 1AA3 (or 1A06); or THTR&FLM 1A03, 1B03

Cross-list: CMST 2P03, COMP LIT 2D03

Antirequisite: DRAMA 2D03

**THTR&FLM 2D03 HISTORY OF WESTERN THEATRE PERFORMANCE TO THE EIGHTEENTH CENTURY**

A survey of the traditions of Western theatre production from Classical Greece to the Eighteenth Century including architecture, design, stage machinery, the organization of production, the training and preparation of the actor, and audience reception.

Three lectures; one term

Prerequisite: Registration in a program in Theatre & Film Studies

Antirequisite: DRAMA 2L03

**THTR&FLM 2E03 NEW MEDIA AND PERFORMANCE**

This course will explore critical issues in new media and examine the ways in which new media shape the creation, reception and interpretation of forms of performance.

Three hours (lectures and discussion); one term

Prerequisite: Registration in Level II or above of a program in Theatre and Film Studies or Communication Studies (Cultural Studies or Performance Studies Streams)

Antirequisite: DRAMA 2B03

Cross-list: CMST 2S03

*Enrolment is limited to 50 students.*

**THTR&FLM 2F03 FILM HISTORY TO THE SECOND WORLD WAR**

An introduction to the history of narrative film from its beginnings to the Second World War. It focuses on narrative cinema's development from aesthetic, social, technological and economic perspectives while also touching on a selected number of issues in film theory.

Two lectures, plus one weekly film screening; one term

Prerequisite: Registration in Level II or above

Cross-list: ART HIST 2G03, CMST 2X03 (formerly CMST 2X06)

Antirequisite: DRAMA 2X06

*Enrolment is limited to 150 students.*

**THTR&FLM 2G03 THE ANCIENT WORLD IN FILM**

The emphasis is on myth (Amazons, Hercules) and history (slave revolts, banquets, decadent emperors), studied via Greek and Latin accounts (in translation) and cinematic versions (e.g., Electra, Medea, Mighty Aphrodite, Apocalypse Now, Spartacus, I Claudius)

Three lectures; one term

Prerequisite: Registration in Level II or above

Cross-list: CLASSICS 2E03, CMST 2Y03

*This course is administered by the Department of Classics.*

**THTR&FLM 2H03 THE CONTEMPORARY JAPANESE FILM**

This course examines the development of Japanese films since the Second World War, including contemporary feature films and animations, exploring the rich legacy of directors such as Akira Kurosawa, Kon Ichikawa, Juzo Itami and Masayuki Suo, and animation directors such as Hayao Miyazaki and Isao Takahata.

Two lectures, plus one weekly film screening; one term

Prerequisite: Registration in Level II or above

Cross-list: JAPAN ST 2F03

*Offered in alternate years.*

*This course is administered by the Department of Linguistics and Languages.*

**THTR&FLM 2I03 ITALY THROUGH THE CAMERA LENS**

This course takes the student on a journey through fifty years of Italian cinematic history using nine movies (in Italian, with subtitles) that represent some of the most critical moments related to Italian culture in post WWII period. Taught in English.

Three hours; one term

Prerequisite: Registration in Level II or above

Cross-list: ITALIAN 2B03

*This course is administered by the Department of Linguistics and Languages.*

**THTR&FLM 2T03 MUSIC FOR FILM AND TELEVISION**

An examination of how music functions to help create meanings in film and television programs. Examples will be drawn from throughout the history of film and television.

Three lectures; one term

Prerequisite: Registration in Level II or above

Cross-list: CMST 2T03; MUSIC 2F03

*This course is administered by Music.*

**THTR&FLM 3CC3 MANAGING PERFORMANCE ENVIRONMENTS**

A survey of the skills and practices involved in managing performance environments with special attention to issues in production management and stage/studio management. Students will undertake management of different aspects of Theatre & Film Studies productions as part of their course of study.

Term one: two hours; Term two: one hour (Workshop and practical exercises). 60 practicum hours including evenings and weekends)

Prerequisite: Registration in a program in Theatre & Film Studies and a grade of at least B- in DRAMA 3D03, THTR & FLM 2B03 or 2BB3. Students wishing to register in this course must submit an application form to the School of the Arts by the end of April to guarantee consideration for the following year.

Antirequisite: THTR & FLM 3C03

*Enrolment is limited to 18 students. Departmental permission required.*

**THTR&FLM 3D03 WESTERN THEATRE HISTORY: 1700-1885**

A study of the major movements shaping Western theatre from the Restoration to the rise of Naturalism.

Two hours, plus play readings; one term

Prerequisite: Six units of Level II Theatre & Film

*Offered in alternate years.*

**THTR&FLM 3E03 TWENTIETH-CENTURY THEATRE**

An exploration of important formal and social experiments that marked twentieth-century theatre and paved the way for contemporary theatre forms.

Three hour lecture and discussion; one term

Prerequisite: Six units of Level II Theatre & Film; or registration in Level III or IV of a Comparative Literature program and three units of Theatre & Film

Cross-list: COMP LIT 3C03

*Offered in alternate years.*

**THTR&FLM 3F03 DEVELOPMENT OF CANADIAN THEATRE**

A study of the development of theatrical performance in English Canadian, Québécois, First Nations and culturally diverse communities, with an emphasis on the period since 1967.

Three hours (lecture and discussion); one term

Prerequisite: Six units of Level II Theatre & Film

Antirequisite: DRAMA 3E03

*Offered in alternate years.*

**THTR&FLM 3G03 THEATRE AND COMMUNITY DEVELOPMENT**

Students will explore the different approaches to community-based theatre generated in a range of social and cultural milieus and will analyze the sense of community implicit in a variety of popular and community-based theatre projects.

Three hours (lectures and discussion); one term

Prerequisite: Registration in Level II or above

Cross-list: CMST 3M03

Offered in alternate years.

**THTR&FLM 3H03 COMPARATIVE THEATRE**

A comparison of two or more theatrical traditions.

Three lectures; one term

Prerequisite: Six units of Level II Theatre & Film; or registration in Level III or IV of a Comparative Literature program and three units of Theatre & Film

Cross-list: COMP LIT 3GG3

Antirequisite: DRAMA 3GG3

Offered in alternate years.

**THTR&FLM 3I03 THEORIZING CULTURE THROUGH PERFORMANCE**

Students will explore artists' practises in making performances and will analyse how artists work with theories, texts, spaces, bodies, audiences and produce challenges to artistic, social and political norms.

Three hours; one term

Prerequisite: One of ART HIST 2D03, 3AA3, CMST 2G03, 2P03, 2S03, THTR&FLM 2C03, 2D03, 2E03

Cross-list: ART HIST 3L03, CMST 3L03

Not open to students with credit in DRAMA 2B03, NEW MEDIA AND PERFORMANCE, if taken in 2001-2002, or credit in THTR&FLM 2E03 if taken in 2002-2003.

Offered in alternate years.

**THTR&FLM 3J03 CRITICAL STUDY OF PLAYS IN PERFORMANCE**

An exploration of the critical study of live theatre performances. Students will be required to attend evening performances of professional theatre companies (i.e., Stratford Festival, Shaw Festival, Hamilton or Toronto theatres).

Two hours, plus weekly play attendance; one term

Prerequisite: Registration in Level II or above

THTR&FLM 3J03 may be repeated, if on a different topic, to a total of six units.

Offered in alternate years.

Enrolment is limited to 45 students.

**THTR&FLM 3K03 TOPICS IN DRAMATIC PERFORMANCE I**

An exploration of contemporary dramatic performance trends since 1960. Topics will cover dramatic performance in theatre and film.

Three hours lecture and discussion; one term

Prerequisite: One of THTR&FLM 2C03, 2D03, 2E03 or 2F03

Offered on an irregular rotation basis.

**THTR&FLM 3KK3 TOPICS IN DRAMATIC PERFORMANCE II**

An exploration of contemporary dramatic performance trends since 1960. Topics will cover dramatic performance in television and other media.

Three hours lecture and discussion; one term

Prerequisite: THTR&FLM 2C03 or 2D03

Offered on an irregular rotation basis.

**THTR&FLM 3L03 FILM HISTORY: 1941 TO THE PRESENT**

An exploration of narrative film from 1941 to the present day, incorporating a study of a variety of narrative cinema styles. Theoretical issues will include questions of cinema's relationship to other art forms, narrative, genre and authorship.

Two lectures, plus one weekly film screening; one term

Prerequisite: THTR&FLM 2F03

Cross-list: ART HIST 3XX3, CMST 3XX3

Antirequisite: DRAMA 2X06

Offered in alternate years.

**THTR&FLM 3M03 FILM, VIDEO AND ENTERTAINMENT CULTURE**

Critical approaches to forms of entertainment culture which permeate our everyday lives (e.g., popular films, video culture, television). Topics may include the cultural meanings of popular imagery, star-gazing, and commercialization.

Two hour lecture and discussion, plus one weekly film screening; one term

Prerequisite: THTR&FLM 2F03

Cross-list: CMST 3SS3

Offered in alternate years.

**THTR&FLM 3N03 INDEPENDENT FILM AND VIDEO**

An exploration of artists' film and video produced outside of dominant institutions; including such practices as documentary, autobiography, community projects, experimental film, short film, and video art.

Two hour lecture and discussion, plus one weekly film screening; one term

Prerequisite: THTR&FLM 2E03 or 2F03

Cross-list: CMST 3UU3

Not open to students with credit in DRAMA 3TT3, Topics in National Cinemas, II, if taken in 2001-02.

Offered in alternate years.

**THTR&FLM 3P03 WOMEN AND VISUAL CULTURE**

Students will explore ideas about representation, spectatorship and production in relation to issues of social difference, such as gender, race and class. Emphasis is on visual modalities such as film, video, television, advertising, et cetera.

Two hour lecture and discussion, plus one weekly film screening; one term

Prerequisite: Registration in Level III or above and one of ART HIST 2A03, CMST 2F03, 2I03, DRAMA 2X06, THTR&FLM 1B03 or WOMEN ST 1A06 (or 1A03 and 1AA3)

Cross-list: CMST 3BB3, WOMEN ST 3BB3

Not open to students with credit or registration in WOMEN ST 3B03 if taken in 2001-2002.

This course is administered by Women's Studies.

**THTR&FLM 3Q03 TOPICS IN NATIONAL CINEMAS I**

This course examines film in relation to nations and national contexts. Areas of investigation may include filmic production of a particular country, national belonging and transnational identities.

Two hour lecture and discussion, plus one weekly film screening; one term

Prerequisite: One of THTR&FLM 1B03, 2E03, 2F03

Cross-list: CMST 3T03, COMP LIT 3V03

Antirequisite: DRAMA 3T03

Offered on an irregular rotation basis.

**THTR&FLM 3QQ3 TOPICS IN NATIONAL CINEMAS II**

This course examines film in relation to nations and national contexts. Areas of investigation include filmic production of global/local characteristics.

Two hour lecture and discussion, plus one weekly film screening; one term

Prerequisite: One of THTR&FLM 1B03, 2E03, 2F03

Cross-list: CMST 3TT3, COMP LIT 3VV3

Offered on an irregular rotation basis.

**THTR&FLM 3R03 READING FILM**

A critical examination of selected films and film genres as cultural texts, using methods drawn from film theory and cultural studies.

Three lectures, plus one weekly film screening; one term

Prerequisite: Registration in Level II or above of a program in Art History, Communication Studies, Comparative Literature, Cultural Studies and Critical Theory, English or Theatre & Film Studies. It is recommended that students should already have taken THTR&FLM 2F03.

Cross-list: CMST 3CC3, COMP LIT 3L03, CSCT 3CC3, ENGLISH 3CC3

Antirequisite: DRAMA 3H03

Offered in alternate years.

This course is administered by the Department of English and Cultural Studies.

**THTR&FLM 3S03 INDEPENDENT STUDY IN PRACTICAL THEATRE**

This course is reserved for students with a strong academic record and the demonstrated ability to work independently. Students must submit a written proposal to the Academic Counsellor for Theatre & Film Studies no later than the first day of classes.

Prerequisite: Registration in an Honours program in Theatre & Film Studies with a Cumulative Average of at least 8.0 and permission of the School of the Arts

Antirequisite: DRAMA 3Z03

**THTR&FLM 3T03 INDEPENDENT STUDY IN THEATRE & FILM I**

This course is reserved for students with a strong academic record and the demonstrated ability to work independently. Students must submit a written proposal to the Academic Counsellor for Theatre & Film Studies no later than the first day of classes.

Prerequisite: Registration in an Honours program in Theatre & Film Studies with a Cumulative Average of at least 9.0 and permission of the School of the Arts

Antirequisite: DRAMA 3B03

**THTR&FLM 3X03 MODERN PERFORMANCE IN ACTION**

An exploration in action of modern practices of dramatic representation and the forms of knowledge-building they promote.

Two studios; one term

Prerequisite: Registration in a program in Theatre and Film Studies; and a grade of at least B- in THTR & FLM 2A06 or 2AA3. Students wishing to register in this course must submit an application form to the School of the Arts by the end of April to guarantee consideration for the following year.

Antirequisite: DRAMA 3A03, THTR & FLM 3B03

*Enrolment is limited to 18 students. Departmental permission is required. Offered on an irregular rotation basis with THTR&FLM 3XX3.*

**THTR&FLM 3XX3 POST-MODERN PERFORMANCE IN ACTION**

An exploration in action of post-modern practices of dramatic representation and the forms of knowledge-building they promote.

Two studios; one term

Prerequisite: Registration in a program in Theatre & Film Studies; and a grade of at least B- in THTR & FLM 2A06 or 2AA3. Students wishing to register in this course must submit an application form to the School of the Arts by the end of April to guarantee consideration for the following year.

Antirequisite: THTR & FLM 3BB3

*Enrolment is limited to 18 students. Departmental permission required. Offered on an irregular rotation basis with THTR&FLM 3X03.*

**THTR&FLM 3YY3 NON-WESTERN PERFORMANCE IN ACTION**

An exploration in action of non-western practices of dramatic representation and the forms of knowledge-building they promote.

Two studios; one-term

Prerequisite: Registration in a program in Theatre and Film Studies; and a grade of at least B- in THTR & FLM 2A06 or 2AA3. Students wishing to register in this course must submit an application form to the School of the Arts by the end of April to guarantee consideration for the following year.

*Enrolment is limited to 18 students. Department permission required. Offered on an irregular rotation basis with THTR&FLM 3ZZ3.*

**THTR&FLM 3ZZ3 WESTERN CLASSICAL PERFORMANCE IN ACTION**

An exploration in action of classical practices of dramatic representation and the forms of knowledge building they promote.

Two studio; one term

Prerequisite: Registration in a program in Theatre and Film Studies; and a grade of at least B- in THTR & FLM 2A06 or 2AA3. Students wishing to register in this course must submit an application form to the School of the Arts by the end of April to guarantee consideration for the following year.

Antirequisite: DRAMA 3AA3, THTR & FLM 3A03

*Enrolment is limited to 18 students. Departmental permission required. Offered on an irregular rotation basis with THTR&FLM 3YY3.*

**THTR&FLM 4A06 HONOURS PERFORMANCE PROJECT**

Students will work in small groups to create and critique dramatic performances.

Two lectures and practical exercises, plus rehearsals; two terms

Prerequisite: Registration in Level IV of an Honours program in Theatre & Film Studies; and one of DRAMA 2L03, THTR & FLM 2A06, 2AA3, 2C03 or 2D03; and one of THTR & FLM 2B03, 2BB3, 3A03 or 3B03, 3CC3, 3YY3, 3X03, 3XX3, 3ZZ3; and permission of the School of the Arts

Antirequisite: DRAMA 4A06

*Enrolment is limited. Admission to THTR&FLM 4A06 will be based primarily on academic standing. In addition, students must complete a written application on a form provided by the School of the Arts, which must be submitted in March of the academic year prior to registration. Final selection will be made by Theatre and Film Studies faculty.*

**THTR&FLM 4B03 STUDIES IN THE THEORY AND PRACTICE OF DRAMA**

Students will explore the relationship between theory and practice in creating dramatic works by using a combination of practical exercises and theoretical reflections to create short performance pieces.

Seminar (two hours), one hour lab; one term

Prerequisite: THTR&FLM 2C03 or 2E03; and registration in Level III or IV of an Honours program in Theatre & Film Studies

*Offered in alternate years.*

*Enrolment is limited. Priority will be given to students registered in Level IV of any Theatre & Film Studies program.*

**THTR&FLM 4C03 STUDIES IN THE THEORY OF DRAMATIC PERFORMANCE**

An examination of theoretical documents, with an emphasis on contemporary theories of the nature of dramatic performance.

Seminar (two hours); one term

Prerequisite: THTR&FLM 2C03 or 2E03; and registration in Level III or IV of an Honours program in Theatre & Film Studies

Antirequisite: DRAMA 4E03

*Offered in alternate years.*

*Enrolment is limited. Priority will be given to students registered in Level IV of any Theatre & Film Studies program.*

**THTR&FLM 4D03 STUDIES IN THEATRE AND FILM**

This senior seminar introduces students to the study of the relationship between theatre and film. It is organized by topics that have been the focus of recent scholarship.

Seminar (two hours), plus weekly film screening; one term

Prerequisite: THTR&FLM 2F03 and registration in Level III or IV of an Honours program in Theatre & Film Studies

Antirequisite: DRAMA 4C03

*Enrolment is limited. Priority will be given to students registered in Level IV of any Theatre & Film Studies program.*

**THTR&FLM 4E03 STUDIES IN FILM**

Senior seminar: An examination of selected films.

Seminar (two hours); one term

Prerequisite: THTR&FLM 2E03, and registration in Level III or IV of an Honours program in Theatre & Film Studies; or registration in Level IV of an Honours program in Communication Studies. THTR&FLM 2F03 is recommended.

Cross-list: CMST 4FF3

Antirequisite: DRAMA 4FF3

*Enrolment is limited. Priority will be given first to students registered in Level IV of any Theatre & Film Studies program, and then to students registered in Level IV of the Communication Studies program.*

**THTR&FLM 4F03 INDEPENDENT STUDY IN THEATRE & FILM STUDIES II**

This course is reserved for Honours Theatre & Film Studies students with the demonstrated ability to work independently. Students must submit a written proposal to the Academic Counsellor for Theatre & Film Studies no later than the first day of classes.

Prerequisite: Registration in an Honours program in Theatre & Film Studies with a Cumulative Average of at least 9.0 and permission of the School of the Arts

Antirequisite: DRAMA 4B03

**THTR&FLM 4J03 THE SPLIT SCREEN - RECONSTRUCTING NATIONAL IDENTITIES IN WEST AND EAST GERMAN CINEMA**

This course examines German film texts of the post-war period and their representation of West and East German identities. Films will be discussed within the context of important political, social and cultural developments at the time of the films' production.

Two hours plus one film screening per week; one term

Prerequisite: Registration in Level III or IV

Cross-list: COMP LIT 4J03, GERMAN 4J03

*Offered on an irregular rotation basis.*

*This course is administered by the Department of Linguistics and Languages.*

**Note:**

The following courses, offered by other departments, directly pertain to Theatre & Film Studies. These are recommended as electives. Up to nine units of courses from this list may be available as substitutes for Theatre & Film courses, and counted toward the fulfillment of a program in Theatre & Film Studies. Students are advised that there may be restrictions on enrolment in these courses.

CLASSICS 2H03

Greek and Roman Drama

CLASSICS 3T03

Ancient Theatre in Context

COMP LIT 3G03

European Drama

ENGLISH 2B06

The Development of English Drama

ENGLISH 2L03

Shakespeare: Selected Plays

ENGLISH 3DD3

Contemporary Canadian Drama

ENGLISH 3K06

Shakespeare

FRENCH 3BB3

Contemporary Quebec Theatre

FRENCH 3Q03

17th-Century French Literature I

GERMAN 4H03

The Holocaust in German Film and Fiction

HISPANIC 4Q03

Spanish and Latin American Culture Through Cinema

HISPANIC 4V03	Representative Dramatists of 20th-Century Spain
KINESIOL 3JJ3	History of Modern Dance
KINESIOL 3T03	Dance Performance
MUSIC 2F03	Music for Film and Television
RELIG ST 2YY3	The Bible and Film
WOMEN ST 3B03	Topics on Women and the Arts

## WOMEN'S STUDIES

WEB ADDRESS: <http://www.humanities.mcmaster.ca/~womensst>

Office of Interdisciplinary Studies

Togo Salmon Hall, Room 726

Ext. 23112

The Honours B.A. Women's Studies and Another Subject Program is taught by an interdisciplinary Committee of Instruction.

### Director

Vera Chouinard

### Assistant Professors

Diane Enns (*Philosophy and Women's Studies*) B.A. (Ottawa), M.A. (Carleton), Ph.D. (SUNY-Binghamton)

Melinda Gough (*English and Cultural Studies and Women's Studies*) B.A. (McGill), M.A., Ph.D. (Yale)

Committee of Instruction as of January 15, 2006

### Chair

Vera Chouinard (*Geography and Earth Sciences*)

Maroussia Ahmed (*French*)

Karen Balcom (*History*)

Diane Enns (*Philosophy and Women's Studies*)

Ruth Frager (*History*)

Catherine Graham (*School of the Arts*)

Catherine Gris e (*English and Cultural Studies*)

Janice Hladki (*School of the Arts*)

Susan Searls Giroux (*English and Cultural Studies*)

Charlotte Yates (*Labour Studies*)

**Courses** If no prerequisite is listed, the course is open.

### WOMEN ST 1A03 WOMEN, CULTURE, POWER

An interdisciplinary introduction to Women's Studies focusing on how women and men shape and are shaped by culture (including popular culture), systems of power and institutional ideologies.

Three hours (two lectures, one tutorial); one term

Antirequisite: WOMEN ST 1A06

### WOMEN ST 1AA3 WOMEN TRANSFORMING THE WORLD

An interdisciplinary introduction to Women's Studies that explores women's historic and current collective efforts to transform social, economic and political conditions both nationally and globally.

Three hours (two lectures, one tutorial); one term

Antirequisite: WOMEN ST 1A06

### WOMEN ST 2A03 HUMAN RIGHTS AND SOCIAL JUSTICE

An introduction to the growing national and international discussion of human rights, exploring the value and limitations of universal rights, equality under the law and social justice.

Three hours; one term

Prerequisite: WOMEN ST 1A06 (or 1A03 and 1AA3) or permission of the Director of Women's Studies

### WOMEN ST 2AA3 INTRODUCTION TO FEMINIST THEORY

An introduction to various schools of feminist thought, including global feminism, poststructural feminism, radical feminism, cultural feminism, socialist feminism and the "third wave".

Three hours; one term

Prerequisite: WOMEN ST 1A06 (or 1A03 and 1AA3) or permission of the Director of Women's Studies

### WOMEN ST 2F03 HISTORY OF WOMEN IN EUROPE TO 1650

An exploration of the history of European women and gender during the medieval and early modern periods, focusing on the political, social, spiritual, intellectual and economic realms.

Three hours, one term

Prerequisite: Registration in Level II or above

Cross-list: HISTORY 2F03

Antirequisite: HISTORY 2BB6, WOMEN ST 2B06

*This course is administered by the Department of History.*

### WOMEN ST 2FF3 HISTORY OF WOMEN IN EUROPE FROM 1650

An exploration of the history of European women and gender in the modern era, focusing on women's changing roles in the economic and political spheres and the development of new visions of the family and sexuality.

Three hours, one term

Prerequisite: Registration in Level II or above

Cross-list: HISTORY 2FF3

Antirequisite: HISTORY 2BB6, WOMEN ST 2B06

*This course is administered by the Department of History.*

### WOMEN ST 2H03 SOCIAL ASPECTS OF REPRODUCTION

An interdisciplinary course exploring birth and reproduction. Topics may include: social determinants of reproductive health, fertility and birthing rituals, reproductive ethics, policy and technologies.

Two lectures, one tutorial; one term

Prerequisite: Registration in Level II or above

Cross-list: HEALTHST 2H03, HTH SCI 2I03

### WOMEN ST 2HH3 WOMEN'S HEALTH: A SOCIO-CULTURAL PERSPECTIVE

Topics may include biomedicine and social construction of gender, women as paid and unpaid health workers, consequences of discrimination for women's health and historical analysis of female healers.

Three hours; one term

Prerequisite: Registration in Level II or above. WOMEN ST 1A06 (or 1A03 and 1AA3) is recommended.

Antirequisite: SOCIOL 4U03

### WOMEN ST 2J03 GENDER AND PERFORMANCE

An examination of gender as identities performed or constructed in complex social, historical and cultural processes and conditions, including how gender gives meaning to different performance texts, as well as to a range of performance practices in daily life.

Three hours (lectures and discussion); one term

Prerequisite: Registration in Level II or above of a program in Communication Studies or Women's Studies

Cross-list: CMST 2H03

*This course is administered by Communication Studies.*

### WOMEN ST 2K06 STUDIES IN WOMEN WRITERS

A closely focused course on women's writing in English. The topic for the course varies, sometimes concentrating on specific issues, sometimes on an historical period or national literature. Relevant feminist theory is a component of the course.

Three hours; two terms

Prerequisite: WOMEN ST 1A06 (or 1A03 and 1AA3) or permission of the Director of Women's Studies

Cross-list: CSCT 2K06, ENGLISH 2K06

*This course is administered by the Department of English and Cultural Studies.*

### WOMEN ST 2L03 FEMINIST UTOPIAS

An examination of literary texts offering women's visions of social change.

Three hours (seminar and discussion); one term

Prerequisite: Registration in Level II or above. WOMEN ST 1A06 (or 1A03 and 1AA3) is recommended.

Cross-list: ENGLISH 2N03

### WOMEN ST 3A03 DOING FEMINIST RESEARCH

An exploration of feminist research methods, focusing on experience, power and knowledge and on learning methods such as how to do oral history, interviews and participatory action research.

Three hours; one term

Prerequisite: WOMEN ST 2AA3 or permission of the Director of Women's Studies

### WOMEN ST 3AA3 ADVANCED FEMINIST THEORY

An advanced course in feminist theory that explores the critical impact of recent work on identity and difference, nationalism, race, queer theory, poststructuralism and postcolonialism.

Three hours; one term

Prerequisite: WOMEN ST 2AA3 or permission of the Director of Women's Studies

**WOMEN ST 3B03 TOPICS ON WOMEN AND THE ARTS**

This course explores the roles of women in any one of the following fields: music, visual arts, film or theatre, whether as subjects or creators. Approaches may be practical, historical and/or theoretical, and interrelationships between the fields will be examined where appropriate.

Three hours; one term

Prerequisite: Registration in Level II or above. WOMEN ST 1A06 (or 1A03 and 1AA3) is recommended.

*WOMEN ST 3B03 may be repeated, if on a different topic, to a total of six units.*

**WOMEN ST 3BB3 WOMEN AND VISUAL CULTURE**

Students will explore ideas about representation, spectatorship and production in relation to issues of social difference, such as gender, race and class. Emphasis is on visually in forms such as film, video, television, advertising, et cetera.

Two hour lecture and discussion, plus one weekly film screening; one term

Prerequisite: Registration in Level III or above and one of ART HIST 2A03, CMST 2F03, 2I03, THTR&FLM 1B03 or WOMEN ST 1A06 (or 1A03 and 1AA3). Cross-list: CMST 3BB3, THTR&FLM 3P03.

*Not open to students with credit or registration in WOMEN ST 3B03, if the topic was Images of Women: Reading Art, Media and Popular Culture.*

**WOMEN ST 3DD3 WOMEN IN A MULTICULTURAL SOCIETY**

An interdisciplinary exploration of women's experiences in sub-cultures within a multicultural society, examining social and historical conditions, policies, and personal narratives. Topics may include immigration, voice, mobility, identity, hybridity.

Three hours; one term

Prerequisite: Registration in Level II or above. WOMEN ST 1A06 (or 1A03 and 1AA3) is recommended.

Cross-list: CMST 3WW3

**WOMEN ST 3E03 SPECIAL TOPICS IN WOMEN'S ISSUES**

Recent topics have included: Ethical Issues in Women's Health, Feminist Issues in Reproduction and Motherhood, Women and Spirituality, Women in Islam. Consult the Office of Interdisciplinary Studies concerning topic to be offered.

Three hours; one term

Prerequisite: Registration in Level II or above. WOMEN ST 1A06 (or 1A03 and 1AA3) is recommended.

*WOMEN ST 3E03 may be repeated, if on a different topic, to a total of six units.*

**WOMEN ST 3G03 HISTORY OF WOMEN IN CANADA AND THE U.S. TO 1920**

This course examines key areas of women's history, such as indigenous cultures, slavery, immigration, religion, "witchcraft", the family, sexuality, paid and unpaid labour, and the first wave of the women's movement.

Three hours; one term

Prerequisite: Registration in Level II or above

Cross-list: HISTORY 3W03

Antirequisite: WOMEN ST 3X03

*This course is administered by the Department of History.*

**WOMEN ST 3GG3 HISTORY OF WOMEN IN CANADA AND THE U.S. FROM 1920**

This course examines key areas of women's history, such as the impact of the Great Depression and the Second World War, the civil rights movement, the sexual revolution, and the second wave of the women's movement.

Three hours (lectures and discussion); one term

Prerequisite: Registration in Level II or above

Cross-list: HISTORY 3WW3

Antirequisite: WOMEN ST 3X03

*This course is administered by the Department of History.*

**WOMEN ST 3H03 CRITICAL RACE STUDIES**

This course examines contemporary debates in critical race theory in an attempt to critically decode the operations of race in literary and cultural texts.

Three hours; one term

Prerequisite: Registration in a program in Comparative Literature, Cultural Studies and Critical Theory, English, Peace Studies or Women's Studies

Cross-list: COMP LIT 3RR3, CSCT 3A03, ENGLISH 3A03, PEACE ST 3A03

*This course is administered by the Department of English and Cultural Studies.*

**WOMEN ST 3HH3 THEORIES OF GENDER AND SEXUALITY**

This course explores a range of theories of gender and sexuality by working through readings from the intersecting fields of feminist, queer and masculinity studies.

Three hours; one term

Prerequisite: Registration in a program in Comparative Literature, Cultural Studies and Critical Theory, English or Women's Studies  
Cross-list: COMP LIT 3AA3, CSCT 3AA3, ENGLISH 3AA3  
*This course is administered by the Department of English and Cultural Studies.*

**WOMEN ST 3I03 PHILOSOPHY AND FEMINISM**

A study of philosophical issues in feminist thought.

Three hours; one term

Prerequisite: Registration in Level III or IV of any program or six units of Philosophy. WOMEN ST 1A06 (or 1A03 and 1AA3) is recommended.

Cross-list: PHILOS 3I03

*Offered in alternate years.*

*This course is administered by the Department of Philosophy.*

**WOMEN ST 3NN3 WOMEN IN GERMAN LITERATURE AND CULTURE**

This course explores the rich literary and cultural history of women writers, filmmakers and artists from the early Middle Ages to the present in German-speaking Europe.

Three hours; one term

Prerequisite: Registration in Level II or above

Cross-list: COMP LIT 3NN3, GERMAN 3NN3

*Offered in alternate years.*

*This course is administered by the Department of Linguistics and Languages.*

**WOMEN ST 3WW3 INTERNATIONAL WOMEN WRITERS**

A critical analysis of a selection of literary works by women authors from across the globe, with an emphasis on theories of gender and sexuality.

Two hours; one term

Prerequisite: Registration in Level II or above

Cross-list: COMP LIT 3WW3

*This course is administered by Comparative Literature.*

**WOMEN ST 3Z03 WOMEN AND MEN IN WAR AND PEACE**

This course focuses on how gender and other differences shape our experiences of war and struggles for a more peaceful world.

Three hours; one term

Prerequisite: Registration in Level III or IV of the Combined Honours in Women's Studies program or Peace Studies program or permission of the Director of either program

Cross-list: PEACE ST 3Z03

*This course is administered by Peace Studies.*

**WOMEN ST 4A06 INDEPENDENT RESEARCH**

Students develop their own research projects, in regular consultation with a faculty supervisor. Upon completion, students present their results at a one-day open forum, and submit a written report.

Prerequisite: Registration in Level IV of the Women's Studies Program

**WOMEN ST 4B03 TOPICS IN WOMEN AND THE ECONOMY**

An analysis of economic policies and realities as they impact on women's lives. Topics may include women's access to capital, the distribution of goods, access to health care, poverty and aging, and employment.

Three hours (seminar and discussion); one term

Prerequisite: Registration in Level III or IV of the Combined Honours in Women's Studies Program or permission of the Director of Women's Studies

*Enrolment is limited.*

**WOMEN ST 4C03 TOPICS IN FEMINIST SCHOLARSHIP: WOMEN IN CANADA**

An intensive seminar in a field reflecting the instructor's research interests. Students benefit from current scholarship, and learn research methods complementary to those used in WOMEN ST 4A06.

Three hours; one term

Prerequisite: Registration in Level III or IV of the Combined Honours in Women's Studies Program or permission of the Director of Women's Studies

*Enrolment is limited.*

**WOMEN ST 4D03 INDEPENDENT STUDY**

In consultation with a faculty member, students will research an approved topic, on the basis of materials outside normally available course offerings. A major paper will be required.

Prerequisite: Registration in Level IV of the Combined Honours in Women's Studies program and permission of the Director

**WOMEN ST 4J03 CROSSING BORDERS: GLOBAL FEMINISMS**

Examines how diverse women's lives are being transformed in a rapidly changing global society and the implication of women's changing places in society and space for feminist theory and practice.

Seminar (two hours); one term

Prerequisite: Registration in Level III or IV of the Combined Honours in Women's Studies program

Cross-list: CSCT 4J03, ENGLISH 4J03

Enrolment is limited to 18 students.

**Note:**

The following courses, offered by other departments, may be used to help fulfill Women's Studies program requirements, provided that the prerequisite requirements of the home department are fulfilled.

COMPLIT 4E03	Topics in Comparative Literature (when the topic is Twentieth-Century Women Writers)
HISTORY 4I06	Women and Social Movements in the Nineteenth- and Twentieth-Century United States
KINESIOL 4T03	Gender, Sport and Leisure
LABR ST 3E03	Women, Work and Unionism
RELIG ST 2SS3	Women and Religion
SOC WORK 4R03	Social Work with Women
SOCIOL 2Q06	Sociology of Gender

# ACADEMIC FACILITIES, STUDENT SERVICES AND ORGANIZATIONS

## ACADEMIC FACILITIES

### THE UNIVERSITY LIBRARY

#### Web Address

<http://library.mcmaster.ca/>

#### Email Address

libinfo@mcmaster.ca (Business, Humanities, Social Sciences,  
Science and Engineering)  
hslib@mcmaster.ca (Health Sciences)

#### University Librarian (Acting)

Charlotte Stewart, B.A., M.A., M.L.S.

#### Health Sciences Library

Dorothy Fitzgerald, B.A., M.L.S./Director

#### Associate University Librarian (Services)

Vivian Lewis, B.A., M.A., M.L.S.

#### Associate University Librarian (Collection Resources)

Anne Pottier, B.A., M.L.S.

#### Associate University Librarian (Information Technology)

Paul Otto, B.A., B.Ed., M.L.S.

#### Thode Library of Science and Engineering

Kathryn Ball, B.A., M.L.S./Librarian

#### Innis Library

Jeannie An, B.A., M.L.S./Business Librarian

#### Administrative Services

Mary Ruth Linkert/Administrator

The University Library System consists of Mills Memorial Library (Humanities and Social Sciences), the Innis Library in Kenneth Taylor Hall, containing a collection of business materials, the H.G. Thode Library of Science and Engineering, and the Health Sciences Library in the Health Sciences Centre. An on-line catalogue covering the holdings of all libraries is available and stacks are open to all library users.

The collection in 2005 contained more than 2 million volumes, and over 12,000 linear feet of archival material.

The McMaster University Libraries Gateway (<http://library.mcmaster.ca>) contains information on collections, hours and services in all the campus libraries; and is the access point to thousands of electronic resources provided by the libraries. An on-line tutorial, <http://dot@mac> is also available through the Gateway. Service is maintained at key Reference points in the various libraries and in-library instructional sessions are available.

Mills Library has several collections - Reference, Periodicals, Government Publications, Music, Maps, and Reserve, which is used mainly by Undergraduates.

The William Ready Division of Archives and Research Collections in Mills Library contains rare books, manuscripts and special book and archival collections, which afford many opportunities for original research. Of outstanding interest are the Bertrand Russell Archives, a massive collection of correspondence and manuscripts supported by books, journal articles, secondary literature, tapes, films and personal memorabilia.

The Eighteenth-Century Collection of British material numbers over 35,000 volumes and is the major Canadian collection in the field. Library fellowships in Eighteenth-Century Studies are offered annually. Among more modern materials are the papers of Vera Brittain, Anthony Burgess, Marian Engel, Margaret Laurence, Robert Fulford, Farley Mowat, Susan Musgrave, Matt Cohen and many others.

Business interests are reflected in such files as the General Steel Wares Archives, the J.M. Pigott Archives, the Macmillan of Canada Archives, the Clarke Irwin Archives, and the McClelland and Stewart Archives. Canadian social and political interests are documented in papers from the Canadian Union of Students, the Canadian Youth Congress, the SUPA/CUCND papers and other related collections. There are holdings of the records of a number of labour unions, including USWA Local 1005, USWA District 6, United Glass and Ceramic Workers (Canada), and the Hamilton and District Labour Council.

#### Publications

➤ McMaster Library News

### UNIVERSITY TECHNOLOGY SERVICES (UTS)

#### Web Address

<http://www.mcmaster.ca/uts>

#### Email Address

uts@mcmaster.ca

#### Chief Information Officer (CIO)

Debbie Barrett, B.A.

#### Director, Service Development and Delivery

Heather Grigg

#### Director, Project Management

John Alley, B.A., M.E.Des., M.B.A.

#### Associate Director, Enterprise Networks

Robin Griffin, B.Sc., Ph.D.

#### Associate Director, Enterprise Systems

Brian McEntegart, B.Sc.

UTS provides computing services in support of both administrative and networking activities. UTS manages a campus-wide network which is linked to the Internet. MUGSI (McMaster Undergraduate Student Information) provides students access to their academic and personal data via the web. Students can register and change courses on the web using SOLAR (Student Online Academic Registration).

Student computing labs for academic use, equipped with a minimum of Pentium III 600s, are located in Burke Sciences Building, Rooms 240-245, John Hodgins Engineering Building, Room 234, Arthur Bourns Building, Room 166, Kenneth Taylor Hall, Rooms B111, B120 and B123. All labs provide access to the Internet, popular wordprocessing and spreadsheet packages as well as various computing languages, statistical applications and specialized course software provided by instructors. Student consultants are available to assist customers in most of these computer labs. Assistance is also available in the Main UTS Office located in T-13, Room 127.

Every undergraduate and graduate student can register for a MAC ID account that includes an email account, web proxy server account, Web CT account, MacConnect and a printing account (\$0.10 per page for laser printing). All of the McMaster residences have network wiring allowing students to access the Internet from the convenience of their room. This service is included in the residence fee.

In addition to the facilities operated by UTS, there is computer equipment located in various departments to support specific academic programs.

### CENTRE FOR LEADERSHIP IN LEARNING

➤ General Sciences Building, Room 217, ext. 24540

#### Web Address

<http://www.mcmaster.ca/cll>

#### Email Address

riselays@mcmaster.ca

#### Academic Director

Del Harnish, B.Sc., M.Sc., Ph.D.



**Executive Director**

Dale Roy, B.A., M.A.

**Assistant Professor**

Anne Milne, Ph.D.

**Educational Consultants**

Paola Borin, B.A., B.Ed., M.Ed.

Erika Kustra, Ph.D.

**Graduate Student Network Coordinator**

Michael Potter, M.A.

**Administrative Assistant**

Sylvia Riselay

The primary goal of the Centre for Leadership in Learning is to be a resource centre for people who teach at McMaster. The Centre serves individual instructors, departments and other groups directly affecting teaching and learning at McMaster. Our main goals are:

1. To provide opportunities for faculty and graduate students to build teaching skills and, in particular, to develop skills in self-directed learning, inquiry and other innovative teaching models.
2. To support faculty in investigating and using new technologies to enhance learning for our students.
3. To offer advice on policy and projects that support good teaching (e.g., award programs and the evaluation of teaching).
4. To assist individual faculty members and groups of faculty in conducting educational research to understand how students learn and what makes for effective teaching within a university environment.
5. To support and encourage innovation.
6. To assist and support the testing and evaluation of new learning models that build upon the inquiry approach and other innovative teaching models pioneered by McMaster University.
7. To share our knowledge of best teaching practices in higher education to improve the quality of education locally, nationally and internationally.
8. To enable the circulation of teaching and learning insights.

The Centre's activities include:

**The Inquiry Project:** The CLL assists and supports the development, evaluation and dissemination of the McMaster Inquiry Project as part of its larger Program for Active Learning. The central goal is to incorporate the concept of *student as active learner* throughout the entire undergraduate experience.

**Learning Innovation Grants** These grants will assist faculty to apply and evaluate a variety of innovative educational strategies and will support applied research into teaching and learning in higher education.

- The Centre invites applications for projects aimed at the improvement of teaching and learning at McMaster. Groups of individual instructors, teaching assistants, students or departments may apply. Applications for grants up to \$1,000 may be submitted at any time. Applications for grants over \$1,000 are solicited annually, usually in January, with a deadline of mid-February. Detailed criteria are available on request.
- A Special Grant for New Faculty of \$10,000 to refine courses after the first three years.
- Five Departmental Grants of \$25,000/year will be available to assist major departmental initiatives that take place over several years.

**Learning Technologies:** Characteristics of technology offer a new tool to promote learning, and to complement active and self-directed learning. The CLL will be able to put you in contact with people who have expertise in technology and its use in education.

**Activities for Teaching Assistants:** The Centre plans and organizes T.A. Day, a campus-wide welcome and orientation program for teaching assistants. It also offers a series of mini-courses designed for graduate students who are about to apply for or take up their first position as a faculty member or a non-academic professional. The Centre also offers a credit course in teaching to help graduate students become familiar with the literature on university teaching and to develop some basic skills in the practical aspects of teaching.

**Workshops, Seminars and Conferences:** A wide variety of events are offered, conducted by McMaster faculty, visiting resource people and CLL staff. Generally, the topics are ones requested by instructors or departments and typically include subjects such as teaching large classes, self-directed learning, research on learning and teaching methods, lecturing, small group discussion, simulations and the use of technology in education.

**Peer Consultation:** The University has a group of faculty members who are trained to help other instructors collect information on how a course is going. The process is designed to give instructors feedback on a course, not to give advice on how to teach it. The ultimate goal is to improve the quality of student learning. All communications are confidential, and every peer consultant has experienced the process as a client as well as a consultant.

**Refining a Course:** This model of course consultation takes approximately 2.5 hours. The course instructor, the students in a particular course, and a third party come together early in the term with the intention of modifying one particular course. Since the instructor has final responsibility, he or she initiates the process and sets the boundaries for what can be modified.

**Library Resources:** The CLL Library is a collection of over 6,000 books, articles and journals on university teaching and learning. It is an excellent way to find ideas for improving and promoting active learning. You can visit the CLL library in the General Sciences Building, Room 217 between the hours of 9:00 a.m. and 5:00 p.m. Alternatively, you can use keywords to search much of our library from our web site.

**CLL Home Page:** A selection of teaching tips and other information about the CLL are available at the following web site: <http://www.mcmaster.ca/ctl>.

**McMASTER MEDIA PRODUCTION SERVICES****Web Address**<http://www.media.mcmaster.ca>**Email Address**

moorcr@mcmaster.ca

Media Production Services (MPS) provides complete media service to faculty, staff and students whether the project is for education, research or personal use.

**PRINTING SERVICES DIVISION**

- DeGroote School of Business, Room B111, ext. 24447 or Health Sciences Centre, Room 1T5, ext. 22348

Printing Services is equipped to provide all printing needs. The state-of-the-art facility allows for submission of both electronic files and traditional hard copy. The services include pre-press and file manipulation services, electronic printing in black and white and full colour plus traditional offset and full bindery services.

**CREATIVE DESIGN AND IMAGING DIVISION**

- Health Sciences Centre, Room 1G1, ext. 22301

MPS Creative Design team provides a full range of communication pieces from concept to completion. Custom brochures, logos, newsletters, annual reports, poster presentations can be enhanced with digital images and traditional prints photographed by our team of photographers. We also provide lab services in-house for negatives, slides and custom black and white photography. Digital enhancement and photo editing can be achieved from slides, prints, negatives and electronic files. Output can be provided in either high or low resolution to produce large format posters, high quality prints as well as archival and web page content.

**VIDEOCONFERENCING**

- Health Sciences Centre, Room 1G1, ext. 22301

Videconferencing is available in our in-house facility. Our completely interactive system is available for departmental, teaching or personal use. We provide archiving and streaming of conferences upon request.

**GERONTOLOGICAL STUDIES**

There are two Gerontology components at McMaster: the Centre for Gerontological Studies and the Department of Health, Aging and Society. (Further information can be obtained by contacting Margaret Denton in Kenneth Taylor Hall, Room 226, ext. 24449.)

**McMASTER CENTRE FOR GERONTOLOGICAL STUDIES**

➤ Kenneth Taylor Hall, Room 226, ext. 24449

**Director**

Margaret A. Denton, B.A., M.A., Ph.D.

The McMaster Centre for Gerontological Studies is involved in the promotion and development of multidisciplinary research and educational programs within the University and the local community. The Centre also provides a forum for collaboration on education, research, and service projects with other community organizations.

The mandate of the Centre is to foster research and education in aging. The Centre'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 program is administered by this Centre. The various degree options are described in this Calendar in the Faculty of Social Sciences section, Gerontological Studies.

The Centre's objectives are as follows:

1. to serve as an information and referral centre regarding gerontological education and research activities at McMaster University. Regular information about gerontological activities is provided through the newsletter Aging, Health and Society: News and Views and the Directory of Research on Aging at McMaster University;
2. to coordinate and plan multidisciplinary initiatives in gerontology across all Faculties and administrative units of the University. (Social Sciences, Health Sciences, Humanities, Science, Business, Engineering, Continuing Education);
3. to organize multidisciplinary educational events in gerontology for the university community, professionals and the general public, e.g. the McMaster Summer Institute On Gerontology;
4. to advance gerontology at McMaster and in Canada by actively participating in provincial and national gerontological organizations and initiatives;
5. to initiate and support the development of new gerontological projects with older adults, community agencies, students, staff and faculty.
6. to actively support research, education policy and practice for the benefit of older persons.

**OFFICE OF INTERNATIONAL AFFAIRS**

➤ Alumni Memorial Hall, Room 203, ext. 24700, 24211, 22916

**Web Address**

<http://www.mcmaster.ca/oia>

**International Admissions Inquiries Email Address**

[inadin@mcmaster.ca](mailto:inadin@mcmaster.ca)

**Associate Vice-President, International Affairs**

Luke Chan

**Senior Project Manager/International Liaison Officer**

Ni Jadon

**Project Officers**

May Zhai

\* Tania Hakim

**Executive Assistant**

Laurine Mollinga

McMaster University has become increasingly involved around the world in exchange agreements, institutional linkages and externally funded international programs concerned with collaborative research, education and human resource development, and with improving the delivery of services in such sectors as business, environmental protection, community health, engineering and technology development and transfer. The Office of International Affairs (OIA) has taken on an expanded international role that seeks to coordinate and facilitate McMaster's expertise in a highly complex and changing global environment. OIA participates in four broad areas including international student recruitment,

development of international projects and linkages, international programs and international fund-raising and development. OIA facilitates and coordinates the development of international agreements with other institutions, research and education agencies, including government and non-government organizations.

The Office of International Affairs is situated within the Office of the Vice-President, Research and International Affairs.

**McMASTER MUSEUM OF ART**

➤ Brockhouse Way, ext. 23081

**Director**

Appointment pending

**Email:** pierce@mcmaster.ca

**Collections and Operations Manager**

G. Loveys, B.A.

**Email:** loveys@mcmaster.ca

**Installations/Preservation Officer**

J. Petteplace, B.A.

**Email:** jpette@mcmaster.ca

**Director's Assistant**

Z. McLachlan, B.A., B.Ed.

**Email:** mclachz@mcmaster.ca

**Assistant Curator**

I. Mayrhofer, B.F.A., M.A.

**Email:** mayrhof@mcmaster.ca

**Communications Officer**

R.A. Prevec, B.A.

**Email:** prevecr@mcmaster.ca

Located across the plaza from the University Student Centre, on the corner of Sterling and Brockhouse Way, the Museum contains five Exhibition Galleries, a Paper Centre and an Educational Access Gallery. The Museum offers a year-round program of exhibitions ranging from the historical past to present-day artistic investigations either organized by the McMaster Museum or loaned by such institutions as the National Gallery of Canada. A regular program of public events including lunchtime talks, Visiting Artist talks, seminars and concerts is offered.

McMaster's permanent art collection contains more than 6,000 art works with a specialized collection of over 250 German Expressionist prints and the Levy Collection of Impressionist and Post Impressionist paintings. The central emphasis is on the use of the collection as a cultural learning resource through collections access, exhibitions and related programs.

Contact the Museum for exhibition listings. Hours: Tuesday to Friday, 11:00 a.m. - 5:00 p.m.; Sunday, 12:00 p.m. - 5:00 p.m. Voluntary admission fee of \$2.00; free for students and seniors. Museum Memberships available. Wheelchair accessible.

**STUDENT SERVICES****Student Affairs Web Address**

<http://access.mcmaster.ca/>

**ASSOCIATE VICE-PRESIDENT (STUDENT AFFAIRS) AND DEAN OF STUDENTS**

➤ Gilmour Hall, Room 207, ext. 27455

Philip E. Wood, B.A.Sc., Ph.D., F.C.I.C., P. Eng.

The Associate Vice-President (Student Affairs) and Dean of Students leads a variety of specialized student services and is available to meet with students and representatives of student organizations with problems, concerns, questions or suggestions on any matter relating to student life and services on campus.

**CENTRE FOR STUDENT DEVELOPMENT**

➤ McMaster University Student Centre, Room B107, ext. 24711

**Web Address**

<http://csd.mcmaster.ca/>

**Director**

Desmond Pouyat

The Centre for Student Development is a resource for all McMaster students. It offers services in four main areas: personal counselling, academic skills (including writing skills and English as a Second Language), services for students with disabilities (including ATLAS, a program for students with Learning Disabilities) and Leadership Training. All contact with CSD is confidential. For a complete staff listing, visit <http://csd.mcmaster.ca/staff.htm>.

**Personal Counselling**

Students are encouraged to seek assistance from the Centre if they experience any type of personal, emotional, social or mental health concerns. Workshops, groups, and other sessions are also offered periodically throughout the year. For more information visit <http://csd.mcmaster.ca/personal>.

**Academic Skills**

The Centre offers workshops, small group seminars and individual counselling on a wide range of academic skills matters.

Academic Skills Online is now available, which offers academic skills content and online videos 24 hours a day.

**Academic Skills services include:**

- Advanced learning strategies (e.g. note taking, lecture and reading)
- Time management, personal organization and study habits
- Motivation, procrastination, stress and energy management
- Exam taking skills (e.g. multiple choice, exam preparation)
- Academic writing skills development

For more information and to see what workshops are currently available, please visit <http://csd.mcmaster.ca/academic>.

**Services for Students with Disabilities**

The Centre for Student Development can provide advice to current and potential students and applicants with disabilities. Once admitted to the University, students with disabilities are encouraged to contact the Centre at an early date (two or three months prior to registration) to ensure sufficient time to make arrangements regarding their needs. Even if accommodation or assistance is not immediately required, students are encouraged to maintain contact with the Centre in case a need for assistance should arise at a later date.

The Centre assists students with issues concerning the accessibility of campus facilities, the provision of special equipment and alternative media formats and other issues. It provides support for students with chronic medical and mental health disabilities and students who are deaf or hard of hearing, and for students with low vision or blindness, or a mobility/functional disability. For students with a learning disability or ADHD, CSD offers the ATLAS Program. It also offers counselling, advice, support and workshops to help students meet their educational objectives. For more information visit <http://csd.mcmaster.ca/sswd>.

**Assistive Technology Learning and Academic Support (ATLAS)**

The ATLAS Program which is located in the Commons Building Room B104, offers assistive technology training and support for software packages to help students with learning disabilities or ADHD with their reading, writing and organizational skills. In addition, computer stations with assistive technology software are available in the lab for students to use.

Students can learn various reading, writing, time management, test preparation and study strategies from our Learning Strategist. Support is also offered to assist students to understand the nature of their learning disability. Students can meet with the LD Coordinator to determine eligibility for the service, or to receive information if they are wondering if they have a learning disability. For more information, drop by our lab in Commons Building Room B104, call (905) 525-9140, ext. 24354, or visit <http://csd.mcmaster.ca/atlas>.

**English as a Second Language (ESL) Support @ Mac**

If their native language is not English, students may wish to use one or more of the following services: daytime courses in listening and speaking, academic reading, academic writing, presentation skills, and English pronunciation; evening conversation classes in English; Speakeasy (one-on-one conversation) and the Conversation Circle (group-based); Opening Doors: Preparation for Employment; or The Writing Clinic. Evening classes are also offered during the academic term.

All classes are non-credit and free to all McMaster students. For more information on any of the ESL programs, please visit our web site at <http://csd.mcmaster.ca/esi>, or contact the ESL coordinators at [csdesl@mcmaster.ca](mailto:csdesl@mcmaster.ca).

**The Dr. Mary E. Keyes Leadership Program**

The goal of the Dr. Mary E. Keyes Leadership Program and Leadership Certificate is to assist students in developing personal and professional skills necessary to become responsible community leaders and role models. The focus of the program is on becoming a collaborative team player and leader, and the Certificate courses and workshops aim to introduce and teach students some of those skills.

The Certificate is comprised of a series of required and elective courses and workshops, community service and a short written component. Additional resources are available on the Leadership website and events such as a Poster and Speaker Series are offered during the year. Please note that the certificate does not qualify for credit towards an undergraduate degree. For more information and to register for courses and workshops, please visit our website at: <http://csd.mcmaster.ca/leadership>

**Peer Helper Program**

Peer Helpers are full or part-time undergraduate and graduate student volunteers who play an integral role in delivering programs and services at the Centre for Student Development and Career Services at McMaster. All faculties and levels of study are represented within the Peer Helper Program.

Peers are trained and supervised by professional staff and assist students with academic, disability, personal and career needs. The Peer Helper Program represents one of the premier student personal and professional development opportunities at the University. For more information, please visit our web site at <http://csd.mcmaster.ca/peerhelper>.

**International Student Services (ISS)**

The major purpose of the office is to assist international students, visiting scholars, post-doctoral fellows and faculty.

ISS provides a number of services such as:

- reception and orientation for newly arriving students,
- preliminary information concerning immigration matters,
- liaison with sponsoring agencies, foreign governments, consulates and embassies, and
- general advising and counselling regarding personal, financial and academic problems.

ISS is also the Plan Administrator for the University Health Insurance Plan (UHIP) which is mandatory for all international students.

**Student Exchanges/Work and Study Abroad**

International Student Services provides information on a range of options from independent study and externally sponsored programs, to summer session and McMaster's formal student exchanges. As well, information concerning opportunities for working and volunteering abroad is provided. McMaster University has formal student exchanges with universities in 26 countries abroad. If you have any questions about our services, please visit our office in Gilmour Hall, Room 104, telephone us at (905) 525-9140 ext. 24748, or access our web site at <http://oisa.mcmaster.ca> (or <http://csd.mcmaster.ca/iss>).

**Events and Volunteer Opportunities**

Throughout the academic year, the Centre holds various workshops, events and groups relating to its wide range of services. Visit <http://csd.mcmaster.ca/events> for current offerings.

There are many ways for students to use their special skills to help someone else. Some of the many volunteer opportunities are:

1. Speakeasy/conversation Circle
2. Note taking Program (volunteer or one-on-one)
3. Volunteer (Students with Disabilities)
4. Peer Helper Program

**THE OFFICE OF ACADEMIC INTEGRITY**

➤ McMaster University Student Centre, Room 211, ext. 24303

**Web Address**

<http://www.mcmaster.ca/academicintegrity>

**Email Address**

thyreta@mcmaster.ca

**Academic Integrity Officer**

Andrea Thyret-Kidd

The Office of Academic Integrity serves as the primary resource to students, faculty and staff on all matters related to academic integrity. Please visit the web site to find information on plagiarism, inappropriate collaboration and to test your knowledge of academic integrity.

**THE OFFICE OF HUMAN RIGHTS AND EQUITY SERVICES (HRES)**

➤ McMaster University Student Centre, Room 212, ext. 23641

**Web Address**

<http://www.mcmaster.ca/hres>

**Email Address**

hres@mcmaster.ca

**Director**

Mark Walma  
ext. 23641

**Email:** [walma@mcmaster.ca](mailto:walma@mcmaster.ca)

**Program Coordinator**

Vilma Rossi  
ext. 24235

**Email:** [rossiv@mcmaster.ca](mailto:rossiv@mcmaster.ca)

**Human Rights Educator**

Appointment Pending

**Administrative Assistant**

Elaine Hay  
ext. 27581

**Email:** [hayelain@mcmaster.ca](mailto:hayelain@mcmaster.ca)

HRES is responsible for human rights issues on campus and administers the Sexual Harassment and Anti-Discrimination policies for McMaster University. The goal of the office is to ensure that students, staff and faculty can live, learn and work in an environment free from all forms of harassment and discrimination. HRES takes two avenues of approach to accomplishing this goal: education/training and resolution of complaints.

The services offered by HRES are available to the entire McMaster community. Our staff are available to listen to questions or concerns regarding situations that may involve harassment, discrimination or other human rights issues. We provide advice, explain strategies for dealing with discrimination or harassment and identify options for how to approach such situations, either through informal mediation or the lodging of a complaint under university policies. Except in rare circumstances where the situation involves immediate danger to a member of the community, HRES services are completely confidential and advice is offered without obligation to the person contacting the office.

In addition to services related to specific situations, HRES is also responsible for developing and implementing training workshops and educational programs dealing with human rights, anti-discrimination and anti-harassment topics. In meeting this mandate, we offer regular awareness-raising programs and situation-specific workshops as well.

HRES also works with two liaisons within the Faculty of Health Sciences: Dr. David Groves ((905)-527-0271, ext. 46114) and Dr. Anne Niec ((905)-521-2100, ext. 73166).

The HRES office is located on the second floor of the Student Centre and is completely wheelchair accessible. The office's fax number is (905) 522-7102. Our office hours are 8:30 a.m. to 4:30 p.m., or after hours by appointment.

**ATHLETICS AND RECREATION****Web Address**

<http://www.athrec.mcmaster.ca>

**Email Address**

[iwynne@mcmaster.ca](mailto:iwynne@mcmaster.ca) (Customer Service Line)

**Director of Athletics and Recreation**

Thérèse A. Quigley

The Department of Athletics and Recreation provides a wide variety of opportunities for students involved in high performance athletic competition, intramural and club competition as well as recreation, fitness, instructional and outdoor recreation programs. A diverse program of recreational activities is available for those who wish to keep fit, compete in active pursuits at their own level, and enjoy sports and active living opportunities of their choice. Access to the various facilities on campus is open to all McMaster students.

This fall McMaster will open a new Athletic and Recreation complex, featuring one of the largest fitness centres in Canada (17,000 square feet), a cycling studio, fitness studio, new locker rooms, two additional gymnasiums (seven gymnasiums in total), a 200-metre indoor track, international squash courts and an indoor climbing wall.

McMaster Athletics and Recreation facilities also include a 50-metre pool, an outdoor 400-metre track, dance studio, activity studio and seven North American squash courts.

The Department of Athletics and Recreation ALTITUDE program utilizes the 50-foot Alpine Tower and Team Development Course. The first of its kind in Canada, it includes 32 climbing routes, rope ladders, swinging logs, a giant swing and low ropes elements.

Many different club activities are available, along with instructional assistance. Off-campus field trips in canoeing, rock climbing, horseback riding, hiking and many other opportunities are offered.

A highly developed intramural program is a very popular outlet for student activity. Intramurals run from early fall until late spring and provide students with a competitive environment that still fosters social interaction.

The varsity program at McMaster fields 34 teams competing at the Club, provincial (OUA) and national (CIS) level. Highly skilled coaches help McMaster athletes achieve their potential while competing against other universities in Ontario and across Canada. The outstanding efforts of McMaster's student-athletes and the social involvement of student supporters are focal points of student life on campus. Varsity events are a major source of school spirit for competitors and spectators alike. The Department of Athletics and Recreation takes pride in the quality programs and services provided to the McMaster Community, and urges all members of the Community to take advantage of its facilities and programs.

**BOOKSTORE**

➤ Gilmour Hall, Room B101

**Web Address**

<http://titles.mcmaster.ca/>

**Email Address**

[bookstr@mcmaster.ca](mailto:bookstr@mcmaster.ca)

*Titles*, McMaster University Bookstore, is owned and operated by the University and supplies all course materials for courses at McMaster. Second and third year textbooks are located in the auxiliary store located in Togo Salmon Hall, Room B203. Fourth year, and grad textbooks are located in the lower level of Gilmour Hall. A Microcomputer Centre and a Post Office are located within the Bookstore. A Health Sciences Branch is located in the McMaster University Medical Centre. In addition to course books, the Bookstore maintains a wide range of supplementary reading materials, both academic and general. Stationery and computer supplies and other items are also stocked. Charge accounts may be opened after registration.

**POST OFFICE**

The McMaster University Sub-Post Office is located in the Bookstore. The Post Office offers full postal service, Monday to Friday, from 9:00 a.m. to 4:00 p.m. Post Office boxes may be rented by faculty, staff, and students for the duration of their stay at McMaster.

**CAREER SERVICES**

➤ Gilmour Hall, Room 110, ext. 24254

**Web Address**

<http://careers.mcmaster.ca/>

**Email Address**

[careers@mcmaster.ca](mailto:careers@mcmaster.ca)

**Manager**

Lisa Boniface

For a complete listing of Career Services staff, please access our web site at: <http://careers.mcmaster.ca/>

At Career Services our purpose is to help you manage your career. Whether you are a current student or alumni, we can help you get where you want to go. From career planning to job search, we have a wealth of resources and services available to you.

Our staff is made up of experienced, knowledgeable professionals with a strong track record of assisting students and alumni in pursuing their career and educational goals. Our programs and services include:

- Career and employment counselling
- Drop-in career advising
- Job postings and On-Campus Recruitment (OCR) through McMaster's online job posting system, eRecruiting
- Career and education resources and information
- Resume critiques and workshops
- Interview skills and job search workshops
- Personality and interest testing
- Educational planning, including workshops on applying to professional schools (law, teaching, medicine, etc.)
- CareerLINKS mentoring program
- Events such as Career Fair, Continuing Education Fair and Summer Job Fair

The office hours are 8:30 a.m. to 4:30 p.m. Monday to Friday. For further information, please phone (905) 525-9140, ext. 24254 or fax (905) 529-8972.

**STUDENT FINANCIAL AID AND SCHOLARSHIPS**

➤ Gilmour Hall, Room 120, ext. 24319

**Web Address**

<http://sfas.mcmaster.ca>

**Email Address**

[awards@mcmaster.ca](mailto:awards@mcmaster.ca) or [osap@mcmaster.ca](mailto:osap@mcmaster.ca)

**Director**

E. Seymour

The office administers a variety of programs which are accessed by more than half of all full-time students as well as a large number of part-time students attending McMaster. These programs include the Ontario Student Loan Program, Canada Student Loan Programs, Part-Time Canada Student Loan and Canada Study Grants, Ontario Work Study Program, Ontario Special Bursary Program, University Bursary and Emergency Loan Program, and Undergraduate Scholarships. In addition, the office provides administrative support to outside agencies offering scholarships and bursaries to students attending McMaster.

The office offers financial and budget counselling, assessment and information service to current and potential students designed to help identify and address post-secondary education expenses. All discussions with students are voluntary, private and confidential. Drop-in style counselling is available.

For more detailed profiles of program offerings, please refer to *Undergraduate Academic Awards* and *Student Financial Aid* sections in this Calendar.

**CAMPUS HEALTH CENTRE**

➤ Student Health, McMaster University Student Centre, Room B101, ext. 27700

➤ Health Education, McMaster University Student Centre, Room B106, ext. 27619

**Web Address**

<http://www.mcmaster.ca/health>

**Medical Director**

Jan Young

**Clinic Director**

Julie Fairservice

Health care is available to all university students year-round at the Campus Health Centre (CHC). Appointments can be made by calling (905) 525-9140 ext. 27700.

Staffed by family physicians, registered nurses, health educators and administrative staff, the Campus Health Centre provides medical care similar to a family physician at home. Services include medical assessment and treatment; annual health examinations (physicals); birth-control counselling and low cost sale of the birth control pill/patch; allergy injections; immunization; on-site laboratory; pregnancy tests; screening for sexually transmitted diseases; HIV prevention, testing and counselling; and information or counselling for any personal health concerns. A specialist in sports medicine is available for sports related injuries. Our health centre provides on-site access to an array of complementary health services including: dietitian services, hot stone massage, meditation, reflexology and reiki.

Our health education staff can be reached at (905) 525-9140, ext. 27619 in the McMaster University Student Centre, Room B106. They are available to individuals or groups to address questions or concerns about health and lifestyle issues and include such topics as: disease prevention, relationships, sexuality, contraception options, nutrition and body image, stress and emotional health and alcohol/drug/tobacco use. A smoking cessation service is offered during the academic year. Free access is available to many educational pamphlets, videos, computer programs as well as a lending library of books, reference material and information packages. Further information and an update on services offered can be obtained by calling the Campus Health Centre office at (905) 525-9140, ext. 27700 or visit our web site at <http://www.mcmaster.ca/health>.

**HOSPITALITY SERVICES**

➤ Commons Building, Room 116, ext. 24422

**Web Address**

<http://hospitality.mcmaster.ca>

**Director, Hospitality Services**

Albert Y. Ng

McMaster Hospitality Services is a self-supporting department dedicated to providing you with healthy, nutritious and flavourful food. We offer vegetarian choices, international food menus, healthy options as well as quick snacks and made to order entrées. Our goal is to make the university dining experience exciting and fun, at the same time providing high quality food services, variety and good value.

All students living in residence are required to purchase a meal plan. The MAC Express Meal Plan works on a debit system and offers a variety of meal plan options for residence and off campus students. Depending on the meal plan chosen, this allows students to use one card at all Hospitality Services locations and at our off-campus vendors. For 2005-2006 the off-campus vendors included Boston Pizza, East Side Mario's, Kelsey's, Pita Pit, Pizza Pizza, The Snooty Fox, and Quarters Pub. Off-campus students and other members of the University community may purchase a meal plan option at the MAC Express Centre, located in the Commons Building, Room 128. For more information on meal plans, contact us at ext. 27448, [express@mcmaster.ca](mailto:express@mcmaster.ca) or visit our web site.

Hospitality Services has five full-service dining locations located conveniently across campus:

- **Bridges Café**, developed from a student-based initiative, is an exciting vegetarian concept cafeteria catering to the ideological and religious dietary needs of students, staff and faculty on campus. The renovated Refectory basement provides a vibrant and comfortable location for programming focuses on intercultural dialogue and celebrating campus diversity.
- **Café One** in Michael G. Degroote Centre for Learning and Discovery provides Tim Hortons' coffee and a variety of 'Grab-n-Go' items.
- The **Commons Marketplace** provides students with a varied dining experience and is home to Your Healthy Choice, Pacific Rim, Chef's Table, Piller's Deli and Pizza+++.
- **East Meets West Bistro**, our fine dining facility is located in the Mary E. Keyes Residence Building. This restaurant is set in a two story glass atrium and features Asian and Continental cuisine. The Bistro offers gourmet pizza, rotisserie and stir fry menus. Right next door, **Mac's Mini Mart** offers Needa Pita and Tim Hortons in addition to a number of convenience store products.
- **La Piazza**, an open 'Marché Style' marketplace is located in the McMaster University Student Centre and features Pizza Pizza, Tim Hortons, Piller's Deli and Creation X International Grill. You will also find **Made in Japan**, **Tim Hortons** and **Williams Coffee Pub** kiosks in the Centre.
- The **Café 2000** is located in the Institute for Applied Health Sciences and features Mr. Sub, Pizza Pizza, Tim Hortons, a 'wrap' station and more.
- The **Wokery**, in Kenneth Taylor Hall, is a popular lunch destination for Chinese food prepared fresh to order.
- **MAC Express** locations are conveniently found in the John Hodgins Engineering Building and Chester New Hall. **Math Café** in Hamilton Hall provides fair trade coffees from regular coffee to a gourmet cappuccino with a variety of 'Grab-n-Go' items. **Hava Java**, located on the second floor of Burke Science Building and the **Tech Wave Café** located in the Information Technology Building, both feature Starbucks coffee in addition to a variety of delicious desserts.

Visit our web site at <http://hospitality.mcmaster.ca> for our *Dining on Campus* menus, hours of operation, exciting special events, meal plan information and more.

## **HOUSING AND CONFERENCE SERVICES**

### **Web Address**

<http://housing.mcmaster.ca>

### **Email Address**

[housing@mcmaster.ca](mailto:housing@mcmaster.ca)

### **Director, Housing and Conference Services**

Catherine Miller

## **RESIDENCES**

The University owns and operates 11 on-campus residence buildings, accommodating a total of 3,366 students. The nine traditional-style residences offer a variety of theme and lifestyle options: International House and La Maison Française for those interested in learning about other cultures; Halcyon (Quiet) House and quiet floors; Wellness House for those wishing to balance healthy living with academic studies and all-female environments. Housing and Conference Services will expand the opportunity for lifestyle options based on interest and demand.

In addition, an apartment-style residence (Bates Residence) accommodates approximately 500 male and female students and a suite-style residence building (Mary E. Keyes Residence) houses 280 students. All apartments and suites are furnished (except for a television).

Eighty percent of the spaces in residence are reserved for incoming first-year students. Admission offers to residence are based on a student's admission average to his/her academic program. All students with a 78% admission average are guaranteed a space in residence provided they meet the established residence application and deposit deadline.

First-year students will receive instructions regarding application procedures with their offer of admission to the University. To accept the offer of residence, students must complete their Residence Application and a deposit on-line to the Residence Admissions Office before the specified deadline. This deposit will then be applied to the student's residence fees. Students who do not receive an offer of residence with their offer of admission to the University may apply to the residence waiting list. The waiting list is ordered by academic average for applications received in the Residence Admissions Office by the deadline date. After this date, students will be added to the waiting list in order of date received. No deposit is required from students who apply to be on the waiting list. If a student is guaranteed a residence space but no longer requires it, the student is responsible for advising Housing and Conference Services in writing by the specified deadline. Failure to do so by the specified deadline, will result in forfeiture of the full amount of the deposit. Refer to the 2006-2007 *Campus Living* available through Housing and Conference Services, Commons Building, Room 101, (905) 525-9140 ext. 24342, email [housing@mcmaster.ca](mailto:housing@mcmaster.ca), for detailed information.

All students in all residences are required to purchase one of the following meal plans: light, small, regular, large or extra-large. Residents use their student ID cards as a debit card for food purchases made at all Hospitality Services locations on campus as well as designated local off-campus restaurants. (Note: Residence fees and meal plans do not include the December holiday break.) Additional meal plan information, including optional reduced meal plans for Bates and Mary E. Keyes Residence, is available in the 2006-2007 *Campus Living* booklet.

The responsibility for policy, budget and the overall administration of the University residence system lies with the Director of Housing and Conference Services. The department has four distinct functional units: Admissions, Residence Life, Facilities and Conferences.

Please visit our web site to learn more about each residence, the Residence Discipline Code, MacOnline and the other services available to McMaster's residence students at <http://housing.mcmaster.ca>.

## **RESIDENCE ADMISSIONS**

This area is responsible for residence admission policies and procedures, including: the Residence Agreement/Contract; residence applications, deposits and room assignments; the waiting list and withdrawal procedures; medical and grade appeals; and various Housing publications. Enquiries about residence should be directed to Residence Admissions, Housing and Conference Services, Commons Building, Room 101, (905) 525-9140 ext. 24342; email: [housing@mcmaster.ca](mailto:housing@mcmaster.ca).

## **RESIDENCE LIFE**

This area is responsible for programs designed to provide students with a positive living and learning environment and to assist them with the transition to university. Living in residence provides students with the opportunity to participate in educational and personal development interest programs, and positive and inclusive social activities. Residence Life also provides leadership opportunities including student staff, peer helper and elected residence council positions.

Residence students and student staff are supported by five full-time Residence Managers, all of whom live in residence. The staff are available to answer questions, ensure community standards are followed and coordinate programs and activities.

All students agree to be bound by the Residence Agreement/Contract and the Residence Code of Conduct as a condition of applying to residence at McMaster University.

## **RESIDENCE FACILITIES**

The Residence Facilities Team is responsible for repairs and maintenance, renovations, student damages, safety and security needs, furnishings, cleaning, residence recreational facilities, and the 24 hour Housing and Conference Service Centres located in Mary E. Keyes Residence (west campus, ext. 24898) and the Commons Building (north campus, ext. 27222).

## CONFERENCE SERVICES

➤ McKay Hall, Room 124, ext. 24781

### Web Address

<http://housing.mcmaster.ca/confs/mainpage.html>

Conference Services is responsible for booking all indoor and outdoor non-academic events on campus.

During the summer months, Conference Services arranges accommodation, food and meeting facilities on campus for conferences, conventions, and touring groups. Residence accommodation is also available for summer students and casual guests. For more information, please visit our web site.

## OFF-CAMPUS HOUSING

➤ McMaster University Student Centre, Room B112, ext. 24086

### Web Address

<http://www.macocho.com>

### Email Address

[ocho@mcmaster.ca](mailto:ocho@mcmaster.ca)

The Off-Campus Resource Centre (OCRC) maintains up-to-date lists of available rental accommodation in Hamilton and the surrounding area. Among other services, it also provides free bus route maps, city zone maps, free use of telephones for students to contact landlords, information on housing by-laws and Tenant Protection Act, and personal assistance with the housing search. OCRC is operated on a year-round basis. Visit our web site to see all the listings of available rental units by zone and category.

## PARKING

➤ E.T. Clarke Centre, ext. 24232 or 27416

### Web Address

<http://parking.mcmaster.ca>

**Campus parking facilities are limited and the availability of spaces cannot be assured.**

Travel to and from the University on foot, by public transportation and in car pools is encouraged.

Students wishing to park a motor vehicle or motorcycle on campus are required to complete and submit a parking application. Applications are accepted between June 1 and the close of the last business day of July. **It is now possible to apply electronically using the following web address: <http://parking.mcmaster.ca>** Completed application forms, accompanied by a Visa or MasterCard number and authorizing signature, or a cheque or money order payable to McMaster University, in the amount required for the full period must be forwarded to: Security and Parking Services, E.T. Clarke Centre, Room 102, McMaster University, Hamilton, Ontario L8S 4K1. **Cheques post-dated after 4:00 p.m. on the last business day of July will not be accepted.** (Parking applications and/or parking permits will be withdrawn and additional fees applied for NSF cheques or declined credit cards.)

If any applicable zone is oversubscribed, there will be a lottery draw.

Undergraduate students not in residence may apply for available spaces in Zone 6 only. The procedure for allocation of these spaces will be developed in consultation with the MSU Executive. Students in residence requiring parking can apply for Zone 7 only, and may apply at any time of the year.

Special arrangements can be made for disabled parking privileges. Copies of the complete rules and regulations concerning parking at McMaster University are available at the Security and Parking Services Office or on the web at: <http://parking.mcmaster.ca/>

The Security and Parking Services Office has the overall responsibility for dealing with parking matters. If you have a problem, parking personnel will assist you. The office is located in the E.T. Clarke Centre, Room 102, (905) 525-9140 ext. 24232 or 27416, and is open Monday to Friday from 9:00 a.m. to 4:00 p.m.

## McMASTER UNIVERSITY CHAPLAINCY CENTRE

➤ McMaster University Student Centre, Room 231, ext. 24207

### Web Address:

<http://www.mcmaster.ca/chaplain>

### Email Address:

[chaplain@mcmaster.ca](mailto:chaplain@mcmaster.ca)

The McMaster Chaplaincy Centre is open to all students and members of the campus community. The Chaplaincy Centre is staffed by Carol Wood, Ecumenical Chaplain; Michael Fallon, Christian Reformed Chaplain; Father Peter Nguyen, Roman Catholic Chaplain and Mary Dingle, Assistant to the Chaplains. Regular office hours fall between 8:30 a.m. and 4:30 p.m., Monday through Wednesday, 10:00 a.m. and 7:00 p.m. Thursdays, and between 8:30 a.m. and 3:30 p.m. on Friday. Appointments outside of these hours can be arranged.

The Centre offers personal and confidential counselling for a wide range of concerns; groups to deal with topics such as bereavement support; and an experience of community through suppers, Christian worship and discussion groups. In addition, the Chaplaincy Centre provides advocacy for students in need; works cooperatively with a variety of student groups; and promotes interfaith events and dialogue on campus.

## STUDENT GOVERNMENT AND ORGANIZATIONS

### McMASTER STUDENTS UNION

➤ McMaster University Student Centre, Room 201, ext. 22003

### Web Address

<http://www.msu.mcmaster.ca>

**Purpose:** The McMaster Students Union is a student-operated corporation with a cash flow exceeding 3.5 million dollars and extensive operations spanning over 30 unique departments. More than 18,000 full-time undergraduate students (enrolled in 18 units or more) belong to the MSU by virtue of their supplementary fees paid at registration.

**Services of the MSU:** Considered one of the most extensive student unions in Canada, the MSU offers an array of services as well as employment and volunteer opportunities for students at McMaster. These services include the campus restaurant/night club (Quarters), a convenience store (The Union Market), a games room (House of Games), the Design and Copy Centre, an information centre (Compass), the Gay, Lesbian, Bisexual and Transgendered Centre, a yearbook (The Marmor), the Student Health Insurance and Dental Plans, a campus events department (which organizes Welcome Week, Homecoming and other special events), MSU Childcare Centre, and a jointly funded Ombuds Office. The MSU offers volunteer opportunities through the Emergency First Response Team (EFRT), a radio station (93.3 CFMU FM), a newspaper (The Silhouette), a Student Walk Home Attendant Team (SWHAT), a Student Health Education Centre (SHEC), the Maroons, a foodbank, and more than 170 clubs, including academic, political, religious, cultural and general interest.

**Student Government:** The Student Representative Assembly (SRA) consists of 35 elected individuals who represent student needs in crucial matters and is the governing body of the MSU. The President is elected by the entire student body while the Vice-Presidents Administration, Education and Finance are elected by the SRA.

The MSU also offers a First Year Council made up of first year students which deals with issues specific to first year students.

**Student Centre:** The MSU is the major stakeholder in the McMaster University Student Centre. Most of the mentioned services are located here, including the President and student representatives offices. For further information, visit the MSU Main Office, MUSC Room 201, or call (905) 525-9140, ext. 22003.

## 320 ACADEMIC FACILITIES, STUDENT SERVICES AND ORGANIZATIONS

**Fraternities and Sororities are not recognized by McMaster University and are not permitted to associate with the University in any way. The University is not responsible for any acts by these groups.**

### **OMBUDS OFFICE**

➤ McMaster University Student Centre, Room 210, ext. 24151

#### **Web Address**

<http://www.mcmaster.ca/ombuds>

#### **Email Address**

[ombuds@mcmaster.ca](mailto:ombuds@mcmaster.ca)

#### **Ombudspersons**

Shelley Lancaster  
Carolyn Brendon

The Ombuds Office provides information and advice to the McMaster community to assist in the resolution of University related complaints and concerns. The Ombuds Office handles academic and non-academic matters as well as issues arising out of the provision of services. Students come to the Office with questions about such issues as grade appeals, petitions, codes of conduct and employment on campus.

The Ombuds Office is a neutral, confidential service provided by the McMaster Students Union in conjunction with the University.

### **McMASTER ASSOCIATION OF PART-TIME STUDENTS (MAPS)**

➤ McMaster University Student Centre, Room 234, ext 22021

#### **Web Address**

<http://www.mcmaster.ca/maps/>

#### **Email Address**

[maps@mcmaster.ca](mailto: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.

When classes are in session MAPS office hours are:

- Monday to Thursday: 9:30 a.m. to 8:30 p.m.
- Friday: 9:30 a.m. to 2:00 p.m.
- All other time, MAPS office hours are:
- Monday to Thursday: 9:30 a.m. to 7:00 p.m.
- Friday: 9:30 a.m. to 2:00 p.m.

If you have a question pertaining to university procedure or a problem of any kind the MAPS staff can either supply the answer or put you in touch with someone who can. A handbook is published annually to help guide you through the University system and will be mailed to you.

The part-time student newsletter, *The Link*, is published on a regular basis and will be mailed to you. If you do not receive a copy, call or drop by the office. Essay writing, exam preparation and research seminars are offered through MAPS. Watch the newsletter, *The Link*, for classes and times.

MAPS provides the opportunities and methods for part-time students to communicate their needs and ideas to university officials, by ensuring representation on university governing bodies and committees, and by the Association's direct contact with university administrators on matters such as course availability, evening services, tuition and ancillary fees.

MAPS is also pleased to offer four awards: the Centennial Award for degree students, the Centennial Award for certificate/diploma students, the Martin W. Johns Award and a Gold Medal. MAPS has also established bursaries to assist students who have demonstrated financial need.

In addition, there is a MAPS Work Study Program available to part-time students who have demonstrated financial need. This program allows part-time students to work for eight to ten hours a week for ten weeks. Contact the Office of Student Financial Aid & Scholarships, ext. 24319, for information.

There are three computers in the office for your use where you can access your student record, surf the Web, use email, WordPerfect, Word or Excel.

MAPS provides a bridge between you and the University, helping you to 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.

### **McMASTER UNIVERSITY ALUMNI ASSOCIATION**

➤ President's Residence, ext 23900  
or 1-888-217-6003 (Toll-free)

#### **Web Address**

<http://www.mcmaster.ca/ua>

#### **Email Address**

[alumni@mcmaster.ca](mailto:alumni@mcmaster.ca)

Following convocation, all graduates of McMaster University automatically become members of the McMaster Alumni Association (MAA) and join our over 100,000 alumni living in 125 countries. The Association's mission statement addresses a number of goals: support of McMaster University, involvement of alumni, recognition of alumni achievements, alumni services and benefits, alumni communication, and involvement of current students.

Our alumni branch program creates connections in geographic areas like Brantford, Vancouver, Ottawa, Toronto and Hong Kong. Branches also connect alumni to their faculty or department through groups like the Michael G. DeGroot School of Business Alumni Association. Still other branches create connections among Mac grads who share a common interest or affinity, like the MSU Alumni Association or Athletics Alumni Association.

The MAA also offers programs in the greater Hamilton community. The McMaster Alumni Connection (MAC) Luncheon Series brings high profile speakers to downtown Hamilton to talk with McMaster alumni, students and friends, and the Albert Lager Event Series expands the educational relationship with Mac into a lifelong affair by providing fun and unique opportunities to enjoy lectures, trips and seminars. Alumni Weekend occurs every year in June and is the largest single alumni event. It incorporates class reunions and other events like the Alumni Gallery Induction Ceremony designed to attract alumni to the McMaster campus. In the Fall, Homecoming is another important highlight of the alumni calendar.

The Association also gives its members the chance to obtain unique or discounted products or services through its Services and Benefits portfolio. Alumni can experience fantastic trips, obtain unique McMaster merchandise, use their McMaster MasterCard to help benefit the Association, receive high-quality home, auto, life, dental and extended health insurance at group rates, or investigate the other services offered through the MAA.

The McMaster Alumni Association also acts as an advocate, with representatives on the University Senate and Board of Governors. These representatives, along with other elected alumni, compose the MAA Board of Directors, and along with hundreds of other alumni volunteers, provide alumni programming in conjunction with the Office of Alumni Advancement. Both the Office and the Association can be contacted in the President's Residence, or by phone at (905) 525-9140 ext 23900, 1-888-217-6003 (Toll free), by email at [alumni@mcmaster.ca](mailto:alumni@mcmaster.ca) or by fax at (905) 524-1733.



# STUDENT FINANCIAL AID

WEB ADDRESS: <http://sfas.mcmaster.ca>

EMAIL ADDRESS: [osap@mcmaster.ca](mailto:osap@mcmaster.ca)

## Manager, Student Financial Aid

Tracie Long

For information on any of the programs which follow, please contact:  
**Office of Student Financial Aid & Scholarships**  
 Gilmour Hall, Room 120  
 McMaster University  
 Hamilton, Ontario, L8S 4L8  
 Telephone: (905) 525-9140, ext. 24319

## ONTARIO STUDENT ASSISTANCE PROGRAM

Financial aid to help students meet the costs of post-secondary education is available from the federal and provincial governments through the Ontario Student Assistance Program (OSAP). The various components of OSAP are:

- Canada-Ontario Integrated Student Loan
- Canada Access Grants/Millennium Ontario Access Grants/Ontario Access Grants
- Canada Study Grants
- Ontario Special Bursary Plan
- Ontario Work-Study
- Child Care Bursary
- Bursaries for Students with Disabilities/Canada Study Grant for the Accommodation of Students with Permanent Disabilities
- Queen Elizabeth II (Aiming for the Top) Scholarship
- Millennium Bursary
- Part-time Canada Student Loans/Canada Study Grants for High-Need Part-time Students

To be eligible to be considered for assistance under these OSAP programs, a student must be a Canadian citizen, permanent resident of Canada or a protected person; must meet Ontario residency requirements and must meet the specific application requirements of the program. The amount of financial aid awarded is based on financial need.

It is strongly recommended that students apply for OSAP at <http://osap.gov.on.ca> by July 15 to ensure that their applications are processed by the start of classes.

All of the government programs described in this text are modified and restructured annually to reflect the changing needs of students from the Province of Ontario. It is, therefore, recommended that you discuss your specific financial requirements with a Student Loan Officer in the Office of Student Financial Aid & Scholarships as early as possible and review program details and eligibility criteria at <http://osap.gov.on.ca>.

### Canada-Ontario Integrated Student Loans

Eligible students demonstrating financial need, who are enrolled in at least 60% of a full course load (students with permanent disabilities may enrol in 40% of a full course load) per term in an approved degree, diploma or certificate program of at least 12 weeks in length at a Ministry approved educational institution and have passed a credit check may be eligible for loan funding. Loans are interest-free while the student is studying full-time.

### Part-Time Canada Student Loans

The federal government also provides Canada Student Loans for eligible part-time students demonstrating financial need, who are enrolled in 20-59% of a full course load (students with permanent disabilities may enrol in 20-39% of a full course load) per term in courses leading to a degree, diploma or certificate in an approved program at a Ministry approved educational institution. Part-time Canada Student Loans assist with a student's allowable costs for tuition, books, transportation, day care and incidentals and are interest-bearing after 30 days. Repayment responsibilities begin within 30 days of negotiating the loan.

Canada Study Grants are available to high need part-time students who are studying part-time for very specific reasons (inability to attend full-time). Students submitting part-time loan applications will be assessed for grant eligibility.

## Canada Access Grants/Millennium Ontario Access Grants/Ontario Access Grants

The Canada Access Grants for Low-Income Families and the Millennium Ontario Access Grants assist eligible first-time first-year students from low-income families with their tuition costs to a maximum of \$3000. The Canada Access Grants for students with Permanent Disabilities replace the Canada Study Grant for High-Need students with Permanent Disabilities and fund eligible students to a maximum of \$2000. The Ontario Access Grants assist eligible second-year students from low-income families with their tuition costs to a maximum of \$3000. These grants do not have to be repaid; however, they are taxable. See detailed eligibility requirements at <http://osap.gov.on.ca>.

### Ontario Special Bursary Plan

This plan helps students who demonstrate exceptional levels of financial need who are unable to attend school full-time. Bursaries are available to eligible part-time students enrolled in approved programs at recognized post-secondary institutions in Ontario only. Students must be working towards their first post-secondary degree, diploma or certificate. This bursary does not require repayment; however, it is taxable.

### Ontario Work-Study

The Work-Study Program provides part-time jobs during the school year to students who demonstrate financial need to help them meet their education-related costs. It also helps students who lack the resources expected under OSAP criteria or, who have an assessed need under OSAP which is not met because of loan maximums or, who do not wish to borrow further due to high debt load. Costs of this plan are shared by the provincial government and McMaster University.

### Child Care Bursary

This plan is intended to assist full-time students who have applied and qualified for OSAP and who demonstrate financial need. Eligible students must have three or more dependent children, 11 years of age and under living with the student full-time throughout the study period. This bursary does not require repayment; however, it is taxable.

### Bursaries for Students with Disabilities/Canada Study Grant for the Accommodation of Students with Permanent Disabilities

This plan is intended to assist students with disabilities, who demonstrate financial need, to meet disability-related costs related to their participation in post-secondary education. A single application is used to be considered for this funding. This bursary is taxable. For more information, contact the Centre for Student Development at <http://csd.mcmaster.ca>.

### Canada Study Grants

Canada Study Grants are funded by the federal government and administered by the provincial government, through the Ontario Student Assistance Program (OSAP). Policies regarding eligibility and amounts are established by the federal government and procedures on how to apply are established by the province of Ontario.

Canada Study Grants include the following:

- Canada Study Grant for Students with Dependents
- Canada Study Grant for High-Need Part-time Students
- Canada Study Grant for Women in Doctoral Studies

All Canada Study Grants are non-repayable and taxable.

### Queen Elizabeth II (Aiming for the Top) Scholarship

The Queen Elizabeth II (Aiming for the Top) Scholarship is designed to recognize students who have shown academic excellence at the high school level and to assist students with financial need. The value of the scholarship varies between \$100 and \$3,500 per academic year. You may be considered for a Queen Elizabeth II (Aiming for the Top) Scholarship if you:

- attend an Ontario high school in 2005/2006 and achieve academic excellence;
  - are an Ontario resident (as defined by OSAP);
  - apply to attend an Ontario university through the Ontario Universities' Application Centre, or a college of applied arts and technology through the Ontario College Application Service, or apply to attend another Ontario post secondary institution (e.g. a private career college) that is approved for the purposes of this scholarship;
  - will be a full-time post-secondary student in the 2006/2007 academic year; and
  - meet all other application requirements/deadlines.
- Scholarship funding is taxable.

## Millennium Bursary

The Canada Millennium Scholarship Foundation Bursary is available for full-time students who have the highest assessed need, as determined by the Province of Ontario, and who meet all of the program's eligibility requirements. Details on the eligibility requirements are available on the Canada Millennium Scholarship Foundation web site at <http://www.millenniumscholarships.ca>. The value of the bursary is \$3,000. The Millennium Bursary does not require repayment, however, it is taxable.

## McMASTER SUMMER WORK PROGRAMS

McMaster Summer Work Programs offer part-time and full-time summer jobs to students demonstrating financial need to help them to meet costs not recognized under regular federal and provincial financial aid programs. In particular, these programs are intended to assist students who lack resources relative to their assessed financial need and those who do not wish to borrow further due to a high debt load.

To apply for the McMaster Summer Work Programs identified below, students should see application and deadline information at <http://sfas.mcmaster.ca>.

### THE R. ROSS CRAIG MEMORIAL FUND WORK PROGRAM

Established in 1997 in memory of R. Ross Craig. A variable number of employment opportunities made available to students in any program who demonstrate financial need. To be eligible for consideration, students must be approved for the Summer Work Program through the Office of Student Financial Aid & Scholarships. (90763)

### THE HAMLIN FAMILY FOUNDATION WORK PROGRAM

Established in 1996 by the Hamlin Family Foundation. A variable number of employment opportunities made to students in any program who demonstrate financial need. Preference will be given to students in disciplines related to the fields of Health Sciences and Engineering. To be eligible for consideration, students must be approved for the Summer Work Program through the Office of Student Financial Aid & Scholarships. (90656)

### THE SALLY HORSFALL WORK PROGRAM

Established in 1996, the Centre for Studies of Children at Risk, McMaster University has a variable number of employment opportunities made available to students demonstrating financial need. These jobs will provide an opportunity for students to pursue research and/or assist with activities sponsored by the Centre. To be eligible for consideration, students must be approved for the Summer Work Program through the Office of Student Financial Aid & Scholarships. (90657)

### THE HUMANITIES COMMUNICATIONS CENTRE WORK ENDOWMENT

Established in 1997 by Edward and Margaret Lyons, McMaster alumni of the Class of '49 and later augmented by friends of The Edward and Margaret Lyons Humanities Communications Centre. A variable number of employment opportunities will be made available to students in any program who demonstrate financial need. Preference will be given to students in Humanities and Social Sciences. To be eligible for consideration, students must be approved for the Summer Work Program through the Office of Student Financial Aid & Scholarships. (90658)

### THE McMASTER "McWORK" PROGRAM

Established in 1996 by the University with the goal of creating meaningful employment opportunities for current full-time students who demonstrate financial need. To be eligible for consideration, students must be approved for the Summer Work Program through the Office of Student Financial Aid & Scholarships. (90659)

## EMERGENCY FUNDING

### EMERGENCY LOANS

Assistance in the form of short-term emergency loans is sometimes available to graduate or undergraduate students. Such loans cannot be given to pay tuition, bookstore, residence or other university expenses. Repayment of any loan is expected within 90 days or before the end of the student's study period. Students requesting a short-term loan must meet with a representative from the Office of Student Financial Aid & Scholarships to complete an application.

A number of funds exist to provide assistance to students in financial need.

### THE UNIVERSITY LOAN FUNDS

Small short-term emergency loans from the University funds are available to assist students in any program. These funds have been supported through contributions from a number of local Chapters, Imperial Order Daughters of the Empire, including the Emma Frances Pratt, Princess Marina and Sovereign Chapters.

### THE IVOR WYNNE MEMORIAL LOAN FUND

Established in 1971 in memory of Ivor Wynne, Dean of Students. To assist students in any program.

## EMERGENCY BURSARIES

Assistance in the form of emergency bursaries is sometimes available to students who have dire need. Students with extreme circumstances must meet with a representative from the Office of Student Financial Aid & Scholarships to discuss their situation.

## BURSARIES

Bursaries are granted by the University Bursary Committee on the basis of demonstrated financial need. They are intended to supplement a student's own financial contribution, parental assistance and government aid to help the student to complete the academic year.

Application procedures and deadline information are available from the Office of Student Financial Aid & Scholarships, Gilmour Hall, Room 120 or on our web site at <http://sfas.mcmaster.ca>. Any government-sponsored student loan applicant who is registered as a student of McMaster University is eligible to apply.

Bursaries have been grouped according to category and/or Faculty.

## GENERAL BURSARIES

### THE 4 WINDS BURSARIES

Established in 1997 by John F. Evans, Q.C. and Patricia Peacock-Evans in recognition of John's long-standing association with McMaster as Chair of The President's Club Executive Committee. The Bursary is named after the island where the family's cottage is located. A variable number of bursaries to be granted to students who demonstrate financial need. (90708)

### THE AINSWORTH BURSARIES

Established in 1996. To be granted to undergraduate students in any program who demonstrate financial need. Preference to be given to female students. (90578)

### THE PHYLLIS MAY AITKEN BURSARY FUND

Established in 1997 by the bequest of Phyllis May Aitken. A variable number of bursaries to be granted to students enrolled in any program who demonstrate financial need. (90653)

### THE AMEX CANADA BURSARY

Established in 1997 by AMEX Canada Inc. in support of its belief that all students should have the opportunity to pursue their educational goals. To be granted to a student enrolled in any program who demonstrates financial need. (90805)

### THE AUBURN INDUSTRIAL SERVICES LTD BURSARY

Established in 1997 by Auburn Industries Services Ltd. under the McMaster Student Opportunity Fund initiative. To be granted to students enrolled in any program who demonstrate financial need. Preference will be given to the recipient of The Auburn Industrial Services Ltd. Award. (90897)

### THE JOY BÂBY BURSARY

Established in 1997 by Joy Bâby under the McMaster Student Opportunity Fund initiative. To be granted to a student enrolled in any program who demonstrates financial need. (90809)

### THE CHARLES MURRAY BALL BURSARIES

Established in 1993 by bequest of May Alexandra Ball in memory of her brother Charles Murray Ball. To assist students in any program who demonstrate financial need. (90560)

### THE DR. C. HOWARD BENTALL AND DR. SHIRLEY F. BENTALL BURSARIES

Established in 1999 by Dr. C. Howard Bentall (Class of '37) and Dr. Shirley F. Bentall (Class of '46) under the McMaster Student Opportunity Fund initiative. A variable number of bursaries to be granted to students enrolled in any program who demonstrate financial need. (90855)

### THE BETZNER FAMILY MEMORIAL BURSARIES

Established in 1996 by the Betzner Family of Dundas, Ontario. A variable number of bursaries to be granted to students enrolled in any program who demonstrate financial need. (90580)

**THE BIRKS FAMILY FOUNDATION BURSARY FUND**

Established in 1987 by The Birks Family Foundation in support of its belief that all students should have the opportunity to pursue their educational goals. A variable number of bursaries to be granted to students annually who demonstrate financial need. (90960)

**THE BOWES FAMILY BURSARIES**

Established in 1996 by Eleanor and Terrence Aurini of Cambridge. A variable number of bursaries to be granted to students enrolled in any program who demonstrate financial need. Preference to be given to female students. (90581)

**THE BRANTFORD ALUMNI BRANCH BURSARY**

Established in 2000 by the Brantford Alumni Branch of the McMaster Alumni Association under the McMaster Student Opportunity Fund initiative. To be granted to students enrolled in any program who demonstrate financial need. Preference will be given to the recipient of The Brantford Alumni Branch Award. (90969)

**BURSARIES FOR IN-COURSE VISA STUDENTS**

Established in 1982 by the University to assist visa students in any program. (90547)

**BURSARIES FOR VISA STUDENTS**

Established in 1999. A variable number of bursaries to be granted to visa students in any program who demonstrate financial need. (90933)

**THE BUSINESS MANAGEMENT SERVICES BURSARIES**

Established in 1996 by staff of McMaster's Business Management Services who through their leadership, guidance and support, enable the University community to deploy its financial resources to the greatest advantage. A variable number of bursaries to be granted to students in any program who demonstrate financial need. (90584)

**THE JAMES CALVIN BURSARIES**

Established in 1997 by bequest of James Calvin. A variable number of bursaries to be granted to students enrolled in any program who demonstrate financial need. (90831)

**THE CAMCO INC. BURSARIES**

Established in 1997 by Camco Inc. in support of its belief that all students should have the opportunity to pursue their educational goals. A variable number of bursaries to be granted to students enrolled in any program who demonstrate financial need. (90817)

**THE BETTY TAYLOR CAMPBELL BURSARIES**

Established in 1998 by William F. Campbell of Ottawa, Ontario in memory of his wife Betty Taylor Campbell, a 1937 McMaster graduate, an Olympic medalist in 1936 and a 1990 inductee to the Athletics Hall of Fame. To be granted to students who demonstrate financial need. Preference will be given to the recipient of the Betty Taylor Campbell Scholarship. (90832)

**THE CANADIAN FEDERATION OF UNIVERSITY****WOMEN (HAMILTON) BURSARY**

Established in 1997 by the Canadian Federation of University Women (Hamilton) in support of the McMaster Student Opportunity Fund initiative. To be granted to a student in any academic program who demonstrates financial need. (90828)

**THE ANNE AND HAROLD CHALK MEMORIAL BURSARIES**

Established by bequest of Anne Maria Luise Chalk and Harold Henry Chalk of Ottawa. A variable number of bursaries to be granted to students in any program who demonstrate financial need. (90586)

**THE CHAWKERS FOUNDATION BURSARIES**

Established in 1996 by The Chawkers Foundation, Ottawa, Ontario in support of its belief that all students should be able to pursue their educational goals. To provide assistance to students who demonstrate financial need. Value: \$1,800 (90587)

**THE CIBC BURSARIES**

Established in 1997 by the Canadian Imperial Bank of Commerce under the McMaster Student Opportunity Fund initiative. A variable number of bursaries to be granted to students enrolled in any program who demonstrate financial need. (90683)

**THE SAM M. CINO BURSARY**

Established in 1997 by Sam Cino in support of McMaster students. To be granted to a student enrolled in any program who demonstrates financial need. (90684)

**THE HUGH CLARK BURSARIES**

Established in 1997 by Hugh Clark in support of McMaster students. A variable number of bursaries to be granted to students enrolled in any program who demonstrate financial need. Preference will be given to the recipient of the Hugh Clark Scholarship. (90685)

**THE CLASS OF '35 BURSARIES**

Established in 1985 by the Year '35 in honour of their 50th class reunion and augmented in 1996 in conjunction with the McMaster Student Opportunity Fund initiative. To be awarded to a student in good academic standing who is a Canadian citizen or permanent resident. (90507)

**THE CLASS OF '46 GOLDEN ANNIVERSARY BURSARIES**

Established by the Year '46 in honour of their fiftieth reunion on June 1, 1996. A variable number of bursaries to be granted to students enrolled in any program at McMaster who demonstrate financial need and are in good academic standing. (90564)

**THE CLASS OF '47 GOLDEN ANNIVERSARY BURSARIES**

Established in 1997 by the Class of '47 in honour of their 50th Anniversary Reunion. A variable number of bursaries to be granted to students enrolled in any program who demonstrate financial need. (90590)

**THE CLASS OF '49 GOLDEN ANNIVERSARY BURSARIES**

Established by the Class of '49 in honour of their 50th Anniversary Reunion in 1999. A variable number of bursaries to be granted to students enrolled in any program who demonstrate financial need. (90591)

**THE CLASS OF '51 GOLDEN ANNIVERSARY BURSARIES**

Established by the Class of '51 in honour of their 50th Anniversary Reunion in 2001. A variable number of bursaries to be granted to students enrolled in any program who demonstrate financial need. (90686)

**THE CLASS OF '57 BURSARIES**

Established in 1997 by the Class of '57 in honour of their 40th Anniversary Reunion. A variable number of bursaries to be granted to students enrolled in any program who demonstrate financial need. (90687)

**THE CLASS OF 1959, 50TH ANNIVERSARY BURSARY**

Established by the Class of '59 in honour of their 50th Anniversary. A variable number of bursaries to be granted to students enrolled in any program who demonstrate financial need. (91021)

**THE CLASS OF 1960 GOLDEN ANNIVERSARY BURSARIES**

Established by the Class of 1960 in honour of its 50th reunion. A variable number of bursaries to be granted to students enrolled in any program who demonstrate financial need. (90942)

**THE JANET HOLDER AND NEAL COCKSHUTT BURSARY**

Established in 2004 by Janet Holder (M.B.A. '83) and Neal Cockshutt in honour of Ignatius Cockshutt, founder of Cockshutt Farm Equipment Co. Ltd. To be granted to students enrolled in any program who demonstrate financial need. Preference to be given to students from Brant County. (91020)

**THE DORIS PARTRIDGE COLE BURSARY**

Established in 1981, this bursary is to be granted to a worthy student in memory of Doris Partridge Cole (Class of '45). (90508)

**THE CONNOR, CLARK & LUNN BURSARY**

Established in 1996 by Connor, Clark & Lunn in support of its belief that all students should have the opportunity to pursue their educational goals. To be granted to a McMaster student in any program who demonstrates financial need. (90666)

**THE IAN AND JILL COWAN BURSARY**

Established in 1997 by Ian Cowan (Class of '71) and Jill (nee Robinson) Cowan (Class of '74) in support of McMaster students. To be granted to a student enrolled in any program who demonstrates financial need. (90693)

**THE THOMAS DALY BURSARIES**

Established in 1996 by family, friends and colleagues of Thomas Daly. A variable number of bursaries to be granted to students in any undergraduate program who demonstrate financial need. (90592)

**THE EDWARD FRANK DAVIS MEMORIAL BURSARY**

Established in 1996 by bequest in memory of Edward Frank Davis under the McMaster Student Opportunity Fund initiative. To be granted to students enrolled in any program who demonstrate financial need. Preference will be given to the recipient of The Edward Frank Davis Memorial Award. (90900)

**THE JOHN DEERE BURSARIES**

Established in 1997 by John Deere in support of its belief that all students should have the opportunity to pursue their educational goals. To be granted to students enrolled in any program who demonstrate financial need. (90698)

**THE DEBORAH AND TERENCE DEMPSEY BURSARY**

Established in 2005 under the Ontario Trust for Student Support program to ensure that all students have the opportunity to pursue their educational goals. To be granted to students in any Faculty who demonstrate financial need. (91049)

**THE DETENBECK FAMILY BURSARIES**

Established in 2005 by bequest of Patricia Detenbeck (Class of '32). To be granted to students enrolled in any program who demonstrate financial need. (91031)

**THE DOFASCO INC. BURSARIES**

Established in 1996 by Hamilton-based Dofasco Inc., one of Canada's and North America's leading steelmakers in support of students pursuing their post-secondary studies at McMaster. A variable number of bursaries to be granted to students enrolled in any program who demonstrate financial need. (90598)

**THE EVANS, PHILP BURSARIES**

Established in 1996 by the partners of Evans, Philp in support of McMaster students. A variable number of bursaries to be granted to students enrolled in any program who demonstrate financial need. (90671)

**THE ELEANOR EWING BURSARY**

Established in 1997 by the Canadian Federation of University Women (Burlington) under the McMaster Student Opportunity Fund initiative, in honour of Eleanor Ewing, who was instrumental in establishing the Burlington Chapter of the Canadian Federation of University Women. To be granted to a full-time student in any program who demonstrates financial need. Preference to be given to a mature female student. (90704)

**THE EILEEN GRAY FARLEY BURSARY**

Established in 1998 by Eileen Gray Farley (Class of '43) and winner of the D.E. Thompson Scholarship) in grateful memory of Mr. D.E. Thompson who established the D.E. Thompson Scholarship of 1909. To be granted to students in any program who demonstrate financial need. (90833)

**THE DONALD A. FEATHER BURSARY**

Established in 2003 by family in honour of Donald A. Feather (B.A. '64) under the McMaster Student Opportunity Fund II initiative in support of his belief that all students should have the opportunity to pursue their educational goals. To be granted to a student in any Faculty who demonstrates financial need. (91010)

**THE EDITH E. FERRIE BURSARIES**

Established in 1965 by the late Edith E. Ferrie. To be granted to students in any program who demonstrate financial need. (90511)

**THE W.H. FLEMING BURSARIES**

Established in 2005 by bequest of W.H. Fleming. To be granted to graduate or undergraduate students in any program who demonstrate financial need. (91045)

**THE FORRESTER/GREGORY BURSARY**

Established in 1997 by Shelley Forrester and Douglas Gregory in support of McMaster students. To be granted to a student in any program who demonstrates financial need. (90707)

**THE JOHN C. FORSTER BURSARIES**

Established by bequest of John Clifton Henry Forster of Windsor, Ontario. A variable number of bursaries to be granted to students in any program who demonstrate financial need. (90600)

**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 program. (90512)

**THE GENERAL ELECTRIC CANADA INC. BURSARY**

Established in 1997 by General Electric Canada Inc. under the McMaster Student Opportunity Fund initiative. To be granted to a student enrolled in any program who demonstrates financial need. (90711)

**THE GRAND & TOY BURSARIES**

Established in 1996 by Grand & Toy in support of its belief that all students should have the opportunity to pursue their educational goals. A variable number of bursaries to be granted to students enrolled in any program who demonstrate financial need. (90602)

**THE LELAND GREGORY BURSARIES**

Established in 1997 by the bequest of Leland Andrew Gregory. A variable number of bursaries to be granted to students enrolled in any program who demonstrate financial need. (90719)

**THE GUARDIAN CAPITAL INC. BURSARIES**

Established in 1996 by Guardian Capital in support of its belief that all students should have the opportunity to pursue their educational goals. A variable number of bursaries to be granted to students in any program who demonstrate financial need. (90674)

**THE GUPTA FAMILY EMERGENCY BURSARY FUND**

Established in 2005 by Kulbushan Gupta and family. To be granted to international students who demonstrate urgent financial need due to exceptional circumstances as determined by the Office of Student Financial Aid & Scholarships. (91041)

**THE HALCYON HOUSE BURSARY**

Established in 1999 by past residents of Halcyon House under the McMaster Student Opportunity Fund initiative. To be granted to a student enrolled in any program who demonstrates financial need. Preference to be given to a student in residence at Halcyon House. (90859)

**THE HAMILTON PORCELAINS BURSARY**

Established in 1997 by Hamilton Porcelains Limited in the belief that all students should have the opportunity to pursue their educational goals. To be granted to a student enrolled in any program who demonstrates financial need. (90727)

**THE HAMILTON SPECTATOR BURSARY**

Established in 1997 by The Hamilton Spectator in support of its belief that all students should have the opportunity to pursue their educational goals. To be granted to a McMaster student enrolled in any program who demonstrates financial need. (90728)

**THE HAMLIN FAMILY FOUNDATION BURSARY**

Established in 2004 by The Hamlin Family Foundation under the McMaster Student Opportunity Trust Fund II initiative. To be granted to students enrolled in any program who demonstrate financial need. (91016)

**THE DAMIAN MIGUEL HEADLEY BURSARY**

Established in 1997 by family and friends in memory of Damian Miguel Headley (Class of '89) under the McMaster Student Opportunity Fund initiative. To be granted to students enrolled in any program who demonstrate financial need. Preference will be given to the recipient of The Damian Miguel Headley Award. (90902)

**THE MIKE AND MURIEL HEDDEN BURSARIES**

Established in 1996 by Muriel Hedden in memory of her husband, D.M. (Mike) Hedden, former Vice-President (Administration), who faithfully served McMaster for over 25 years. A variable number of bursaries to be granted to students enrolled in any program who demonstrate financial need. (90603)

**THE RUDY HEINZL BURSARY**

Established in 1996 by family, friends and colleagues upon his retirement as Dean of Student Affairs in recognition of 32 years of dedicated service to students and to the McMaster University Community. To be granted to students in any program who demonstrate financial need. Preference will be given to the recipient of The Rudy Heinzl Award. (90577)

**THE EDWIN W. HILBORN BURSARY**

Established in 1965 by bequest of Edwin W. Hilborn. To be granted to a student in any program. (90520)

**THE LLOYD ANDREW HILLGARTNER BURSARIES**

Established in 1997 by bequest of Lloyd Andrew Hillgartner. A variable number of bursaries to be granted to students enrolled in any program who demonstrate financial need. (90834)

**THE WILLIAM NEIL HOTRUM BURSARIES**

Established in 2004 by Mr. William Neil Hotrum under the McMaster Student Opportunity Trust Fund II initiative in support of his belief that all students should have the opportunity to pursue their educational goals. To be granted to students who demonstrate financial need. Preference will be given to (i) students from the Hamilton area and (ii) students from a single parent family. (91026)

**THE INTER-RESIDENCE COUNCIL BURSARY**

Established in 1996 by the Inter-Residence Council in support of McMaster students. To be granted to a student in any program who demonstrates financial need. (90680)

**THE JADDCO ANDERSON BURSARY**

Established in 1997 by Jaddco Anderson Limited in support of its belief that all students should have the opportunity to pursue their educational goals. To be granted to a student enrolled in any program who demonstrates financial need. (90738)

**THE JONES-TURNER BURSARY**

Established in 1997 by Sheila Lang (Class of '53) in honour of her family's long-standing association with the University. To be granted to a student enrolled in any program who demonstrates financial need. (90743)

**THE DR. RONALD V. JOYCE BURSARIES**

Established in 2003 by Dr. Ronald V. Joyce (Class of '98) to support students at McMaster. A variable number of bursaries to be granted to undergraduate students in any program who demonstrate financial need. (90977)

**THE JUNIOR LEAGUE OF HAMILTON/BURLINGTON, INC. BURSARY**

Established in 1997 by the Junior League of Hamilton-Burlington, Inc. under the McMaster Student Opportunity Fund initiative. To be granted to students enrolled in any program who demonstrate financial need. Preference will be given to the recipient of The Junior League of Hamilton/Burlington, Inc. Award. (90905)

**THE MURIEL McBRIEN KAUFFMAN BURSARIES**

Established in 1997 by the Muriel McBrien Kauffman Foundation in support of its belief that all students should have the opportunity to pursue their educational goals. A variable number of bursaries to be granted annually to students enrolled in any program who demonstrate financial need. (90744)

**THE ROBERT ALAN KENNEDY BURSARIES**

Established in 1997 by Robert Alan Kennedy under the McMaster Student Opportunity Fund initiative. A variable number of bursaries to be granted to students enrolled in any program who demonstrate financial need. (90746)

**THE MARY KEYES MEMORIAL BURSARY**

Established in 2002 by family and friends as a tribute to Dr. Mary E. Keyes, long-time teacher, coach, administrator and mentor at McMaster University. To be granted to a student who demonstrates financial need with a minimum 8.0 Cumulative Average in any program. Preference to be given to students who show leadership and participation in McMaster student life. (90974)

**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 program who demonstrate financial need. (90523)

**THE RAYMOND C. LABARGE MEMORIAL BURSARIES**

Established in 1973 by friends and associates in memory of Raymond C. Labarge (Class of '36) of Ottawa. A variable number of bursaries to be granted to students enrolled in Level III or IV of any program who demonstrate financial need. A minimum Cumulative Average of 8.0 is required. (90524)

**THE LAIDLAW INC. BURSARIES**

Established in 1996 by Laidlaw Inc. a major provider of transportation services to school boards, municipalities and the general public throughout Canada and the United States, in support of students pursuing their post-secondary studies at McMaster. A variable number of bursaries to assist students in any program who demonstrate financial need. (90608)

**THE BETTY MAY LAMB MEMORIAL BURSARY**

Established in 1991 by family, friends, colleagues in memory of Betty May Lamb, an employee at McMaster University for 22 years, most recently as Executive Assistant to the Faculty Association from 1988-91. To assist students in any program who demonstrate financial need. (90555)

**THE LANCASTER SHEET METAL LIMITED BURSARY**

Established in 1997 under the McMaster Student Opportunity Fund initiative. To be granted to students enrolled in any program who demonstrate financial need. (90751)

**THE LANDMARK CONSULTING GROUP BURSARIES**

Established in 1996 by The LANDMARK Consulting Group Inc. in support of its belief that all students should have the opportunity to pursue their educational aspirations. A variable number of bursaries to be granted to students in any program who demonstrate financial need. (90609)

**THE LANG FAMILY BURSARIES**

Established in 1996 by H. Murray Lang (Class of '44) of Etobicoke, Ontario in honour of his family's connection to McMaster. A variable number of bursaries to be granted to students enrolled in any program who demonstrate financial need. (90611)

**THE GARY LAUTENS MEMORIAL BURSARIES**

Established in 1996 by Mrs. Jackie Lautens, the Toronto Star, family and friends, in memory of Gary Lautens (Class of '50), columnist and editor of the Toronto Star (1962-92), the Hamilton Spectator (1950-62) and the McMaster Silhouette (1948-50), remembered as a journalist with wit and insight. A variable number of bursaries to be granted to students in any program who demonstrate financial need. Preference will be given to the recipient of The Gary Lautens Memorial Scholarship. (90613)

**THE BERTRAM LEGGAT MEMORIAL BURSARIES**

Established in 1996 by his family and friends in memory of Bertram Leggat, Q.C., as a tribute to his dedication to the community, his esteem in the legal profession and his devotion to his family. A variable number of bursaries to be granted to students who demonstrate financial need. (90614)

**THE LINCLUDEN MANAGEMENT BURSARIES**

Established in 1997 by Lincluden Management Ltd. under the McMaster Student Opportunity Fund initiative. A variable number of bursaries to be granted to students enrolled in any program who demonstrate financial need. (90755)

**THE ALEC JOHN ROYSTON MacMILLAN MEMORIAL BURSARY**

Established in 1996 by his family in memory of Alec John Royston MacMillan under the McMaster Student Opportunity Fund initiative. To be granted to students in any program who demonstrate financial need. Preference will be given to the recipients of The Alec John Royston MacMillan Memorial Awards. (90907)

**THE MAKSTEEL BURSARY**

Established in 1997 by Maksteel Inc. in support of its belief that all students should have the opportunity to pursue their educational goals. To be granted to students enrolled in any program who demonstrate financial need. (90761)

**THE DOROTHY DEAN MATHESON MEMORIAL BURSARY**

Established in 2004 by bequest of Kenneth Matheson, in memory of Dorothy Dean Matheson (Class of '84). To be granted to female part-time students who demonstrate financial need. (91028)

**THE LINDA MATTHEWS BURSARIES**

Established in 1996 by Linda Matthews (Class of '69). A variable number of bursaries to be granted to students enrolled in any program who demonstrate financial need. Preference to be given to female students. (90664)

**THE ANDREW McFARLANE BURSARIES**

Established in 1988 by bequest of Andrew McFarlane of Hamilton. To be granted to a student or students who are in good standing and have demonstrated financial need. (90526)

**THE McMASTER BURSARIES**

Established in 1980 by the University to assist undergraduate students in any program. (90527)

**THE McMASTER GENERAL BURSARIES**

Established in 1996 by the University to assist undergraduate students in any program who demonstrate financial need. (90624)

**THE McMASTER ALUMNAE CENTENNIAL BURSARY**

Established in 1988 by the McMaster Women's Alumni, Hamilton Branch, to be granted to a mature student in his or her graduating year, who is a Canadian citizen or permanent resident and who exhibits financial need. Preference will be given to a single parent. (90528)

**THE McMASTER ALUMNI ASSOCIATION BURSARY**

Established in 1997 by the McMaster Alumni Association in support of its belief that all students should have the opportunity to pursue their educational goals. A variable number of bursaries will be granted annually to McMaster students who demonstrate financial need. (90862)

**THE McMASTER ASSOCIATION OF PART-TIME STUDENTS BURSARIES**

Established in 1988 in celebration of McMaster's Centennial celebration to assist students currently enrolled in a degree or certificate program who, without such assistance, would be unable to continue their studies. Consideration may also be given to students who would not otherwise enrol without such assistance. Applications will be reviewed by the MAPS Centennial Bursary Selection Committee. (90529)

**THE McMASTER ASSOCIATION OF PART-TIME STUDENTS 20TH ANNIVERSARY BURSARY**

Established in 1999 in honour of the 20th anniversary of the McMaster Association of Part-Time students. The bursary was further augmented by friends and colleagues of Helen Barton, MAPS' first President and founding member, in recognition of her 27 years of service and retirement as Senior Associate Registrar at McMaster. To be granted to students currently enrolled, on a part-time basis, in a degree, diploma or certificate program, who demonstrate financial need. Applications will be reviewed by the MAPS Bursary Selection Committee. (90835)

**THE McMASTER ASSOCIATION OF PART-TIME STUDENTS 25TH ANNIVERSARY BURSARY**

Established in 2004 by the McMaster Association of Part-Time Students (MAPS) to commemorate its silver anniversary. To be granted to students currently enrolled, on a part-time basis, in a degree, diploma or certificate program, who demonstrate financial need. Applications will be reviewed by the MAPS Bursary Selection Committee. (90988)

**THE McMASTER SAVINGS AND CREDIT UNION LIMITED BURSARY**

Established in 1997 by McMaster Savings and Credit Union Limited in support of its belief that all students should have the opportunity to pursue their educational goals. To be granted annually to McMaster students enrolled in any program who demonstrate financial need. (90822)

**THE McMASTER STUDENT OPPORTUNITY FUND BURSARIES**

Established in 1996 by McMaster University from general donations to the University bursary program and matching funding provided through the Ontario Student Opportunity Trust Fund initiative. A variable number of bursaries to be granted to students enrolled in any program who demonstrate financial need. (90627)

**THE McMASTER STUDENT OPPORTUNITY FUND II BURSARIES**

Established in 2003 by McMaster University from general donations to the University bursary program and matching funding provided through the Ontario Student Opportunity Trust Fund II initiative. A variable number of bursaries to be granted to students enrolled in any program who demonstrate financial need. (91002)

**THE McMASTER STUDENTS' UNION BURSARIES**

Established in 1982 by the McMaster Students' Union. To assist those undergraduate MSU members who demonstrate financial need. (90530)

**THE McMASTER UNIVERSITY FACULTY ASSOCIATION BURSARY**

Established in 1997 by the McMaster Faculty Association under the McMaster Student Opportunity Fund initiative based on the assumption that all students should have access to educational opportunities. To be granted to a student enrolled in any program who demonstrates financial need. (90768)

**THE A.J. MELLONI MEMORIAL FUND**

To be granted to a student in any program. (90532)

**THE MELOCHE MONNEX INC. BURSARY**

Established in 1997 by Meloche Monnex Inc. under the McMaster Student Opportunity Fund initiative in the belief that students should have the opportunity to pursue their educational goals. To be granted to a student enrolled in any program who demonstrates financial need. (90776)

**THE EDNA C. AND FRANK CHARLES MILLER BURSARY**

Established in 1997 by Frank C. Miller in memory of his parents, Edna C. and Frank Charles Miller, in support of McMaster students. To be granted to a student enrolled in any program who demonstrates financial need. (90778)

**THE WALLACE R. MORRIS BURSARY FUND**

Established in 1997 by bequest of Wallace Ronald Morris. A variable number of bursaries to be granted to students enrolled in any program who demonstrate financial need. (90780)

**THE JOHN DOUGLAS MOYER BURSARY**

Established in 1986 by bequest of John Douglas Moyer to assist needy students. (90534)

**THE HELEN K. MUSSALLEM BURSARY**

Established in 1996 by Dr. Helen K. Mussallem (C.C., B.N., Ed.D., LL.D. (Queen's), D.Sc., D.St.J., F.R.C.N., M.R.S.H.) under the McMaster Student Opportunity Fund initiative. To be granted to students enrolled in any program who demonstrate financial need. Preference will be given to the recipient of The Helen K. Mussallem Award. (90909)

**THE MARJORIE AND BILL NELSON BURSARY**

Established in 1997 by Marjorie and Bill Nelson under the McMaster Student Opportunity Fund initiative in support of the Hamilton community, and in support of the efforts of McMaster University to ensure that all students have the opportunity to achieve their educational goals. To be granted to a student enrolled in any program who demonstrates financial need. (90781)

**THE NELSON STEEL BURSARY**

Established in 1997 by Nelson Steel in support of its belief that all students should have the opportunity to pursue their educational goals. To be granted to students in any program who demonstrate financial need. (90782)

**THE ONCOLOGY NURSING PROGRAM BURSARY**

Established in 1997 in recognition of the contribution of McMaster students under the McMaster Student Opportunity Fund initiative. To be granted to students enrolled in any program who demonstrate financial need. Preference will be given to the recipient of The Oncology Nursing Program Award. (90910)

**THE PETRO-CANADA BURSARIES**

Established in 1996 by Petro-Canada, the largest Canadian-owned oil and gas company and one of the country's leading refiners and marketers of petroleum products, in support of its belief that all students should have the opportunity to pursue their educational aspirations. A variable number of bursaries to be granted to students in any program who demonstrate financial need. (90634)

**THE ROBERT AND RUTH PHILIP STUDENT BURSARIES**

Established in 1996 by Robert and Ruth Philip of Hamilton, Ontario. A variable number of bursaries to be granted to students in any program who demonstrate financial need. (90635)

**THE PIONEER GROUP LTD. BURSARY**

Established in 1997 by the Pioneer Group of Companies Inc. under the McMaster Student Opportunity Fund initiative. To be granted to students enrolled in any program who demonstrate financial need. Preference will be given to the recipient of The Pioneer Group Inc. Award. (90911)

**THE GORDON AND JANE PRICE BURSARY**

Established in 1997 by their sons in honour of Gordon and Jane Price under the McMaster Student Opportunity Fund initiative. To be granted to students enrolled in any program who demonstrate financial need. Preference will be given to the recipient of The Gordon and Jane Price Award. (90912)

**THE GORDON RAYMOND BURSARY**

Established in 1996 by the McMaster Association of Part-time Students and other friends and colleagues under the McMaster Student Opportunity Fund initiative. To be granted to part-time students in any program who demonstrate financial need. Preference will be given to the recipient of The Gordon Raymond Award. (90638)

**RBC FINANCIAL GROUP BURSARY**

Established in 1997 by the Royal Bank of Canada in support of its belief that all students should have the opportunity to pursue their educational goals. A variable number of bursaries to be granted to McMaster students who demonstrate financial need. (90797)

**THE REDPATH SUGARS BURSARY**

Established in 1997 by Redpath Sugars, Division of Redpath Industries Limited, in support of its belief that all students should have the opportunity to pursue their educational goals. To be granted to a student enrolled in any program who demonstrates financial need. (90824)

**THE JAMES AND ELIZABETH ROBERTS BURSARIES**

Established in 1957 by R.H. Roberts in memory of his parents to assist any male student of good academic standing. (90538)

**THE HUGH AND ALICE ROBERTSON MEMORIAL BURSARIES**

Established in 1997 by R. G. Hamish Robertson in honour of his parents Hugh and Alice Robertson under the McMaster Student Opportunity Fund initiative. A variable number of bursaries to be granted to students enrolled in any program who demonstrate financial need. (90795)

**THE HELEN LENORE ROSZELL MEMORIAL BURSARIES**

Established in 2000 by bequest of Helen Lenore Roszell. A variable number of bursaries to be granted to students in any program who demonstrate financial need. (90951)

**THE ROTARY CLUB OF ANCASTER BURSARY**

Established in 1997 by the Rotary Club of Ancaster under the McMaster Student Opportunity Fund initiative. To be granted to students enrolled in any program who demonstrate financial need. Preference will be given to the recipient of The Rotary Club of Ancaster Award. (90914)

**THE ROTARY CLUB OF BURLINGTON CENTRAL BURSARY**

Established in 1997 by the Rotary Club of Burlington Central under the McMaster Student Opportunity Fund initiative. To be granted to students who are enrolled in any program who demonstrate financial need. Preference will be given to the recipient of The Rotary Club of Burlington Central Award. (90915)

**THE ROTARY CLUB OF HAMILTON BURSARY**

Established in 1997 by the Rotary Club of Hamilton under the McMaster Student Opportunity Fund initiative. To be granted to students enrolled in any program who demonstrate financial need. Preference will be given to the recipient of The Rotary Club of Hamilton Award. (90875)

**THE ROTARY CLUB OF HAMILTON A.M. BURSARY**

Established in 1997 by The Rotary Club of Hamilton A.M. under the McMaster Student Opportunity Fund initiative. To be granted to students enrolled in any program who demonstrate financial need. Preference will be given to the recipient of The Rotary Club of Hamilton A.M. Award. (90876)

**THE ROYAL & SUNALLIANCE BURSARIES**

Established in 1997 by Royal & SunAlliance Canada in support of its belief that all students should have the opportunity to pursue their educational goals. A variable number of bursaries will be granted annually to McMaster students who demonstrate financial need. (90799)

**THE HELEN SANSONE BURSARIES**

Established in 1996 by bequest of Helen Sansone of Hamilton, Ontario. A variable number of bursaries to be granted to students enrolled in any program who demonstrate financial need. (90641)

**THE SATURN OF HAMILTON EAST BURSARY**

Established in 1996 by SATURN of Hamilton East under the McMaster Student Opportunity Fund initiative. To be granted to students enrolled in any program who demonstrate financial need. Preference will be given to the recipient of The Saturn of Hamilton East Achievement Award. (90919)

**THE SCIENCE CLASS OF '97 LEGACY BURSARY**

Established in 1997 by the Science Class of '97 under the McMaster Student Opportunity Fund initiative. To be granted to students in any program who demonstrate financial need. Preference will be given to the recipient of The Science Class of '97 Legacy Award. (90920)

**THE MYKOLA SEMENIUK BURSARIES**

Established in 1991 by bequest of Mykola Semeniuk to assist students who demonstrate financial need and augmented in 1996 in conjunction with the McMaster Student Opportunity Fund initiative. (90551)

**THE LOUIS SR. AND ROSITA SERAFINI BURSARY**

Established in 2004 by Louis Jr. and Lori Ann Serafini, graduates of McMaster University, in honour of Louis Sr. and Rosita Serafini under the McMaster Student Opportunity Fund II initiative. To be granted to a student enrolled in any program who demonstrates financial need. (91024)

**THE ROSA MAUDE SHEARDOWN BURSARY**

Established in 1997 by Gordon R. Baker, Q. C. in honour of his foster mother, Rosa Maude Sheardown, and her belief in the importance of education and providing a helping hand to others. To be granted to students in any Faculty who demonstrate financial need. Preference to be given to students from single-parent families, foster or group homes, disadvantaged backgrounds or King Township. (90967)

**THE MEENA AND NARESH SINHA BURSARY**

Established in 1996 by Meena and Narish Sinha under the McMaster Student Opportunity Fund initiative. To be granted to students enrolled in any program who demonstrate financial need. Preference will be given to the recipient of the Meena and Narish Sinha Award. (90921)

**THE ALBERT EDWARD SMITH AND JEAN McTAVISH SMITH BURSARY**

Established in 1998 by Mrs. Jean McTavish Smith (Class of '31), in memory of Albert Edward Smith (Class of '29) under the McMaster Student Opportunity Fund initiative. To be granted to a student in any program who demonstrates financial need. (90836)

**THE SAM SMURLICK BURSARY**

Established in 1978 by the Smurlick family in memory of Sam Smurlick (Class of '35). To be granted to a student in any program who demonstrates financial need. (90541)

**THE LORNA AND DAVID SOMERS BURSARY**

Established in 1997 by Lorna Somers (Class of '81) and David Somers (Class of '88) under the McMaster Student Opportunity Fund initiative. To be granted to students in any program who demonstrate financial need. Preference will be given to the recipient of The Lorna and David Somers Award. (90922)

**THE SOMERVILLE BURSARY**

Established in 1997 under the McMaster Student Opportunity Fund initiative. Preference will be given, if financial need is demonstrated, to a recipient of The Somerville Scholarships. (90881)

**THE ST. PAUL GUARANTEE INSURANCE BURSARY**

Established in 1997 by London Guarantee Insurance in support of its belief that all students should have the opportunity to pursue their educational goals. A variable number of bursaries to be granted annually to McMaster students who demonstrate financial need. (90757)

**THE ADAM SUDAR PRINTMAKING BURSARY**

Established in 1997 in memory of Adam Sudar by his friends under the McMaster Student Opportunity Fund initiative. To be granted to students in any program who demonstrate financial need. Preference will be given to the recipient of The Adam Sudar Printmaking Award. (90923)

**THE TARBUTT CONSTRUCTION LTD. BURSARY**

Established in 1997 by Tarbutt Construction Ltd. under the McMaster Student Opportunity Fund initiative. To be granted to a student enrolled in any program who demonstrates financial need. (90732)

**THE STEPHEN F.H. THRELKELD BURSARY**

Established in 1997 by friends and colleagues of Stephen F.H. Threlkeld under the McMaster Student Opportunity Fund initiative. To be granted to students enrolled in any program who demonstrate financial need. Preference will be given to the recipient of The Stephen F.H. Threlkeld Award. (90924)

**THE TTK INC. BURSARY**

Established in 1997 by TTK Inc. under the McMaster Student Opportunity Fund initiative. To be granted to students enrolled in any program who demonstrate financial need. Preference will be given to the recipient of The TTK Inc. Awards. (90925)

**THE RAY AND JOYCE TRULL BURSARY**

Established in 1998 by Roger and Janet Trull and their children in honour of Ray and Joyce Trull. To be granted to a student in any program who demonstrates financial need. (90837)

**THE ROGER TRULL BURSARY**

Established in 1997 by friends and colleagues under the McMaster Student Opportunity Fund initiative. To be granted to students enrolled in any program who demonstrate financial need. Preference will be given to the recipient of The Roger Trull Award. (90926)

**THE GEORGE ELIAS TUCKETT BURSARIES**

Established in 2005 in memory of George Elias Tuckett, a prominent Hamilton businessman and community leader who founded the oldest tobacco manufacturing company in Canada - a company that has been part of Imperial Tobacco since 1930. To be granted to students in any Faculty who demonstrate financial need. (91047)

**THE EDITH H. TURNER FOUNDATION BURSARIES**

Established in 1996 by The Edith H. Turner Foundation in support of students pursuing their post-secondary studies at McMaster. A variable number of bursaries to be granted to students enrolled in any program who demonstrate financial need. (90648)

**THE TYNOWSKI BURSARY**

Established in 1997 under the McMaster Student Opportunity Fund initiative. Preference will be given, if financial need is demonstrated, to the recipient of The Tynowski Scholarship. (90953)

**THE UBS GLOBAL ASSETS MANAGEMENT****(CANADA) COMPANY BURSARY**

Established in 1997 by the UBS Global Assets Management (Canada) Company under the McMaster Student Opportunity Fund initiative. To be granted to students enrolled in any program who demonstrate financial need. Preference will be given to the recipient of The UBS Global Assets Management (Canada) Company Award. (90898)

**THE VALLEY CITY BURSARY**

Established in 1996 by Valley City in support of its belief that all students should have the opportunity to pursue their educational goals. To be granted to a student in any program who demonstrates financial need. (90662)

**THE FILOMENA AND FERDINANDO VISOCCHI BURSARY**

Established in 2003 by their children and family in honour of Filomena and Ferdinando Visocchi under the McMaster Student Opportunity Fund II initiative. To be granted to a student in any program who demonstrates financial need. (90997)

**THE WALLINGFORD HALL BURSARIES**

Established through anonymous donations to assist students in any program who demonstrate financial need. (90548)

**THE G.S. WARK LTD. BURSARY**

Established in 1996 by G.S. Wark Ltd. General Contractors, in support of its belief that all students should have the opportunity to pursue their educational goals. To be awarded to a student in any program who demonstrates financial need. (90589)

**THE SAM WATSON MEMORIAL BURSARY**

Established in 1996 by his wife Irene M. Watson and friends of Samuel Watson under the McMaster Student Opportunity Fund initiative. To be granted to students enrolled in any program who demonstrate financial need. Preference will be given to the recipient of The Sam Watson Memorial Award. (90928)

**THE ROSS FAWCETT WEBB BURSARY FUND**

Established in 1983 by the Hamilton Community Foundation in memory of Ross Fawcett Webb. To be granted in the second term of study (any level) to a student who demonstrates financial need and is enrolled in any program at McMaster. Applicants must be Canadian Citizens or hold permanent resident status in Canada. (90971)

**THE ARTHUR AND MARGARET WEISZ BURSARY**

Established in 2004 by Arthur Weisz (LL.D. 2004) and Margaret Weisz under the McMaster Student Opportunity Fund II initiative. To be granted to students enrolled in any program who demonstrate financial need. (91008)

**THE LLOYD WERDEN MEMORIAL BURSARIES**

Established in 1996 by bequest of Lloyd Werden of Bonavista in the Township of Louth in the County of Lincoln, former Physician. To be granted to students enrolled in any program who demonstrate financial need. (90651)

**THE WESCAST INDUSTRIES BURSARY**

Established in 1997 by Wescast Industries Inc. under the McMaster Student Opportunity Fund initiative. To be granted to students enrolled in any program who demonstrate financial need. Preference will be given to the recipient of The Wescast Industries Continuous Learning Award. (90929)

**THE ALLAN AND JOY WILLIAMS BURSARY**

Established in 1996 by Mary Williams (Class of '87), Anne Williams (Class of '89) and Ellen and Dan Walker under the McMaster Student Opportunity Fund initiative. To be granted to students enrolled in any program who demonstrate financial need. Preference will be given to the recipient of The Allan and Joy Williams Award. (90877)

**THE YATES BURSARIES**

Established in 1963 by bequest of William Henry Yates of Hamilton. To assist students in any program. (90549)

**THE GLADYS A. YOUNG BURSARY**

Established in 1997 under the McMaster Student Opportunity Fund initiative. Preference will be given, if financial need is demonstrated, to the recipient of The Gladys A. Young Scholarship. (90878)

**THE ZENON ENVIRONMENTAL BURSARY**

Established in 1997 by Zenon Environmental Inc. under the McMaster Student Opportunity Fund initiative. To be granted to students enrolled in any program who demonstrate financial need. Preference will be given to the recipient of The Zenon Environmental Award. (90931)

**THE ZOOM MEDIA INC. BURSARY**

Established in 1997 by Zoom Media Inc. in support of McMaster students under the McMaster Student Opportunity Fund initiative. To be granted to students enrolled in any program who demonstrate financial need. Preference will be given to the recipient of The Zoom Media Award. (90932)

**BURSARIES FOR STUDENTS WITH DISABILITIES****THE AUBREY DALGLEISH BURSARY**

Established in 1985. To be granted to a student in any program who demonstrate financial need with special preference given to handicapped students and/or students in the Faculty of Business. (90509)

**THE JAMES R. (JAMIE) GREILICH MEMORIAL BURSARY**

Established in 1991 in memory of Jamie Greulich (Class of '88) by the Operating Committee on the Disabled through its Awareness Week Activities. To be granted to a disabled student in any program who demonstrates financial need. Students should have registered with the Centre for Student Development. (90553)

**THE RICHARD KONRAD BURSARIES**

Established in 1997 by Richard Konrad under the McMaster Student Opportunity Fund initiative in the belief that all students should have the opportunity to achieve their academic goals. A variable number of bursaries to be granted based upon demonstrated financial need in each of the following areas:

- a) The Richard Konrad Bursaries for students enrolled in any program.
- b) The Richard Konrad Bursaries for physically challenged students registered with the Centre for Student Development, who are enrolled in any program. (90750)

**THE SERTOMA CLUB BURSARY**

Established in 1989 by the Sertoma Club of Hamilton. To be granted to a hearing disabled student in any program who demonstrates financial need. In a year that a suitable candidate is not found, the bursary will be granted to a student with another disability provided they demonstrate financial need. Students must have registered with the Centre for Student Development. (90540)

**THE LILLIAN R. STEGNE MEMORIAL BURSARIES**

Established in 1990 in memory of Lillian Rose Stegne (Class of '62) by family, friends and colleagues. Two or three bursaries to be granted to handicapped students in any program who demonstrate financial need. (90543)

**ATHLETIC BURSARIES**

All athletic bursaries are only applicable to students in Level II or higher who meet the OUA and the CIAU regulations for Athletic Bursaries. Verification of eligibility will be done in consultation with the Department of Athletics.

**THE ELVA CARROL BURSARY**

Established in 1996 by Elva Carrol under the McMaster Student Opportunity Fund initiative. To be awarded to a female athlete who participates on an inter-university team and demonstrates financial need. Preference will be given to the recipient of The Elva Carrol Award. (90899)

**THE CROSS COUNTRY BURSARY**

Established in 1997 by coaches, former team members and supporters of the Men's and Women's Varsity Cross Country running teams under the McMaster Student Opportunity Fund initiative. To be granted to a student who demonstrates financial need and who is a member of the varsity men's or women's cross country team. (90695)

**THE SAM DARRAGH GENERAL ATHLETIC BURSARY**

Established in 1997 by friends of Sam Darragh under the McMaster Student Opportunity Fund initiative. To be granted to a student enrolled in any academic program who demonstrates financial need and who is a member of any inter university team at McMaster. (90697)

**THE SAM DARRAGH MEMORIAL BURSARY**

Established in 1997 by friends of Sam Darragh under the McMaster Student Opportunity Fund initiative. To be granted to a student enrolled in any program who demonstrates financial need and who has demonstrated outstanding athletic achievement in intervarsity football. (90827)

**THE KNAP MARSHALL BURSARY**

Established in 2005 under the Ontario Trust for Student Support initiative. To be granted to students enrolled in the DeGroot School of Business who demonstrate financial need and who have demonstrated outstanding athletic achievement in an intervarsity sport. (91032)

**THE SADIE LUDLOW BURSARIES**

Established in 1996 by family and friends of Sadie Ludlow, former McMaster employee from 1957 to 1977, and an outstanding athlete who loved sports. A variable number of bursaries to be granted to student who have demonstrated financial need and involvement in either McMaster intervarsity football or intervarsity women's tennis. (90615)

**THE JOHN McCAHILL MEMORIAL BURSARY**

Established in 2001 in loving memory of John (Jack) Woodhouse McCahill by his family and friends. To be granted to a student who demonstrates financial need and who demonstrates outstanding athletic achievement in men's basketball, golf, football, hockey or tennis. (90968)

**THE McMASTER ATHLETIC COUNCIL (Mac) BURSARY**

Established in 1997 by the Men's Athletic Council and the Women's Intercollegiate Athletics Council under the McMaster Student Opportunity Fund initiative. To be granted to a student enrolled in any program who demonstrates financial need and who is a member of any inter-university team at McMaster. (90906)

**THE McMASTER MEN'S ATHLETICS BURSARY**

Established by past and present student-athletes and friends of McMaster Interuniversity Athletics to assist students in any academic program who demonstrate financial need and who demonstrate outstanding athletic participation in men's interuniversity athletics. (90625)

**THE McMASTER MEN'S BASKETBALL BURSARY**

Established by past and present student-athletes and friends of McMaster Men's Basketball to assist students in any academic program who demonstrate financial need and who demonstrate outstanding athletic participation in the sport of men's basketball. (90770)

**THE McMASTER SQUASH AND GOLF BURSARY**

Established by past and present student-athletes and friends of McMaster Golf and Squash to assist a student in any academic program who demonstrates financial need and who demonstrates outstanding athletic participation in the sport of golf or squash. (90771)

**THE McMASTER WOMEN'S BASKETBALL BURSARY**

Established by past and present student-athletes and friends of McMaster Women's Basketball to assist a student in any academic program who demonstrates financial need and who demonstrates outstanding athletic participation in the sport of women's basketball. (90772)

**THE McMASTER WOMEN'S VOLLEYBALL BURSARY**

Established by past and present student-athletes and friends of McMaster Women's Volleyball to assist a student in any academic program who demonstrates financial need and who demonstrates outstanding athletic participation in the sport of women's volleyball. (90773)

**THE NHL PLAYERS' ASSOCIATION BURSARY**

Established in 1999 by The NHL Players' Association Alumni. To be granted to a student enrolled in any program who demonstrates financial need and who has demonstrated outstanding athletic achievement in an intervarsity sport. (90889)

**THE HAROLD NOLAN MEMORIAL FOOTBALL BURSARY**

Established in 2003 by Els and John Swart. To be granted to a student enrolled in any program who demonstrates financial need and who has demonstrated outstanding athletic achievement in inter university football. (90978)

**THE THOMAS ALEXANDER PAIN BURSARY**

Established by past and present student-athletes and friends of McMaster Football to assist students in any academic program who demonstrate financial need and who demonstrate outstanding participation in the sport of football. (90777)

**THE LES PRINCE BURSARIES**

Established in 1996 in memory of Leslie A. Prince, dedicated teacher, coach and administrator at McMaster University remembered for his outstanding leadership and service in Athletics and Recreation, Student Life as well as the community-at-large. To assist student-athletes who demonstrate financial need. Preference to be given to students who demonstrate qualities of leadership and service to the community through programs such as *The Marauder Outreach program and Community Service*. (90637)

**COMMUNITY SERVICE BURSARIES****THE ERIC JOHN BRETZLER BURSARY**

Established in 1997 by family and friends in memory of Eric John Bretzler (Class of '92). To be granted to a student enrolled in any program who demonstrates financial need. Preference will be given to students associated with the McMaster Students Union. (90814)



**THE ARCHIBALD R. CROZIER BURSARIES**

Established in 1992 in memory of Archibald (Archie) Crozier (Class of '35), former professional football player and Chair of the Ontario Energy Board for 17 years. To be granted to a student who has demonstrated financial need and a sense of social awareness and shown interest in, and concern for, others. It is hoped that recipients, after graduation, will reimburse the fund to the extent of their award so that increasing numbers of students may be assisted. (90565)

**THE GWEN GEORGE UNDERGRADUATE BURSARIES**

Established in 1997 in loving memory of Gwen George by her family and friends under the McMaster Student Opportunity Fund initiative. To be granted to students in any undergraduate program who have demonstrated financial need. Preference to be given to students who have demonstrated leadership and service to McMaster University and/or the Hamilton-Wentworth, surrounding or world communities. (90713)

**THE LYNDEN LIONS CLUB BURSARY**

Established in 1997 by the Lynden Lions Club under the McMaster Student Opportunity Fund initiative to exemplify the Lions international objective to take an active interest in the civic, cultural, social and moral welfare of the community. To be granted to a student enrolled in any program who has displayed commendable service to the community-at-large. Preference to be given to students who currently reside in the Lynden or Troy area. (90758)

**THE GEORGE SORGER BURSARY IN BIOLOGY**

Established by the friends of Dr. George Sorger. To be granted to a student in Level IV of a Biology program who demonstrates financial need. Preference will be given to students who have attained a Cumulative Average of at least 9.0 at the most recent review and who are also involved in community service. (91029)

**REGIONAL BURSARIES****THE JAMES N. ALLAN FOUNDATION BURSARY**

Established in 1996 from funds donated by the James N. Allan Foundation, Dunnville, Ontario, in support of its belief that all students should have the opportunity to achieve their educational goals. To provide assistance to McMaster students who demonstrate financial need. Preference will be given to students from Haldimand Norfolk County. (90803)

**THE ANCASTER LIONS CLUB BURSARY**

Established in 1997 by the Ancaster Lions Club under the McMaster Student Opportunity Fund initiative to exemplify the Lions international objective to take an active interest in the civic, cultural, social and moral welfare of the community. To be granted to a student enrolled in any program who demonstrates financial need. Preference to be given to students who currently reside in the town of Ancaster. (90804)

**THE CITY OF HAMILTON BURSARIES**

Established in 1959 by the City of Hamilton to commemorate the visit of Her Majesty Queen Elizabeth II and His Royal Highness Prince Philip to Hamilton in July 1959. To assist Hamilton students who demonstrate financial need. (90515)

**THE JANET HOLDER AND NEAL COCKSHUTT BURSARY**

Established in 2004 by Janet Holder (M.B.A. '83) and Neal Cockshutt in honour of Ignatius Cockshutt, founder of Cockshutt Farm Equipment Co. Ltd. To be granted to students enrolled in any program who demonstrate financial need. Preference to be given to students from Brant County. (91020)

**THE WILLIAM A. DETENBECK BURSARIES**

Established in 1996 by William Detenbeck in honour of the Detenbeck Family. A variable number of bursaries to be granted to students who demonstrate that they are residents of an Aboriginal community in Canada and who demonstrate financial need. (90597)

**THE DUNDAS BURSARIES**

Established in 1996 from funds donated anonymously for the purpose of providing students with an opportunity to achieve their educational goals. To provide assistance to McMaster students in financial need. Preference will be given to students from the Dundas area. (90599)

**THE CYRUS EATON FOUNDATION BURSARY**

Established in 2000 by the Cyrus Eaton Foundation of Cleveland, Ohio, in support of McMaster students. To be granted to a student in any program who demonstrates financial need. Preference will be given to students from Nova Scotia. (90944)

**FIRST ONTARIO CREDIT UNION**

Established in 1989 by members in celebration of 50 years of service in the Hamilton area. Two or three bursaries to be granted to students in any program who, are from the Regional Municipality of Hamilton-Wentworth, City of Burlington or Town of Haldimand-Norfolk, who have demonstrated financial need.

Value: \$700 each (90504)

**THE HAMILTON ALUMNI BRANCH BURSARIES**

Established in 1997 by the McMaster Alumni Association, Hamilton Branch, in honour of the long-standing accomplishments of the Hamilton Alumni Branch. A variable number of bursaries to be granted to students enrolled in any program who demonstrate financial need. Preference will be given to students graduating from a high school in the Hamilton-Wentworth Region. (90725)

**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)

**HAMILTON COMMUNITY FOUNDATION BURSARIES**

Established in 1996-97 by Hamilton Community Foundation from the income of funds generously donated by citizens of this community, notably the late sisters Genevieve Chaney and Cordelia Ensign, and the late Mr. Ross F. Webb. A variable number of bursaries to be awarded to full-time students, registered in any year of any undergraduate program, who have graduated from publicly-funded secondary schools in Hamilton-Wentworth and who demonstrate financial need. The criteria established for these bursaries are consistent with the intention of the original donors. (90723)

**THE MARY A. HILL BURSARY**

Established in 1976 by bequest of Mary A. Hill. To be granted to a female student in any program who demonstrates financial need. Preference to be given to one who has graduated from a secondary school in Hamilton. (90521)

**THE WILLIAM NEIL HOTRUM BURSARIES**

Established in 2004 by Mr. William Neil Hotrum under the McMaster Student Opportunity Trust Fund II initiative in support of his belief that all students should have the opportunity to pursue their educational goals. To be granted to students who demonstrate financial need. Preference will be given to (i) students from the Hamilton area and (ii) students from a single parent family. (91026)

**THE CLIFFORD JACKSON MEMORIAL BURSARIES**

Established in 1997 by family and friends in memory of Clifford Jackson. A variable number of bursaries to be granted annually to students in any program who demonstrate financial need. Preference will be given to children and grandchildren of employees and retirees of The Hamilton-Wentworth Regional Police. (90737)

**THE KIWANIS CLUB OF HAMILTON EAST BURSARY**

Established in 1997 by the Kiwanis Club of Hamilton East under the McMaster Student Opportunity Fund initiative. To be granted to a student enrolled in any program who demonstrates financial need. Preference to be given to members and former members of the Hamilton East Kiwanis Boys' and Girls' Club. (90749)

**THE LEFLAR FOUNDATION BURSARY**

Established in 1997 by The Leflar Foundation in support of its belief that all students should be able to pursue their educational goals. To be granted to students enrolled in any program who demonstrate financial need. Preference to be given to students who are from the Owen Sound area. (90753)

**THE PAUL R. MacPHERSON BURSARY**

Established in 1998 by Paul R. MacPherson (Class of '57) and augmented in 2003 under the McMaster Student Opportunity Fund II initiative in support of his belief that all students should be able to pursue their educational goals. To be granted to students enrolled in any program who demonstrate financial need. Preference will be given to (i) students from Bracebridge and Muskoka Lakes Secondary School and (ii) Aboriginal students from a First Nations community in Ontario. (90838)

**THE MALLOCH FOUNDATION BURSARIES**

Established in 1996 by the Malloch Foundation, Hamilton, in the belief that all students should be able to achieve their educational goals. A variable number of bursaries to be granted to students in any program who demonstrate financial need. Preference to be given to students from the Hamilton area. (90618)

**THE LILLIAN AND LEROY PAGE BURSARIES**

Established in 1997 by the Lillian and Leroy Page Foundation to enable students to pursue their educational goals. A variable number of bursaries to be granted to students from the Hamilton-Wentworth Region who demonstrate financial need. Preference to be given to students in the Faculty of Science. (90786)

**THE REGIONAL MUNICIPALITY OF HAMILTON-WENTWORTH BURSARIES**

Established in 1997 by The Regional Municipality of Hamilton-Wentworth in support of its belief that all students should have the opportunity to pursue their educational goals. A variable number of bursaries will be granted to students enrolled in any program who demonstrate financial need. Preference will be given to students who permanently reside in the Hamilton-Wentworth Region. (90794)

**THE ELEANOR AND WILFRED RYDER BURSARY**

Established in 1999 by Marvin Ryder in honour of Eleanor and Wilfred Ryder. To be granted to students enrolled in any program who demonstrate financial need. Preference will be given to students from Oxford County or Norfolk County. (90894)

**THE ROSA MAUDE SHEARDOWN BURSARY**

Established in 1997 by Gordon R. Baker, Q. C. in honour of his foster mother, Rosa Maude Sheardown, and her belief in the importance of education and providing a helping hand to others. To be granted to students in any Faculty who demonstrate financial need. Preference to be given to students from single-parent families, foster or group homes, disadvantaged backgrounds or King Township. (90967)

**THE TOWNSHIPS OF NORTH DUMFRIES AND WOOLWICH IN WATERLOO REGION AND TOWNSHIP OF CENTRE WELLINGTON AND CITY OF GUELPH IN WELLINGTON COUNTY BURSARY**

Established in 2005 under the Ontario Trust for Student Support program to ensure that all students have the opportunity to pursue their educational goals. To be granted to students in any Faculty who demonstrate financial need. Preference will be given to students residing in the Townships of North Dumfries and Woolwich in Waterloo Region and Township Centre Wellington and City of Guelph in Wellington County. (91037)

**FACULTY-SPECIFIC BURSARIES****ARTS AND SCIENCE PROGRAM****THE BIRGIT AND ROBERT BATEMAN BURSARY**

Established in 1997 by Birgit and Robert Bateman under the McMaster Student Opportunity Fund initiative. To be granted to a student who demonstrates financial need and is enrolled in the Arts and Science program, the Faculty of Social Sciences or the Faculty of Science. Preference to be given to students who are studying Environmental Studies or Environmental Science. (90810)

**THE LOUILA BRAYFORD MEMORIAL BURSARY**

Established in 1998 by Mrs. Janet Leenaars in memory of her late mother, Mrs. Louila Brayford (nee Bingham, Class of '34). To be granted to a student enrolled in the Arts and Science Program who demonstrates financial need. Preference will be given to a student enrolled in a course in Mathematics. (90839)

**THE GORDON H. DEAN BURSARIES**

Established in 1996 by Gordon H. Dean of Stoney Creek. To be granted to a student who demonstrates financial need. Preference will be given to a student enrolled in Level III of a program in Arts and Science or Level III of a program in the Faculty of Humanities. (90594)

**THE GEORGE P. GILMOUR MEMORIAL BURSARY**

Established in 1997 by the Class of '62 in support of McMaster students. To be granted to a student enrolled in the Arts and Science Program who has demonstrated financial need. Preference will be given to the student who wins the George P. Gilmour Memorial Scholarship. (90714)

**THE JOHNS FAMILY BURSARIES**

Established by Martin W. Johns and family. A variable number of bursaries to be granted to students enrolled in the Arts and Science Program who demonstrate financial need. (90568)

**THE KATHLEEN AND DENNIS McCALLA BURSARIES**

Established in 2003 by Kathleen and Dennis McCalla, former Dean, Faculty of Science and later Vice-President, Faculty of Health Sciences at McMaster University. To be granted to students who demonstrate financial need and are enrolled in a program in Science, Humanities, or Arts and Science. Preference will be given to students with a minimum admission average of 80% and who are from Grey or Bruce Counties. Value: Minimum \$1,000 (90970)

**THE SAM AND IRENE WATSON BURSARY FUND**

Established in 1996 by the estate of Irene Mary Watson. To be granted to students who demonstrate financial need and who have completed their second year with a Cumulative Average of at least 8.0 in the Arts and Science Program or any of the Faculties of Business, Engineering, Humanities, Science and Social Sciences. Value: \$2,000 (90840)

**FACULTY OF BUSINESS****THE GARY ALLEN MEMORIAL BURSARY**

Established in 1987 by friends and family of the late Gary Allen (Class of '84) and augmented in 1996 in conjunction with the McMaster Student Opportunity Fund initiative, to assist a Commerce student in Year III or IV whose major area of study is accounting and who demonstrates financial need. Preference will be given to a mature student. (90501)

**THE MATT CASEY BURSARY**

Established in 1997 by Mr. Matthias Casey (Class of '83) under the McMaster Student Opportunity Fund initiative. To be granted to a student who demonstrates financial need and is enrolled in the Faculty of Business. Preference will be given to students enrolled in the M.B.A. program in the Finance stream. (90681)

**THE DAVID CLARK BURSARIES**

Established in 1996 by David I. Clark and Marilyn D. Eustace. A variable number of bursaries to be granted to students enrolled in a program in Commerce who demonstrate financial need. Preference to be given to students demonstrating interest in Asian Studies. (90588)

**THE AUBREY DALGLEISH BURSARY**

Established in 1985. To be granted to a student in any program who demonstrate financial need with special preference given to handicapped students and/or students in the Faculty of Business. (90509)

**THE DAUGHTERS OF THE EMPIRE CLUB, HAMILTON LTD. BURSARIES**

Established in 1996 in honour of The Daughters of the Empire Club, Hamilton, Limited (1911-1996) in support of its belief that all students should have the opportunity to pursue their educational aspirations. A variable number of bursaries to be granted to students in financial need. Preference to be given to women enrolled in the Faculty of Business. (90593)

**THE DeGROOTE SCHOOL OF BUSINESS****BUSINESS ADVISORY COUNCIL BURSARY**

Established in 1997 by the DeGroot School of Business Business Advisory Council under the McMaster Student Opportunity Fund initiative. To be granted to a student who demonstrates financial need and is enrolled in Business I or in the first year of the M.B.A. program at the DeGroot School of Business. (90699)

**THE STEPHEN DULMAGE BURSARY**

Established in 2005 by Stephen Dulmage '64 (B.A.). To be granted to students enrolled in the Bachelor of Commerce program in the DeGroot School of Business who demonstrate financial need. (91048)

**THE GEORGE AND MARGARET EDRUPT BURSARY**

Established in 1997 by Sandra Edrupt in honour of her parents George and Margaret Edrupt under the McMaster Student Opportunity Fund initiative. To be granted to a student who demonstrates financial need and is enrolled in either the Faculty of Business or the Computer Science program in the Faculty of Science. (90701)

**THE FACULTY OF BUSINESS BURSARIES**

Established in 1997 under the McMaster Student Opportunity Fund initiative with proceeds from the Fundraising Auction held at Vineland Estates Winery Ltd. To be granted to students enrolled in the Faculty of Business who demonstrate financial need. (90705)

**THE FINANCIAL EXECUTIVES INSTITUTE BURSARY**

Established in 1997 by the Hamilton Chapter of the Financial Executives Institute in support of its belief that all students should have the opportunity to achieve their educational goals. To be granted to a student enrolled in Level II of the Commerce program who demonstrates financial need, has attained a minimum CA of 6.0 and who plans to major in Accounting and/or Finance. The bursary is renewable for up to two additional years on condition that the student continues to demonstrate financial need and maintains a minimum CA of 6.0 in the Commerce program. (90829)

**THE WAYNE C. FOX BURSARIES**

Established in 1999 by Wayne C. Fox in support of his belief that all students should have the opportunity to pursue their educational goals. A variable number of bursaries will be granted to students who demonstrate financial need and are enrolled in the Faculty of Humanities or the Faculty of Social Sciences or the Commerce program at the DeGroot School of Business. (90857)

**THE ALLEN AND MILLI GOULD FAMILY FOUNDATION BURSARIES**

Established in 1997 from funds donated by the Allen and Milli Gould Family Foundation, in support of its belief that all students should have the opportunity to pursue their educational goals. A variable number of bursaries to be granted to McMaster students enrolled in the Faculty of Business who demonstrate financial need. Preference to be given to M.B.A. Co-op students. (90716)

**THE GARY GRAHAM BURSARY**

Established in 1997 by Gary Graham under the McMaster Student Opportunity Fund initiative. To be granted to a student who demonstrates financial need and is enrolled in Business I, or in the first year of the M.B.A. program at the DeGroot School of Business. (90717)

**THE HAMILTON CHAPTER OF THE HUMAN RESOURCES PROFESSIONALS ASSOCIATION BURSARY**

Established in 1999 by the Hamilton Chapter of the Human Resources Professionals Association under the McMaster Student Opportunity Fund initiative. To be granted to a Level III or Level IV Commerce student taking two or more of the Human Resource and Management Area courses who demonstrates financial need. (90860)

**THE 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)

**THE JOHANNES MICHAEL HOLMBOE MEMORIAL BURSARY**

Established in 2004 by bequest of Ruth Anna Holmboe in memory of her husband Johannes Michael Holmboe. To be granted to students enrolled in the Faculty of Business who demonstrate financial need. (91006)

**THE IVISON FAMILY BURSARY FUND**

Established in 1998 by Don and Betty Ivison in support of McMaster students under the McMaster Student Opportunity Fund initiative. A variable number of bursaries to be granted to students enrolled in the Faculty of Engineering, the Faculty of Business or the Schools of Medicine and Rehabilitation Science in the Faculty of Health Sciences who demonstrate financial need. (90841)

**THE MARK JANTZI MEMORIAL BURSARY**

Established in 2004 by Paul and Hanne Jantzi under the McMaster Student Opportunity Fund II initiative, in memory of their son Mark Jantzi, an Honours Commerce 2002 graduate who passed away tragically in a car accident at the age of 25. This bursary is in support of the belief that all students should have the opportunity to pursue their educational goals. To be granted to students who demonstrate financial need and are enrolled in the DeGroot School of Business. (91004)

**THE JAN KELLEY MARKETING BURSARY**

Established in 1997 by Kelley Advertising Inc., founded in Hamilton in 1913. This bursary to be granted to a student enrolled in Business I, or in the first year of the M.B.A. program at the DeGroot School of Business who demonstrates financial need. (90745)

**THE KNAP MARSHALL BURSARY**

Established in 2005 under the Ontario Trust for Student Support initiative. To be granted to students enrolled in the DeGroot School of Business who demonstrate financial need and who have demonstrated outstanding athletic achievement in an intersvarsity sport. (91032)

**THE KPMG BURSARIES**

Established in 1996 by KPMG in support of its belief that students should have the opportunity to pursue their educational aspirations. A variable number of bursaries to be granted to students enrolled in the Faculty of Business who demonstrate financial need. (90607)

**THE 3M CANADA INC. BURSARIES**

Established in 1980. To be granted to two students in their final year of studies who demonstrate financial need. One to an M.B.A. student who has attained at least a 6 point average and one to a Science student who has attained a Cumulative Average of at least 9.0 at the most recent review. (90525)

**THE MANULIFE FINANCIAL BURSARIES**

Established in 1997 by Manulife Financial under the McMaster Student Opportunity Fund initiative. A variable number of bursaries to be granted to students who demonstrate financial need and are enrolled in the Faculty of Business or the Faculty of Health Sciences. (90762)

**THE McMASTER M.B.A. ALUMNI ASSOCIATION BURSARIES**

Established in 1996 by the McMaster M.B.A. Alumni Association. A variable number of bursaries to be granted to students enrolled in the first year of the DeGroot School of Business M.B.A. program who demonstrate financial need. (90626)

**THE MINICH FAMILY BURSARIES**

Established in 1996 by E. A. Minich and family. A variable number of bursaries to be granted to students enrolled in Business I who demonstrate financial need. Preference to be given to students who demonstrate a lively interest in the University and community through their involvement in extracurricular activities. (90628)

**THE CAROL R. MITCHELL BURSARY**

Established in 2005 by Carol R. Mitchell (M.B.A. '82). To be granted to students enrolled in the Bachelor of Commerce program in the DeGroot School of Business who demonstrate financial need. (91051)

**THE CLAIRE AND JOHN NOVAK BURSARY**

Established in 1997 by Bruce Cumming (Class of '73) and Marie Cumming in honour of Claire and John Novak. To be granted to a student enrolled in the Faculty of Business who demonstrates financial need. (90784)

**THE DR. ALFRED AND LAURA OAKIE BURSARIES**

Established in 1996 by Dr. Alfred U. Oakie. A variable number of bursaries to be granted to students enrolled in Business I who demonstrate financial need. (90631)

**THE PROCOR BURSARIES**

Established in 1997 by Procor Ltd. in support of its belief that all students should have the opportunity to pursue their educational goals. To be granted to students enrolled in Engineering or Commerce who demonstrate financial need and undertake service to McMaster University and the community-at-large. (90669)

**THE RICOH CANADA INC. BURSARIES**

Established in 1996 by Ricoh Canada Inc. in support of its belief that all students should have the opportunity to pursue their educational goals. A variable number of bursaries to be granted to students who demonstrate financial need and are enrolled in the Faculty of Business or the Faculty of Engineering. (90639)

**THE ROBERTSON-YATES CORPORATION BURSARIES**

Established in 1996 by the Robertson-Yates Corporation of Hamilton in support of its belief that all students should have the opportunity to pursue their educational goals. A variable number of bursaries to be granted to students enrolled in a program in Business or Engineering who demonstrate financial need. (90640)

**THE CARMEN AND DOROTHY RYDER BURSARY**

Established in 1997 by Marvin Ryder under the McMaster Student Opportunity Fund initiative in honour of Carmen and Dorothy Ryder. To be granted to a student enrolled in the Faculty of Business who demonstrates financial need. Preference to be given to a student entering Level III or IV. (90800)

**THE GINO AND ROBERTA SCAPILLATI BURSARY**

Established in 2004 by Gino Scapillati '81 and Roberta Scapillati '79 under the McMaster Student Opportunity Fund II initiative. To be granted to a student enrolled in the Faculty of Business or Faculty of Social Sciences who demonstrates financial need. (91005)

**THE SCOTIAMCLEOD BURSARIES**

Established in 1997 by ScotiaMcLeod in support of its belief that all students should have the opportunity to pursue their educational goals. A variable number of bursaries to be granted to students enrolled in any program who demonstrate financial need. Preference to be given to students enrolled in the Faculty of Business. (90802)

**THE TERRY SEAWRIGHT BURSARY**

Established in 1996 by Terry Seawright, Lecturer in the Faculty of Business. To be granted to a student in the Commerce Program who demonstrates financial need. Preference to be given to the student who has completed COMMERCE 2MA3 and attained a grade of at least B. (90643)

**THE STELCO UNDERGRADUATE BURSARIES**

Established in 1996 by Stelco- a market-driven, technologically advanced group of businesses committed to maintaining leadership roles as steel producers and fabricators- in support of students who, without financial aid, would be unable to pursue their educational goals. To be granted to students who demonstrate financial need and are enrolled in the Faculties of Business, Engineering or Science. Preference will be given to students who are enrolled in the Department of Materials Science and Engineering. (90644)

**THE TROY FAMILY BURSARY**

Established in 2004 by Kenneth (B.Com. '75) and Drenda Troy in honour of Anthony and Marie Troy in support of their belief that all students should have the opportunity to pursue their educational goals. To be awarded to a full-time student enrolled in Level II or above of the Bachelor of Commerce program who demonstrates financial need and was on the Dean's Honour List at the most recent review. (91027)

**MOSSADIQ AND YASMIN UMEDALY BURSARIES**

Established in 1999 by Mossadiq (M.B.A. '74) and Yasmin Umedaly under the McMaster Student Opportunity Fund initiative. To be granted to students enrolled in Business I or first year of the M.B.A. program who demonstrate financial need. (90868)

**THE SAM AND IRENE WATSON BURSARY FUND**

Established in 1998 by the estate of Irene Mary Watson. To be granted to students who demonstrate financial need and who have completed their second year with a Cumulative Average of at least 8.0 in the Arts and Science Program or any of the Faculties of Business, Engineering, Humanities, Science and Social Sciences.

Value: \$2,000 (90840)

**THE WESTINGHOUSE CANADA INC. BURSARIES**

Established in 1996 by Westinghouse Canada Inc. in support of students who, without financial support, would be unable to pursue their educational goals. A variable number of bursaries to be granted to students in a program in the Faculty of Business and the Faculty of Engineering who demonstrate financial need. (90652)

**THE WRIGHT FAMILY BURSARY**

Established in 2003 by Thomas C. Wright, M.B.A. '72 under the McMaster Student Opportunity Fund II initiative. To be granted to a student in the Faculty of Business or the Faculty of Science who demonstrates financial need. (90999)

**THE ZONTA CLUB OF HAMILTON I BURSARIES**

Established in 1997 by the Zonta Club of Hamilton I in support of the McMaster Student Opportunity Fund initiative and in the belief that all students, particularly women in non-traditional fields, should have the opportunity to pursue their educational goals. To be granted to a student who demonstrates financial need and is enrolled in the Faculty of Engineering, or in Business or is enrolled in a course in Indigenous Studies. Preference to be given to female students. (90550)

**FACULTY OF ENGINEERING****THE ROSE (NÉE D'ALESSIO) AND PAUL ALLISON BURSARY**

Established in 2004 by Rose (née D'Alessio) Allison (B. Eng. '81) and Paul Allison (B. Eng. Mgt. '80 and M.B.A. '81) in support of their belief that all students should have the opportunity to pursue their educational goals. To be granted to students enrolled in the Faculty of Engineering who demonstrate financial need. (91023)

**THE ANDREW FOUNDATION BURSARIES**

Established in 1997 by the Andrew Foundation under the McMaster Student Opportunity Fund initiative. A variable number of bursaries to be granted to students enrolled in a program in Engineering who demonstrate financial need. Preference to be given to students who are studying Electrical Engineering or Mechanical Engineering. (90806)

**THE A.H. ATKINSON BURSARIES**

Established in 1989 by the A.H. Atkinson Education Fund Inc. of Hamilton and augmented in 1996 in conjunction with the McMaster Student Opportunity Fund initiative. A variable number of bursaries to be awarded to undergraduate students in a full-time program in Engineering who demonstrate financial need. (90500)

**THE BARTEK BURSARIES**

Established in 1996 by Bartek Ingredients Inc. of Stoney Creek in support of McMaster students. A variable number of bursaries to be granted to students enrolled in the Faculty of Engineering who demonstrate financial need. Preference to be given to students currently on the Dean's Honour List. (90672)

**THE CANADA DIRECT SALES DIVISION BURSARY**

Established in 1997 by Canon Canada Inc. - OE Division, and augmented in 2005, in support of its belief that all students should have the opportunity to pursue their educational goals. A variable number of bursaries will be granted annually to McMaster students who demonstrate financial need and are enrolled in an Earth and Environmental Sciences program, the Honours Geography and Environmental Studies program or an Engineering and Society program. (90820)

**THE CANADIAN SOCIETY FOR MECHANICAL ENGINEERING BURSARY**

Established in 1997 by The Canadian Society for Mechanical Engineering in support of its belief that all students should have the opportunity to pursue their educational goals. To be granted to a student enrolled in the Faculty of Engineering who demonstrates financial need. Preference will be given to a student enrolled in Mechanical Engineering. (90819)

**THE COMPUSMART BURSARIES FUND**

Established in 1997 by JMG Compusmart in support of its belief that all students should have the opportunity to pursue their educational goals. To be granted annually to students who demonstrate financial need. Preference will be given to McMaster students enrolled in a program in Computer Science or Computer Engineering. (90741)

**THE CRS ROBOTICS CORPORATION BURSARIES**

Established in 1997 by CRS Robotics Corporation Inc. in support of its belief that all students should have the opportunity to pursue their educational goals. A variable number of bursaries to be granted to students enrolled in the Faculty of Engineering who demonstrate financial need. (90696)

**THE ENGINEERING CLASS OF '97 LEGACY BURSARY**

Established in 1997 by the graduating class in Engineering under the McMaster Student Opportunity Fund initiative. To be granted to a student enrolled in the Faculty of Engineering who demonstrates financial need. (90688)

**THE GENERAL CONTRACTORS ASSOCIATION OF HAMILTON BURSARIES**

Established in 1997 by the General Contractors Association of Hamilton under the McMaster Student Opportunity Fund initiative. A variable number of bursaries to be granted to students enrolled in the Faculty of Engineering who demonstrate financial need. (90710)

**THE GENNUM CORPORATION BURSARIES**

Established in 1997 by the Gennum Corporation in support of its belief that all students should have the opportunity to pursue their educational goals. A variable number of bursaries to be granted to students who are enrolled in the Faculty of Engineering and who demonstrate financial need. (90712)

**THE GRAY FAMILY BURSARY**

Established in 1997 by Donald Gray (Class of '70) and Glenn Gray (Class of '73) and Kerry Gray (Class of '77 and '82 (M.B.A.)) under the McMaster Student Opportunity Fund initiative. To be granted to a third year student enrolled in the Engineering and Management program who demonstrates financial need. Preference to be given to students who permanently reside in the Hamilton-Wentworth Region. (90718)

**THE HATCH ASSOCIATES BURSARY**

Established in 1997 by Hatch Associates in support of its belief that all students should have the opportunity to pursue their educational goals. To be granted to a student enrolled in the Faculty of Engineering who demonstrates financial need. (90730)

**THE INGLIS BURSARIES**

Established in 1996 by Paul F. Inglis of Mississauga. A variable number of bursaries to be granted to students enrolled in a program in Commerce or Engineering Management who demonstrate financial need. Preference to be given to students enrolled in Engineering Management. (90606)

**INTERNATIONAL SCIENCE AND ENGINEERING FAIR 1995 BURSARY**

Established in 2005 by the Board of the International Science and Engineering Fair 1995 under the Ontario Trust for Student Support initiative. A variable number of bursaries to be granted to students enrolled in Level I in the Faculties of Science or Engineering who demonstrate financial need. Preference will be given to students who have participated in local science fairs. (91036)

**THE IVISON FAMILY BURSARY FUND**

Established in 1998 by Don and Betty Ivison in support of McMaster students under the McMaster Student Opportunity Fund initiative. A variable number of bursaries to be granted to students enrolled in the Faculty of Engineering, the Faculty of Business or the Schools of Medicine and Rehabilitation Science in the Faculty of Health Sciences who demonstrate financial need. (90841)

**THE SZE-WAI LEE MEMORIAL BURSARY**

Established in 1997 under the McMaster Student Opportunity Fund initiative in honour of Sze-Wai Lee. To be granted to a student enrolled in the Faculty of Engineering who demonstrates financial need and has shown involvement in support of the community, particularly multicultural events. (90752)

**THE LIBURDI ENGINEERING LIMITED BURSARY**

Established in 1997 by Liburdi Engineering Limited under the McMaster Student Opportunity Fund initiative. To be granted to a student enrolled in an Engineering program who demonstrates financial need. (90754)

**THE RONALD E. MATERICK/TISHMAN BURSARY**

Established in 1996 by Ronald E. Materick (Class of '70). To be granted to a student enrolled in the Faculty of Engineering who demonstrates financial need. Preference to be given to a student enrolled in Civil Engineering. (90665)

**THE NEIL D. McARTHUR BURSARIES**

Established in 1997 by the Anne and Neil McArthur Foundation in memory of Mrs. McArthur's parents, Joseph and Josephine Hrynyszak. To be granted to students in any program who demonstrate financial need. Preference to be given to students enrolled in either the Faculty of Science or the Faculty of Engineering. (90765)

**THE McMASTER ENGINEERING SOCIETY BURSARY**

Established in 1999 by the McMaster Engineering Society. To be granted to a student in the Faculty of Engineering who demonstrates financial need. (90863)

**THE MERITOR AUTOMOTIVE INC. BURSARY**

Established in 1999 by Meritor Automotive Inc. under the McMaster Student Opportunity Fund initiative. To be granted to a student enrolled in a Mechanical Engineering program who demonstrates financial need. (90865)

**THE ANN MINER MEMORIAL BURSARY**

Established in 2005 in memory of Ann Miner by her brother Jim Sweetman (Class of '77) and his wife Sheila. To be granted to students enrolled in a program in Chemical Engineering in the Faculty of Engineering who demonstrate financial need. (91033)

**THE DR. F. A. MIRZA BURSARY**

Established in 1997 under the McMaster Student Opportunity Fund initiative. Preference will be given, if financial need is demonstrated, to the recipient of The Dr. F.A. Mirza Scholarship. (90895)

**THE ROBERT JOHN MORRIS BURSARIES**

Established in 1996 by family, friends and colleagues of Robert John Morris. A variable number of bursaries to be granted to students who demonstrate financial need and are enrolled in the Faculty of Engineering. Preference will be given to in-course recipients and/or entrance level recipients of The Robert John Morris Awards in the year they receive the award. (90630)

**THE ARCHIE MOUGHALIAN BURSARIES**

Established by bequest in 1998. A variable number of bursaries to be granted to students enrolled in the Faculty of Engineering who demonstrate financial need. (90852)

**THE NCR (WATERLOO) BURSARY**

Established in 1998 by NCR (Waterloo) under the McMaster Student Opportunity Fund initiative. To be granted to a student enrolled in an Engineering and Management program who demonstrates financial need. (90842)

**THE ORLICK INDUSTRIES LIMITED BURSARIES**

Established in 1997 by Orlick Industries in support of its belief that all students should have the opportunity to pursue their educational goals. A variable number of bursaries to be granted to students enrolled in a Mechanical Engineering program who demonstrate financial need. (90785)

**THE OTIS CANADA BURSARIES IN ENGINEERING AND MANAGEMENT**

Established in 1996 by OTIS Canada Inc., the world's largest elevator company with over 50,000 employees and more than 1,700 worldwide locations. A variable number of bursaries to be granted to students enrolled in Level II of a program in Engineering and Management who demonstrate financial need. Preference to be given to students who demonstrate a lively interest in the university and community through their involvement in extracurricular activities. (90632)

**THE PATRIOT FORGE INC. BURSARY**

Established in 1997 by Patriot Forge Inc. in support of McMaster students. To be granted to a student enrolled in the Faculty of Engineering who demonstrates financial need. Preference will be given to a student enrolled in Mechanical, Chemical or Materials Engineering. (90788)

**THE MARC ANDRE ADRIEN PINEAULT BURSARY**

Established in 1995 by family and friends in memory of Marc Pineault and augmented in 1996 in conjunction with the McMaster Student Opportunity Fund initiative. To be granted to a student enrolled in a program in Engineering who has demonstrated financial need and involvement in University activities including the McMaster Choir, varsity wrestling, karate club and issues related to the environment and social justice. (90576)

**THE PROCOR BURSARIES**

Established in 1997 by Procor Ltd. in support of its belief that all students should have the opportunity to pursue their educational goals. To be granted to students enrolled in Engineering or Commerce who demonstrate financial need and undertake service to McMaster University and the community-at-large. (90669)

**THE RICOH CANADA INC. BURSARIES**

Established in 1996 by Ricoh Canada Inc. in support of its belief that all students should have the opportunity to pursue their educational goals. A variable number of bursaries to be granted to students who demonstrate financial need and are enrolled in the Faculty of Business or the Faculty of Engineering. (90639)

**THE ROBERTSON-YATES CORPORATION BURSARIES**

Established in 1996 by the Robertson-Yates Corporation of Hamilton in support of its belief that all students should have the opportunity to pursue their educational goals. A variable number of bursaries to be granted to students enrolled in a program in Business or Engineering who demonstrate financial need. (90640)

**THE LEO W. SETO BURSARY**

Established in 2003 by Leo W. Seto (B.Eng.Mgt. '87 and M.Eng. '90) under the McMaster Student Opportunity Fund II initiative. To be granted to a student in the Faculty of Engineering who demonstrates financial need. (90998)

**THE LESLIE W. AND ELIZABETH SHEMILT BURSARY**

Established in 1997 under the McMaster Student Opportunity Fund initiative. To be granted to a student who demonstrates financial need and is enrolled in an Engineering program. (90663)

**THE STELCO UNDERGRADUATE BURSARIES**

Established in 1996 by Stelco—a market-driven, technologically advanced group of businesses committed to maintaining leadership roles as steel producers and fabricators—in support of students who, without financial aid, would be unable to pursue their educational goals. To be granted to students who demonstrate financial need and are enrolled in the Faculties of Business, Engineering or Science. Preference will be given to students who are enrolled in the Department of Materials Science and Engineering. (90644)

**THE TD BANK FINANCIAL GROUP BURSARIES**

Established in 1999 by the TD Bank Financial Group in support of its commitment to helping students succeed in their post-secondary studies. A variable number of bursaries to be granted to students in any program who demonstrate financial need. Preference to be given to students enrolled in the Earth and Environmental Sciences, the Honours Geography and Environmental Studies or an Engineering and Society Program. (90939)

**THE TURKSTRA LUMBER BURSARY**

Established in 1996 by the Turkstra Lumber Company Limited. A variable number of bursaries to be granted to students enrolled in an Engineering and Society program who demonstrate financial need. Preference will be given to students who attain a Sessional Average of at least 7.0 at the most recent review. (90647)

**THE SAM AND IRENE WATSON BURSARY FUND**

Established in 1998 by the estate of Irene Mary Watson. To be granted to students who demonstrate financial need and who have completed their second year with a Cumulative Average of at least 8.0 in the Arts and Science Program or any of the Faculties of Business, Engineering, Humanities, Science and Social Sciences.

Value: \$2,000 (90840)

**THE WESTINGHOUSE CANADA INC. BURSARIES**

Established in 1996 by Westinghouse Canada Inc. in support of students who, without financial support, would be unable to pursue their educational goals. A variable number of bursaries to be granted to students in a program in the Faculty of Business and the Faculty of Engineering who demonstrate financial need. (90652)

**THE ZONTA CLUB OF HAMILTON I BURSARIES**

Established in 1997 by the Zonta Club of Hamilton I in support of the McMaster Student Opportunity Fund initiative and in the belief that all students, particularly women in non-traditional fields, should have the opportunity to pursue their educational goals. To be granted to a student who demonstrates financial need and is enrolled in the Faculty of Engineering, or in Business or is enrolled in a course in Indigenous Studies. Preference to be given to female students. (90550)

**FACULTY OF HEALTH SCIENCES****THE BACHELOR OF HEALTH SCIENCES (HONOURS) BURSARY**

Established in 2004 by the Bachelor of Health Sciences (Honours) Program in the Faculty of Health Sciences through the generosity of its alumni and friends under the McMaster Student Opportunity Fund II initiative. To be granted to a student in the Bachelor of Health Sciences (Honours) program who demonstrates financial need. (90985)

**THE ED BUFFETT BURSARY**

Established in 1997 under the McMaster Student Opportunity Fund initiative. To be granted to students enrolled in a program in Health Sciences who demonstrate financial need. Preference will be given to students who have demonstrated leadership in their school and community. (90816)

**COMMUNITY NURSING REGISTRY - HAMILTON BURSARIES**

Established in 2000 by the Community Nursing Registry - Hamilton in support of students pursuing a professional career in nursing. A variable number of bursaries to be granted to students enrolled in Level II in the School of Nursing in the Faculty of Health Sciences who demonstrate financial need. Preference will be given to students who demonstrate volunteer service in the area of health care. (90943)

**THE JEAN, MARTHA AND LAURIE DOUCET MEMORIAL BURSARIES**

Established in 1998 by the family in memory of Jean, Martha and Laurie Doucet for their years of service and commitment to the nursing profession. A variable number of bursaries to be granted to students enrolled in the School of Nursing at both the undergraduate and graduate level and who demonstrate financial need. Preference will be given to students from the Regional Municipality of Niagara. (90851)

**THE MARGO AND FRASER FELL BURSARIES**

Established in 1999 by Margot (Class of '52) and Fraser Fell (Class of '49). A variable number of bursaries to be granted to students enrolled in the School of Nursing in the Faculty of Health Sciences who demonstrate financial need. (90945)

**THE RON AND GINA FRASER BURSARIES**

Established in 2004 by The Ronald K. Fraser Foundation and Gina E. Fraser under the McMaster Student Opportunity Fund II initiative. A variable number of bursaries, each equivalent to the value of one year of tuition, will be granted to full-time students enrolled in Level I of the Nursing or Bachelor of Health Sciences programs who demonstrate the highest level of financial need as determined by the Office of Student Financial Aid & Scholarships. Special consideration will be given to students who self-identify as (i) current or former Crown wards or (ii) whose families' main source of income is from provincial social assistance programs. This bursary is tenable for up to four years.

**Value:** full undergraduate tuition annually (91017)

**THE JACK AND THELMA HEATH MEMORIAL BURSARIES**

Established in 1985 by Norton Canada Inc. in memory of Jack and Thelma Heath, former employees of the Company, who were tragically killed in a boating accident. The fund provides up to four awards to assist students, with demonstrated financial need, in Level III or IV of the B.Sc.N. program (basic and/or post-diploma stream). (90519)

**THE HAZEL MAY HINKS BURSARIES**

Established in 1996 by bequest of Hazel May Hinks of Burlington, Ontario. A variable number of bursaries to be granted to students enrolled in a program in Nursing who demonstrate financial need. Preference will be given to students who have graduated from a high school located in the City of Burlington. (90604)

**THE IVISON FAMILY BURSARY FUND**

Established in 1998 by Don and Betty Ivison in support of McMaster students under the McMaster Student Opportunity Fund initiative. A variable number of bursaries to be granted to students enrolled in the Faculty of Engineering, the Faculty of Business or the Schools of Medicine and Rehabilitation Science in the Faculty of Health Sciences who demonstrate financial need. (90841)

**THE KENTS FAMILY BURSARY**

Established in 1997 by the Kents Family under the McMaster Student Opportunity Fund initiative. To be granted to a student who demonstrates financial need and is enrolled in the School of Medicine, the School of Nursing or the School of Rehabilitation Science. (90747)

**THE PHILLIP GORDON KETTLE BURSARY**

Established in 1996 in memory of Phillip Gordon Kettle. To be granted to a student enrolled in a Nursing program who demonstrates financial need. Preference to be given to a student studying herbal medicine as alternative therapies. (90678)

**THE MANULIFE FINANCIAL BURSARIES**

Established in 1997 by Manulife Financial under the McMaster Student Opportunity Fund initiative. A variable number of bursaries to be granted to students who demonstrate financial need and are enrolled in the Faculty of Business or the Faculty of Health Sciences. (90762)

**THE HARRISON MAYNARD MEMORIAL BURSARY IN MIDWIFERY**

Established in 2005 in memory of Harrison Maynard by his family and friends. To be granted to students enrolled in Level II or above of the Midwifery Education Program who demonstrate financial need. (91030)

**THE JANET MCKNIGHT MEMORIAL BURSARIES**

Established in 1996 in memory of Janet McKnight by the Pember Family. A variable number of bursaries to be granted to students enrolled in the final level of the Nursing program who demonstrate financial need. (90623)

**THE McMASTER WOMEN'S CLUB BURSARY**

Established in 1983 by the McMaster Women's Club and augmented in 1996 in conjunction with the McMaster Student Opportunity Fund initiative to assist a student beyond Level I in the University's Bachelor of Science in Nursing program. (90531)

**THE KATHERINE M. COLLYER McNALLY BURSARY**

Established in 1997 by her children in honour of Katherine M. Collyer McNally under the McMaster Student Opportunity Fund initiative. To be granted to a student who demonstrates financial need and has completed at least 30 units in the Midwifery, Physiotherapy or Nursing program. (90774)

**THE MDS INC. BURSARY**

Established in 1997 by MDS Inc., under the McMaster Student Opportunity Fund initiative. To be granted to a student enrolled in the Faculty of Health Sciences who demonstrates financial need. (90775)

**THE PERC AND JOAN NORMAN NURSING BURSARY**

Established in 2005 by Perc and Joan Norman in support of students pursuing a career in healthcare. To be granted to students who demonstrate financial need and are enrolled in the Nursing program. (91019)

**OAKRUN FARM BAKERY BURSARY**

Established in 2004 by Oakrun Farm Bakery, under the McMaster Student Opportunity Trust Fund II initiative. To be granted to students enrolled in the Faculty of Health Sciences who demonstrate financial need. (91013)

**THE 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)

**THE DR. SUSAN BEVERLEY PLANK MEMORIAL BURSARY**

Established in 1997 by Mr. William J. Plank, family and friends, in memory of Dr. Susan Beverley Plank (Class of '90). To be granted to a student who demonstrates financial need and is enrolled in the Faculty of Health Sciences, School of Medicine. (90791)

**THE SALENA FAMILY BURSARY**

Established in 1997 under the McMaster Student Opportunity Fund initiative by Dr. Bruno Salena (Class of '81), full-time faculty member in the Faculty of Health Sciences, and his family. To be granted to a student who demonstrates financial need and is enrolled in the Faculty of Health Sciences, School of Medicine. (90801)

**THE SCHOOL OF NURSING BURSARY**

Established in 2004 by the School of Nursing through the generosity of its alumni and friends under the McMaster Student Opportunity Fund II initiative. To be granted to a student in the School of Nursing who demonstrates financial need. (91003)

**THE SYLVIA AND BRIAN WALKER BURSARIES**

Established in 1996 by Sylvia (Hunt) and Brian Walker. To be granted to a student enrolled in Humanities I or Nursing I who demonstrates financial need. Preference to be given to students who have demonstrated leadership and involvement in university and community activities. (90650)

**THE AUDREY AND BOB WAUGH BURSARY**

Established in 1997 by Audrey and Bob Waugh under the McMaster Student Opportunity Fund initiative. To be granted to a student enrolled in the Faculty of Health Sciences who demonstrates financial need. Preference to be given to a student involved in Gerontological research. (90796)

**THE DR. JANET WEISZ BURSARY**

Established in 2004 by Dr. Janet Weisz, under the McMaster Student Opportunity Trust Fund II initiative. To be granted to students enrolled in the Faculty of Health Sciences who demonstrate financial need. (91012)

**FACULTY OF HUMANITIES****THE JENNIFER AND THEODORE ARCAND ENGLISH BURSARY**

Established in 1997 by Theodore Arcand (Class of '57), in memory of his wife, Jennifer (Class of '57), whose interest was Baroque English poetry. To be granted to an undergraduate or graduate student enrolled in a program in English, who demonstrates financial need. (90807)

**THE ESTELLE AND CHUB BAXTER BURSARY**

Established in 2003 by Estelle and Chub Baxter under the McMaster Student Opportunity Fund II initiative. To be granted to a student in the Faculty of Humanities who demonstrates financial need. Preference will be given to a student enrolled in an Art History program in the School of the Arts. (90991)

**THE MARJORIE E. (WATSON) BEATTIE BURSARY**

Established in 1997 by William W. Beattie (Class of '68) in honour of his mother, Marjorie E. (Watson) Beattie (Class of '33), under the McMaster Student Opportunity Fund initiative. To be granted to a student enrolled in any program who demonstrates financial need. Preference to be given to students enrolled in the Faculty of Humanities. (90811)

**THE WILLIAM DAVID BROADHEAD MEMORIAL BURSARY**

Established in 2003 by family in memory of William David Broadhead (Class of '39) under the McMaster Student Opportunity Fund II initiative. To be granted to a student in the Faculty of Humanities who demonstrates financial need. Preference will be given to a student enrolled in a program in the Department of English and Cultural Studies. (90992)

**THE MARIE IRELAND BUSH MEMORIAL BURSARIES**

Established in 1996 by Helen Ireland Caldwell in memory of Marie Ireland Bush, Class of '48 and dedicated teacher, who instilled in her students a love of learning. A variable number of bursaries to be granted to students enrolled in a program in English who demonstrate financial need. (90583)

**THE HELEN CALDWELL BURSARY**

Established in 2000 by Helen Caldwell (Class of '42, Faculty of Humanities.) To be granted to a student enrolled in Level III or IV of the Women's Studies Program who demonstrates financial need. (90940)

**THE NORMAN NATHANIEL CASKEY BURSARIES**

Established in 1996 by June Caskey of Hamilton in memory of her father. A variable number of bursaries to be granted to students enrolled in a program in Music who demonstrate financial need. (90585)

**THE GERALDINE LORETTA COSFORD BURSARIES**

Established in 1997 by Geraldine Loretta Cosford under the McMaster Student Opportunity Fund initiative. A variable number to be granted to students enrolled in the Faculty of Humanities who demonstrate financial need. Preference to be given to students who have completed Level I. (90692)

**THE SUZANNE E. CRAVEN BURSARY**

Established in 1997 by Mrs. Suzanne Craven in support of McMaster students. To be granted to students enrolled in the Faculty of Humanities who demonstrate financial need. (90694)

**THE EARL FRANKLIN DAMUDE BURSARY**

Established in 1993 by Dr. Christa Saas, in memory of Earl Franklin Damude (Class of '36.) To be granted to a student who demonstrates financial need and has completed Level II of a program in English or History. (90570)

**THE DARVILLE BURSARY**

Established in 2004 by Jack S. Darville (Class of '68) under the McMaster Student Opportunity Fund II initiative. To be granted to a student in the Faculty of Humanities who demonstrates financial need. Preference will be given to a student enrolled in a music or art program in the School of the Arts. (90987)

**THE GORDON H. DEAN BURSARIES**

Established in 1996 by Gordon H. Dean of Stoney Creek. To be granted to a student who demonstrates financial need. Preference will be given to a student enrolled in Level III of a program in Arts and Science or Level III of a program in the Faculty of Humanities. (90594)

**THE MARGERY E. DIXON MEMORIAL BURSARY**

Established in 2003 in loving memory of Margery E. Dixon (Class of '35) by Geraldine Phenix under the McMaster Student Opportunity Fund II initiative. A variable number of bursaries to be granted to students in the Faculty of Humanities who demonstrate financial need. Preference will be given to students enrolled in a program in the Department of English and Cultural Studies. (90994)

**THE ALAN AND CLAIRE EATOCK BURSARIES**

Established in 1999 by Alan Eatock (Class of '47) and Claire Eatock under the McMaster Student Opportunity Fund initiative. A variable number of bursaries to be granted to students in the Faculty of Humanities who demonstrate financial need. (90856)

**THE ENERSYSTEM INSULATION LTD. BURSARY**

Established in 1997 by EnerSystem Insulation Ltd. in support of its belief that all students should have the opportunity to pursue their educational goals. To be granted to a student enrolled in a program in French who demonstrates financial need. (90702)

**THE FESTITALIA CORPORATION BURSARY**

Established in 1997 by the Festitalia Corporation under the McMaster Student Opportunity Fund initiative. To be granted, in alternating years, to a student who demonstrates financial need and is enrolled in the Department of Linguistics and Languages, specializing in Italian, or is enrolled in the School of the Arts. (90706)

**THE WAYNE C. FOX BURSARIES**

Established in 1999 by Wayne C. Fox in support of his belief that all students should have the opportunity to pursue their educational goals. A variable number of bursaries will be granted to students who demonstrate financial need and are enrolled in the Faculty of Humanities or the Faculty of Social Sciences or the Commerce program at the DeGroot School of Business. (90857)

**THE BILL AND HELEN HAIGHT BURSARY**

Established in 2004 by Helen (Class of '49) and Bill Haight under the McMaster Student Opportunity Fund II initiative. To be granted to students enrolled in the Faculty of Humanities who demonstrate financial need. Preference to be given to students in Level II or III of a Music program. (91007)

**THE HALL FAMILY BURSARY**

Established in 2004 by Frederick A. Hall under the McMaster Student Opportunity Fund II initiative. To be granted to a student enrolled in the Faculty of Humanities who demonstrates financial need. (91001)

**THE HAMILTON PERFORMING ARTS BURSARY**

Established in 1997 by the Hamilton Performing Arts Foundation Inc. under the McMaster Student Opportunity Fund initiative. To be granted to students who have completed at least 30 units of a program in the School of the Arts, who has shown service to the community-at-large and who demonstrates financial need. Preference to be given to students who are currently on the Dean's Honour list. (90724)

**THE MARGARET HARGREAVES BURSARIES**

Established in 1997 by Susan Hargreaves Walker in loving memory of her mother, Margaret Hargreaves. A variable number of bursaries to be granted to Social Sciences and Humanities students who demonstrate financial need. Preference will be given to mature, female students. (90729)

**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 (Class of '50). A variable number of bursaries to be granted to students studying Music who demonstrate financial need.

**Value:** Not to exceed \$1,000 (90517)

**THE GENERAL HUMANITIES BURSARY FUND**

The General Humanities Bursary Fund, established in 1997 by Humanities alumni, will be granted to undergraduate students at McMaster registered in any Humanities program who demonstrate financial need. (90734)

**THE JULIA HURTIG BURSARY**

Established by family and friends of the late Julia Hurtig in 1985. This bursary will be granted to a student entering Level II of the Faculty of Humanities, in good standing, who has made a special contribution to the McMaster community through involvement in University affairs. Preference will be given to a female student. (90522)

**THE IVEY BURSARY**

Established in 1997 under the McMaster Student Opportunity Fund initiative. Preference will be given, if financial need is demonstrated, to the recipient of The Ivey Scholarship. (90872)

**THE STUART AND MARJORIE IVISON BURSARIES**

Established in 1997 by Donald Ivison (Class of '53) and Betty Ivison (Class of '52) in honour of his parents Stuart and Marjorie Ivison (Class of '28 (Arts)). To be granted to students enrolled in any program who demonstrate financial need. Preference will be given to recipients of The Stuart and Marjorie Ivison Award. (90736)

**THE DAVID KINSLEY MEMORIAL BURSARY**

Established in 2000 by family, friends, colleagues and former students of David Kinsley, Professor of Religious Studies at McMaster University from 1969 to 2000. To be granted to mature part-time students who have completed at least Level I of an undergraduate program in either the Faculty of Social Sciences or the Faculty of Humanities. Preference to be given to students who have attained a minimum Cumulative Average of 7.0. (90962)

**THE HAROLD J.L. KRUGEL BURSARY**

Established in 2000 by Mrs. J. Beverly Krugel (Class of '53) in honour of her husband, Harold J.L. Krugel. To be granted to a student enrolled in the Faculty of Humanities who demonstrates financial need. Preference will be given to a student in the Department of Linguistics and Languages. (90947)

**THE JAMES R. A. LANGS BURSARIES IN THE ARTS**

Established by family in memory of James R. A. Langs (Class of '37), a Hamilton business leader and great supporter of the Hamilton Community. A variable number of bursaries to be granted to students enrolled in a program in Art, Theatre & Film Studies or Music who demonstrate financial need. (90612)

**THE DR. ALBERT MARTIN BURSARIES**

Established in 1996 by Joyce Beverly Krugel, a former student of Dr. Albert Martin who was a Professor of German in the Faculty of Arts and Science from 1939 to 1961. A variable number of bursaries to be granted to students enrolled in the Faculty of Humanities who demonstrate financial need. Preference will be given to students enrolled in the Department of Linguistics and Languages. (90620)

**THE J. B. McARTHUR BURSARY**

Established in 2005 by Joseph B. McArthur, son of J. B. McArthur, a 1905 graduate of McMaster University, who conscientiously served his alma mater for forty two years as President of the McMaster Alumni Association (1911), member of McMaster's Senate (1911-1931) and member of McMaster's Board of Governors (1931-1953). To be granted to students enrolled in the Faculty of Humanities who demonstrate financial need. (91039)

**THE KATHLEEN AND DENNIS McCALLA BURSARIES**

Established in 2003 by Kathleen and Dennis McCalla, former Dean, Faculty of Science and later Vice-President, Faculty of Health Sciences at McMaster University. To be granted to students who demonstrate financial need and are enrolled in a program in Science, Humanities, or Arts and Science. Preference will be given to students with a minimum admission average of 80% and who are from Grey or Bruce Counties.

**Value:** Minimum \$1,000 (90970)

**THE McMASTER HISPANIC SOCIETY BURSARY**

Established in 1999 by the McMaster Hispanic Society under the McMaster Student Opportunity Fund initiative. To be granted to a student enrolled in a Modern Languages program and enrolled in Hispanic Studies courses who demonstrates financial need. Preference will be given to students who demonstrate a lively interest in the University and community through their involvement in extracurricular activities. (90864)

**THE JAMES C. MOORE MEMORIAL BURSARY**

Established in 1989 by family and friends in memory of James C. Moore. To be granted to a student in Humanities or Social Sciences who demonstrates financial need and involvement in student government. (90566)

**THE THERESE E. MOORE BURSARY**

Established in 2003 by David M. Moore '00 in honour of his mother, Therese E. Moore. To be granted to a student enrolled in a program in History who demonstrates financial need. (91000)

**THE SAMMON MUNROE BURSARY**

Established in 2003 by Robert Munroe '72 and Sheila Sammon under the McMaster Student Opportunity Fund II initiative. To be granted to a student in the Faculty of Humanities who demonstrates financial need. Preference will be given to a student enrolled in a program in History. (90982)

**THE PATTERSON-WILSON BURSARIES**

Established in 2003 by the bequest of Laurence Choiwill Patterson under the McMaster Student Opportunity Fund II initiative. To be granted to students in the Faculty of Humanities who demonstrate financial need. (90995)

**THE DR. HOLLAND AND MRS. ELVIRA PETERSON BURSARY**

Established in 1997 by Dr. Holland and Mrs. Elvira Peterson under the McMaster Student Opportunity Fund initiative. To be granted to a student who demonstrates financial need and is enrolled in Level II or higher of a Hispanic Studies or German program in the Department of Linguistics and Languages. (90789)

**THE ELVIRA AND HOLLAND PETERSON BURSARY**

Established in 2000 by Mrs. Elvira Peterson (Class of '69) and Dr. Holland Peterson. To be granted to a Level III student enrolled in the Honours Art History or Combined Honours Art History Program who demonstrates financial need. (90948)

**THE LILLIAN PLUMB BURSARY**

Established in 1998 by David Plumb in honour of his mother, Lillian Plumb. To be granted to a student enrolled in a program in the Department of English and Cultural Studies and who demonstrates financial need. (90853)

**THE MARY ROMEO BURSARY IN ART HISTORY**

Established in 1997 by Mary Romeo, a lifelong patron of the arts. To be granted to undergraduate and graduate students who have demonstrated financial need and are enrolled in a program in Art History. (90668)

**THE SMYRNIW BURSARY**

Established in 1996 by Dr. and Mrs. W. Smyrniw. To be granted to students who are Canadian citizens or permanent residents who demonstrate financial need and are in good academic standing in any undergraduate program of the Faculty of Humanities above Level I. (90661)

**THE DONALD W. THOMAS BURSARIES**

Established in 1996 by Donald W. Thomas of Dundas, Ontario. A variable number of bursaries to be granted to students in the Faculty of Humanities who demonstrate financial need. (90645)

**THE DONALD WILLIAM THOMAS MEMORIAL BURSARY**

Established in 2005 by Jack Craig in memory of Donald William Thomas (B.A. '70). To be granted to students enrolled in the Faculty of Humanities who demonstrate financial need. Preference will be given to students enrolled in a program in the School of the Arts. (91050)

**THE GRAHAM RONALD TOOP BURSARY**

Established in 1997 under the McMaster Student Opportunity Fund initiative. Preference will be given, if financial need is demonstrated, to the recipient of The Graham Ronald Toop Scholarship. (90883)

**THE ROBERTA GRAY TROXEL BURSARY**

Established in 1997 by Roberta Gray Troxel under the McMaster Student Opportunity Fund initiative. To be granted to a student enrolled in the Faculty of Humanities who demonstrates financial need. Preference to be given to a female undergraduate student enrolled in a History program. (90735)

**THE TRESSILA TRUBY MEMORIAL BURSARY**

Established in 1992 from the bequest of Tressila Truby (M.C.S.P.) and Past-President of the Zonta Club of Hamilton II. To be granted to a female student who has completed Level II of a program in Music. (90558)

**THE JOHN AND JOAN VAN DUZER BURSARY**

Established in 2003 by John ('50) and Joan Van Duzer under the McMaster Student Opportunity Fund II initiative. To be granted to a student in the Faculty of Humanities who demonstrates financial need. (90993)

**THE CATHERINE VASAS-BROWN BURSARIES**

Established in 1996 by J. Allan Brown in honour of Catherine Vasas-Brown. A variable number of bursaries to be granted to students enrolled in the Faculty of Humanities who demonstrate financial need. (90649)

**THE SYLVIA AND BRIAN WALKER BURSARIES**

Established in 1996 by Sylvia (Hunt) and Brian Walker. To be granted to a student enrolled in Humanities I or Nursing I who demonstrates financial need. Preference to be given to students who have demonstrated leadership and involvement in university and community activities. (90650)

**THE SAM AND IRENE WATSON BURSARY FUND**

Established in 1998 by the estate of Irene Mary Watson. To be granted to students who demonstrate financial need and who have completed their second year with a Cumulative Average of at least 8.0 in the Arts and Science Program or any of the Faculties of Business, Engineering, Humanities, Science and Social Sciences.

**Value:** \$2,000 (90840)

**THE CLIFFORD JOHNSTON WEBSTER MEMORIAL BURSARIES**

Established in 1993 by Viola Webster in memory of her brother Clifford Johnston Webster (Class of '41). To assist students who demonstrate financial need enrolled in the Honours English program who are Canadian citizens or permanent residents and who have graduated from a public secondary school in Ontario. Applicants should have a record of academic performance that has normally been at the upper second-class level or higher. If sufficient applicants are not eligible in the Honours English program, the bursaries are available, under similar conditions, to students in the Honours French program. (90559)

**THE MARY DRYDEN WILLIS BURSARY**

Established in 1997, in memory of Mary Willis (Class of '26), by her daughter, Mary Lou Dingle and son-in-law Allan (both Class of '58), under the McMaster Student Opportunity Trust Fund initiative. To be granted to students enrolled in Level II or higher in the Faculty of Humanities who have attained a minimum CA of 7.0 and who demonstrate financial need. (90869)

**THE KATHRYN A. WILSON BURSARIES**

Established in 2000 by bequest of Kathryn A. Wilson. A variable number of bursaries to be granted to students enrolled in the Faculty of Humanities who demonstrate financial need. (90949)

**THE SHEILA ZACK MEMORIAL BURSARY**

The Sheila Zack Memorial bursary established by the 45th Annual Brni Brith Sports Celebrity Dinner, to be awarded to a student with financial need enrolled in a program in Theatre & Film Studies at McMaster University. (90764)

**FACULTY OF SCIENCE****THE BIRGIT AND ROBERT BATEMAN BURSARY**

Established in 1997 by Birgit and Robert Bateman under the McMaster Student Opportunity Fund initiative. To be granted to a student who demonstrates financial need and is enrolled in the Arts and Science program, the Faculty of Social Sciences or the Faculty of Science. Preference to be given to students who are studying Environmental Studies or Environmental Science. (90810)

**THE HELEN AND MORRIS BAUGHMAN BURSARY**

Established in 2005 by Marvin Ryder in honour of Helen and Morris Baughman. To be granted to students enrolled in the Faculty of Science who demonstrate financial need. Preference to be given to students in Level III or IV of a Biology program. (91025)

**THE CANADA DIRECT SALES DIVISION BURSARY**

Established in 1997 by Canon Canada Inc. - OE Division, and augmented in 2005, in support of its belief that all students should have the opportunity to pursue their educational goals. A variable number of bursaries will be granted annually to McMaster students who demonstrate financial need and are enrolled in an Earth and Environmental Sciences program, the Honours Geography and Environmental Studies program or an Engineering and Society program. (90820)



**THE DOUGLAS AND BEVERLY COLEMAN BURSARY**

Established in 2005 by Douglas and Beverly Coleman, both of Class of '54. To be granted to students enrolled in the Department of Biochemistry and Biomedical Sciences in the Faculty of Science who demonstrate financial need. (91043)

**THE COMPUSMART BURSARIES FUND**

Established in 1997 by JMG Compusmart in support of its belief that all students should have the opportunity to pursue their educational goals. To be granted annually to students who demonstrate financial need. Preference will be given to McMaster students enrolled in a program in Computer Science or Computer Engineering. (90741)

**THE GEORGE AND MARGARET EDRUPT BURSARY**

Established in 1997 by Sandra Edrupt in honour of her parents George and Margaret Edrupt under the McMaster Student Opportunity Fund initiative. To be granted to a student who demonstrates financial need and is enrolled in either the Faculty of Business or the Computer Science program in the Faculty of Science. (90701)

**THE JAMES EDWARD GRADER MEMORIAL BURSARY**

Established in 1964 by his sister. To be granted to a student enrolled in the Faculty of Science specializing in Earth Sciences who demonstrates financial need. (90513)

**THE ASMAHAN HAFEZ MEMORIAL BURSARY**

Established in 1997 by her family in memory of Asmahan Hafez. To be granted to a student enrolled in Level I of the Faculty of Science who demonstrates financial need. (90721)

**INTERNATIONAL SCIENCE AND ENGINEERING FAIR 1995 BURSARY**

Established in 2005 by the Board of the International Science and Engineering Fair 1995 under the Ontario Trust for Student Support initiative. A variable number of bursaries to be granted to students enrolled in Level I in the Faculties of Science or Engineering who demonstrate financial need. Preference will be given to students who have participated in local science fairs. (91036)

**THE JENSEN BURSARY**

Established in 1997 by Dr. Doris E.N. Jensen in conjunction with the McMaster Student Opportunity Fund initiative. To be granted to a student in the Faculty of Science, Level II or higher, who demonstrates financial need. Preference to be given to a student registered in a co-op program in the Faculty of Science. (90740)

**THE NORMAN D. LANE BURSARIES**

Established in 1996 by family and friends in honour of Dr. Norman D. Lane, distinguished geometer and member of the Department of Mathematics and Statistics from 1952 to 1987 and now Professor Emeritus. A variable number of bursaries to be granted to students enrolled in a program in Mathematics who demonstrate financial need. (90610)

**THE 3M CANADA INC. BURSARIES**

Established in 1980. To be granted to two students in their final year of studies who demonstrate financial need. One to an M.B.A. student who has attained at least a 6 point average and one to a Science student who has attained a Cumulative Average of at least 9.0 at the most recent review. (90525)

**THE JOHN AND HELEN MAXWELL BURSARIES**

Established in 1996 by John and Helen Maxwell of Ottawa. A variable number of bursaries to be granted to students enrolled in the Faculty of Science who demonstrate financial need. Preference to be given to students enrolled in a program in Earth Sciences or Chemistry. (90621)

**THE NEIL D. McARTHUR BURSARIES**

Established in 1997 by the Anne and Neil McArthur Foundation in memory of Mrs. McArthur's parents, Joseph and Josephine Hrynyszak. To be granted to students in any program who demonstrate financial need. Preference to be given to students enrolled in either the Faculty of Science or the Faculty of Engineering. (90765)

**THE KATHLEEN AND DENNIS McCALLA BURSARIES**

Established in 2003 by Kathleen and Dennis McCalla, former Dean, Faculty of Science and later Vice-President, Faculty of Health Sciences at McMaster University. To be granted to students who demonstrate financial need and are enrolled in a program in Science, Humanities, or Arts and Science. Preference will be given to students with a minimum admission average of 80% and who are from Grey or Bruce Counties.

**Value:** Minimum \$1,000 (90970)

**THE DR. BRIAN McCANN MEMORIAL BURSARY**

Established in 2004 by friends, colleagues and former students in memory of Dr. Brian McCann. To be granted to a student in the School of Geography and Earth Sciences who demonstrates financial need and is enrolled in a course offered by the School with an additional cost for a field component. (91015)

**THE DR. JOHN H. PASSMORE BURSARY**

Established in 2004 by Bruce Ratford (Class of '33) under the McMaster Student Opportunity Trust Fund II initiative. To be granted to students enrolled in the Faculty of Science or the Faculty of Social Sciences who demonstrate financial need. Preference will be given to students who are studying Environmental Studies. (91011)

**THE PITCHER-RATFORD BURSARIES**

Established in 2004 by Bruce Ratford (Class of '71) and Elda Ratford (Pitcher) (Class of '71) under the McMaster Student Opportunity Fund II initiative. A variable number of bursaries to be granted to students enrolled in the School of Geography and Earth Sciences who demonstrate financial need. Preference will be given to students who have completed Level III of an Honours Geography program with a Cumulative Average of 8.0 at the most recent review. (90983)

**THE ERIC SCHLICHTING MEMORIAL BURSARY**

Established in 1966 by his family, classmates and friends. To assist a student in a program in the Faculty of Science who demonstrates financial need. Preference will be given to a student enrolled in Earth Sciences. (90539)

**THE SCIENCE ALUMNI BURSARY**

Established in 2004 by the Faculty of Science through the generosity of its alumni and friends under the McMaster Student Opportunity Fund II initiative. To be granted to a student in the Faculty of Science who demonstrates financial need. Preference to be given to a student who has attained a minimum Cumulative Average of 7.0 at the most recent review. (90984)

**THE GEORGE SORGER BURSARY IN BIOLOGY**

Established by the friends of Dr. George Sorger. To be granted to a student in Level IV of a Biology program who demonstrates financial need. Preference will be given to students who have attained a Cumulative Average of at least 9.0 at the most recent review and who are also involved in community service. (91029)

**THE STELCO UNDERGRADUATE BURSARIES**

Established in 1996 by Stelco - a market-driven, technologically advanced group of businesses committed to maintaining leadership roles as steel producers and fabricators - in support of students who, without financial aid, would be unable to pursue their educational goals. To be granted to students who demonstrate financial need and are enrolled in the Faculties of Business, Engineering or Science. Preference will be given to students who are enrolled in the Department of Materials Science and Engineering. (90644)

**THE TD BANK FINANCIAL GROUP BURSARIES**

Established in 1999 by the TD Bank Financial Group in support of its commitment to helping students succeed in their post-secondary studies. A variable number of bursaries to be granted to students in any program who demonstrate financial need. Preference to be given to students enrolled in the Earth and Environmental Sciences, the Honours Geography and Environmental Studies or an Engineering and Society Program. (90939)

**THE BROOKE P. TOWNSEND BURSARY**

Established in 1996 by Brooke P. Townsend. To be granted to a student in any program who has demonstrated financial need. Preference to be given to a female student enrolled in the Faculty of Science. (90670)

**THE SAM AND IRENE WATSON BURSARY FUND**

Established in 1998 by the estate of Irene Mary Watson. To be granted to students who demonstrate financial need and who have completed their second year with a Cumulative Average of at least 8.0 in the Arts and Science Program or any of the Faculties of Business, Engineering, Humanities, Science and Social Sciences.

**Value:** \$2,000 (90840)

**THE FRIDA AND JOACHIM WOLTER BURSARY**

Established in 1997 under the McMaster Student Opportunity Fund initiative by Claus Wolter (Class of '80) in honour of his parents, Frida and Joachim Wolter. To be granted to a student enrolled in the Kinesiology program who demonstrates financial need. (90790)

**THE WRIGHT FAMILY BURSARY**

Established in 2003 by Thomas C. Wright, M.B.A. '72 under the McMaster Student Opportunity Fund II initiative. To be granted to a student in the Faculty of Business or the Faculty of Science who demonstrates financial need. (90999)

**THE JOHN YARWOOD MEMORIAL BURSARY**

Established in 1998 by family and friends in memory of Dr. A.J. Yarwood. To be granted to a Level II student enrolled in an Honours Chemistry program who demonstrates financial need. (90844)

## FACULTY OF SOCIAL SCIENCES

### THE ANTHROPOLOGY BURSARY

Established in 1996 by faculty, alumni and other friends of the Department of Anthropology. To be granted to students who have completed Level II of a program in Anthropology and who demonstrate financial need. Preference will be given to students entering Level III. (90579)

### THE FRED AND JEAN ARMER BURSARY

Established in 2006 by Jean Armer in memory of her husband Frederick B. Armer (B.A. '75) and in support of her belief that all students should be able to pursue their educational goals. To be granted to a student enrolled in the Faculty of Social Sciences who demonstrates financial need. Preference will be given to students enrolled in Level II or Level III of a program in Anthropology. (91044)

### THE ATKINSON CHARITABLE FOUNDATION BURSARY

Established in 1996 by The Atkinson Charitable Foundation. To be granted to students enrolled in the Faculty of Social Sciences who demonstrate financial need. Preference will be given to the recipient of The Atkinson Charitable Foundation Award. (90896)

### THE BIRGIT AND ROBERT BATEMAN BURSARY

Established in 1997 by Birgit and Robert Bateman under the McMaster Student Opportunity Fund initiative. To be granted to a student who demonstrates financial need and is enrolled in the Arts and Science program, the Faculty of Social Sciences or the Faculty of Science. Preference will be given to students who are studying Environmental Studies or Environmental Science. (90810)

### THE NORMA BERTI BURSARY

Established in 1996 under the McMaster Student Opportunity Fund initiative by Norma Berti, active Stelco employee for 34 years and recognized by the Hamilton Council of Women as *Woman of the Year* for her charitable community contributions. To be granted to a student who demonstrates financial need and is enrolled in a program in Labour Studies. (90812)

### THE SIDNEY L. BLUM BURSARY

Established in 1989 by friends and associates in memory of Sidney L. Blum. To be granted to one undergraduate and one graduate student enrolled in a program in Social Work who demonstrate financial need. Preference will be given to the undergraduate students registered in the summer term in SOC WORK 3D06. (90506)

### THE DR. RICHARD A. BRYMER MEMORIAL BURSARY

Established in 1998, under the McMaster Student Opportunity Fund initiative, by Mrs. Isabelle Brymer in memory of her husband, Dr. Richard Brymer, who served as a faculty member in the Department of Sociology at McMaster University from 1969 to 1996. To be granted to a student enrolled in a program in Sociology or Anthropology who demonstrates financial need. (90845)

### THE JODIE ANNE BULL MEMORIAL BURSARIES

Established in 1996 by her family in memory of Jodie Anne Bull. A variable number of bursaries to be granted to students enrolled in the Faculty of Social Sciences who demonstrate financial need. At least one bursary to be granted to a student enrolled in Labour Studies. (90673)

### THE CANADA DIRECT SALES DIVISION BURSARY

Established in 1997 by Canon Canada Inc. - OE Division, and augmented in 2005, in support of its belief that all students should have the opportunity to pursue their educational goals. A variable number of bursaries will be granted annually to McMaster students who demonstrate financial need and are enrolled in an Earth and Environmental Sciences program, the Honours Geography and Environmental Studies program or an Engineering and Society program. (90820)

### THE ELEANOR TURNER CARMENT BURSARY

Established in 1997 under the McMaster Student Opportunity Fund initiative. To be granted to a student who demonstrates financial need. Preference will be given to a student enrolled in a program in Women's Studies. (90884)

### THE CLASS OF '46 BURSARIES

Established by the Year '46 in honour of their 40th class reunion. To be granted to a student in a program in Gerontology. (90821)

### THE CREATIVE IMPACT COMMUNICATIONS BURSARY

Established in 2005 by Natalie Muryn, Class of '80 under the McMaster Student Opportunity Fund II initiative. To be granted to a student enrolled in the Faculty of Social Sciences who demonstrates financial need. (90986)

### THE MRS. MARGARET CUDMORE BURSARY

Established in 2005 under the Ontario Trust for Student Support initiative. To be granted to students enrolled in the Faculty of Social Sciences who demonstrate financial need. Preference will be given to students enrolled in an Economics or Political Science program. (91034)

### THE BEN F. DesROCHES BURSARIES

Established in 1996 as a tribute to Ben F. DesRoches, Stelco employee from 1949 to 1966 and elected Municipal Councillor for Saltfleet and Stoney Creek from 1969 to 1978, in recognition of his outstanding contributions to labour and to men and women in the greater Hamilton area. A variable number of bursaries to be granted to students enrolled in a program in Labour Studies who demonstrate financial need. The value of this award shall be not less than \$300. (90595)

### PATRICIA ANNE DICICCO MEMORIAL BURSARY

Established in 1988 this bursary is to be granted to a student or students enrolled in a program which includes Gerontology as a major, who is a Canadian citizen or permanent resident and who exhibits financial need. (90510)

### THE MARGARET E. DUNCAN BURSARY

Established in 1998 by Mr. and Mrs. J. Bruce Duncan in honour of his late mother who was a long-term volunteer in McMaster's Gerontology Program as a Tutor and, subsequently, a Senior Class Assistant. A variable number of bursaries to be granted annually to students enrolled in a Gerontology course who demonstrate financial need. (90846)

### THE WAYNE C. FOX BURSARIES

Established in 1999 by Wayne C. Fox in support of his belief that all students should have the opportunity to pursue their educational goals. A variable number of bursaries will be granted to students who demonstrate financial need and are enrolled in the Faculty of Humanities or the Faculty of Social Sciences or the Commerce program at the DeGroote School of Business. (90857)

### THE BILL FULLER BURSARY

Established in 1996 in commemoration of the 50th anniversary of the historic 1946 Stelco strike by William E. (Bill) Fuller, recognized by the City of Hamilton for his volunteer work which included serving as Vice-President of Labour Community Services of the United Way for six years, member of The Hamilton Community Foundation Board from 1990-96, Chairperson of the Finance Committee of the Holy Family Church and Hamilton's Citizen of the Year in 1991. To be granted to students enrolled in any program who demonstrate financial need. Preference to be given to students enrolled in a Labour Studies program. (90601)

### THE REG GISBORN BURSARIES

Established in 1997 as a tribute to Reg Gisborn, valued Stelco employee, President of Local 1005 from 1961-62 and New Democratic Party Hamilton East M.P.P. for twenty years until 1975. A variable number of bursaries to be granted to McMaster students enrolled in a program in Labour Studies who demonstrate financial need. (90715)

### THE HAMILTON AND DISTRICT LABOUR COUNCIL BURSARY

Established in 1997 by the Hamilton and District Labour Council under the McMaster Student Opportunity Fund initiative. To be granted to a student enrolled in the Labour Studies Program who demonstrates financial need. (90726)

### THE HAMILTON FOLLIES INC. (GERITOL FOLLIES) BURSARY

Established in 1997 by the Hamilton Follies Inc. (Geritol Follies) under the McMaster Student Opportunity Fund initiative. To be granted to a student in any program who demonstrates financial need. Preference to be given to a student who has completed at least 30 units in the Gerontology program. (90722)

### THE MARGARET HARGREAVES BURSARIES

Established in 1997 by Susan Hargreaves Walker in loving memory of her mother, Margaret Hargreaves. A variable number of bursaries to be granted to Social Sciences and Humanities students who demonstrate financial need. Preference will be given to mature, female students. (90729)

### THE GORDON HOLSEY BURSARY

Established in 1997 under the McMaster Student Opportunity Fund initiative as a tribute to Gordon Holsey, founding member of Local Union 1005 and valued member of the Union's Negotiations Committee. To be granted to a student enrolled in a Labour Studies program who demonstrates financial need. (90733)

### THE JOHN B. ISBISTER BURSARY

Established in 1996 under the McMaster Student Opportunity Fund initiative, by John B. Isbister of Stoney Creek, valued member of the United Steelworkers of America for 39 years and honoured war veteran by Canada and the navy on four occasions. To be granted to a student enrolled in a program in Labour Studies who demonstrates financial need. (90605)

**THE JAMES A. JOHNSON CLASS OF '97 BURSARIES**

Established by the Economics graduating Class of '97, faculty of the Department of Economics, and friends, under the McMaster Student Opportunity Fund initiative, in honour of Dr. James A. Johnson, to recognize his nine years as Dean of Social Sciences and his thirty-five years of dedicated service to the Department of Economics and McMaster University. A variable number of bursaries to be granted to students in a degree program in Economics who demonstrate financial need. Preference will be given to the recipient of The James A. Johnson Community Contribution Award. (90742)

**THE ANDREW JOHNSTONE MEMORIAL BURSARY**

Established in 2002 by colleagues, family and friends in memory of Andrew Johnstone. To be granted to a Level III student enrolled in the Faculty of Social Sciences who demonstrates financial need. Preference will be given to a student in an Economics program. (90972)

**THE DAVID KINSLEY MEMORIAL BURSARY**

Established in 2000 by family, friends, colleagues and former students of David Kinsley, Professor of Religious Studies at McMaster University from 1969 to 2000. To be granted to mature part-time students who have completed at least Level I of an undergraduate program in either the Faculty of Social Sciences or the Faculty of Humanities. Preference to be given to students who have attained a minimum Cumulative Average of 7.0. (90962)

**THE KELLY DAWN LAPP MEMORIAL BURSARY**

Established in 1997 by family and friends under the McMaster Student Opportunity Fund initiative in memory of Kelly Dawn Lapp who received her B.A./B.S.W. degree from McMaster University in 1996. To be granted to a student enrolled in the Social Work program who demonstrates financial need. Preference will be given to a student who has volunteered or worked in programs related to violence against women and children, employment and affordable housing for women, advocacy and treatment of mental health patients, addiction treatment or prevention of cruelty to animals. (90847)

**THE JOHN A. 'JACK' MacDONALD BURSARIES**

Established in 1996 as part of the Hamilton Sesquicentennial Celebrations in honour of John A. 'Jack' MacDonald for his 45 years of outstanding service and leadership to Hamilton and the region. A variable number of bursaries to be granted to students enrolled in a Political Science program who demonstrate financial need and interest in extracurricular or community activities. (90616)

**THE EWAN MacINTYRE BURSARIES**

Established in 1999 by the Social Work Alumni Branch, the Citizen Action Group, the Social Work Students Association, faculty (past and present), staff, friends, alumni, and various organizations associated with McMaster's School of Social Work as a tribute to Dr. Ewan Macintyre for his 29 years of service to the School, including 12 years of service as the School's Director. A variable number of bursaries to be granted to students who demonstrate financial need and are enrolled in a Bachelor of Social Work program. (90861)

**THE BOB MacKENZIE BURSARY**

Established in 1996 under the McMaster Student Opportunity Fund initiative, by Bob MacKenzie, political organizer for the United Steelworkers Union and valued MPP for Hamilton East for twenty years. To be granted to a student enrolled in a program in Labour Studies who demonstrates financial need. (90617)

**THE ENRICO HENRY MANCINELLI BURSARIES**

Established in 1996 by the Labourers' International Union of North America, Local 837 in honour of Enrico Henry Mancinelli, LIUNA Canadian Director and Vice President and Local 837 President. Two bursaries to be granted to students enrolled in a program in Labour Studies who demonstrate financial need. Preference to be given to students attaining a Sessional Average of at least 7.0 at the most recent review. (90619)

**THE R. CRAIG McIVOR BURSARIES**

Established in 1996 as a tribute to Professor R. Craig McIvor by his family, friends, colleagues and students. A variable number of bursaries to be granted to students enrolled in the Faculty of Social Sciences who demonstrate financial need. Preference will be given to students enrolled in an Honours program in Economics. (90622)

**THE GARY JAMES MINNETT BURSARY**

Established in 1999 in memory of Gary James Minnett (B.A./B.P.E. '72) by his wife, Barbara, and daughters, Samantha and Erin. To be awarded to a student enrolled in a Kinesiology program who demonstrates financial need. Preference will be given to a student enrolled in Kinesiology I from a high school in the Hamilton area. (90866)

**THE JAMES C. MOORE MEMORIAL BURSARY**

Established in 1989 by family and friends in memory of James C. Moore. To be granted to a student in Humanities or Social Sciences who demonstrates financial need and involvement in student government. (90566)

**THE HONOURABLE JOHN C. MUNRO BURSARIES**

Established in 1998 by family, friends and colleagues of the Honourable John C. Munro for his outstanding years of service and commitment to the political life of Canada and to the Regional Municipality of Hamilton-Wentworth. A variable number of bursaries to be granted to students enrolled in a program in Political Science who demonstrate financial need. (90848)

**THE CAROLE AND ALEXANDER NAKEFF BURSARIES**

Established in 2000 by Carole Anne Nakeff (Class of '69) and Dr. Alexander Nakeff. A variable number of bursaries to be granted to students enrolled in a Political Science or Environmental Studies program who demonstrate financial need. (90946)

**THE NORTHWATER CAPITAL MANAGEMENT BURSARY**

Established in 1997 by Northwater Capital Management in support of its belief that all students should have the opportunity to pursue their educational goals. A variable number of bursaries will be granted annually to McMaster students enrolled in the Gerontology program who demonstrate financial need. Preference to be given to students who have participated in a conference or workshop on Gerontology. (90783)

**THE DR. JOHN H. PASSMORE BURSARY**

Established in 2004 by Dr. John H. Passmore (Class of '33) under the McMaster Student Opportunity Trust Fund II initiative. To be granted to students enrolled in the Faculty of Science or the Faculty of Social Sciences who demonstrate financial need. Preference will be given to students who are studying Environmental Studies. (91011)

**THE MARION PEARCE BURSARIES**

Established in 1990 by Dr. Sally Palmer in memory of her aunt Marion Pearce (Class of '20). Miss Pearce worked with New Canadians at the Beverly Street Baptist Church in Toronto. A variable number of bursaries to be granted to students enrolled in the Social Work program who have demonstrated financial need. (90536)

**THE PEVENSING BURSARIES**

Established in 1996 by David Hannaford (Class of '64). A variable number of bursaries to be granted to students enrolled in the penultimate year of an Honours program in Economics who demonstrate financial need. (90676)

**THE BETH PHINNEY BURSARY**

Established in 2005 by Beth Phinney (B.A. '78), and Member of Parliament for Hamilton Mountain for 18 years. To be granted to a student enrolled in the Faculty of Social Sciences who demonstrates financial need. (91038)

**THE PHYSICAL EDUCATION CLASS OF '80 25TH ANNIVERSARY BURSARY**

Established by the Bachelor of Physical Education Class of '80 in honour of their 25th Anniversary. To be granted to students in Level II or above of a program in Kinesiology who demonstrate financial need. (91040)

**THE GEORGE PLUMB MEMORIAL BURSARY**

Established in 1996 by David Plumb in memory of his father George Plumb. To be granted to a student enrolled in a program in Gerontology who demonstrates financial need. Preference to be given to a mature student. (90636)

**THE ROYAL CANADIAN LEGION BRANCH 163 BURSARY**

Established in 1997 by the Royal Canadian Legion Branch 163 in support of the McMaster Student Opportunity Fund initiative and in keeping with the Legion's intention to support community service, education and leadership programs in the country. To be granted to a student enrolled in a Gerontology program who demonstrates financial need. (90798)

**THE WILLIAM F. SCANDLAN BURSARIES**

Established in the 50th anniversary year of the historical Stelco steel strike of 1946 by William F. Scandlan, valued member of the United Steelworkers of America for 44 years including terms as International Representative (1953) and Area Supervisor (1976 to 1986), Alderman to the City of Hamilton (1964-1976) and Regional Councillor (1973-1976). To be granted to students enrolled in any program who demonstrate financial need. Preference to be given to students enrolled in a Labour studies program. (90642)

**THE GINO AND ROBERTA SCAPILLATI BURSARY**

Established in 2004 by Gino Scapillati '81 and Roberta Scapillati '79 under the McMaster Student Opportunity Fund II initiative. To be granted to a student enrolled in the Faculty of Business or Faculty of Social Sciences who demonstrates financial need. (91005)

**THE GERALD AND VERNA SIMPSON BURSARY**

Established in 1997 under the McMaster Student Opportunity Fund initiative. Preference will be given, if financial need is demonstrated, to the recipient of The Gerald and Verna Simpson Scholarship. (90886)

**THE SOCIAL SCIENCES BURSARY**

Established in 2004 by the Dean of the Faculty of Social Sciences through the generosity of its alumni and friends under the McMaster Student Opportunity Fund II initiative. To be granted to students enrolled in the Faculty of Social Sciences who demonstrate financial need. (91009)

**THE SOCIAL SCIENCES SOCIETY BURSARIES**

Established in 1990 by the Social Sciences Society Executive in recognition of the outstanding efforts of Dr. Peter George in establishing the Social Sciences Society. A variable number of bursaries to be granted to full-time students enrolled in a Social Sciences program involving Anthropology, Economics, Geography, Gerontology, Labour Studies, Political Science, Psychology, Religious Studies, Social Work or Sociology and who demonstrate financial need. (90542)

**THE THOMAS H.B. SYMONS BURSARY**

Established in 1997 by Professor Thomas H.B. Symons under the McMaster Student Opportunity Fund initiative. To be granted to students enrolled in the Faculty of Social Sciences with a minimum Cumulative Average of 8.0 at the most recent review who demonstrate financial need. Preference will be given to students studying Canadian Politics. (90882)

**THE TD BANK FINANCIAL GROUP BURSARIES**

Established in 1999 by the TD Bank Financial Group in support of its commitment to helping students succeed in their post-secondary studies. A variable number of bursaries to be granted to students in any program who demonstrate financial need. Preference to be given to students enrolled in the Earth and Environmental Sciences, the Honours Geography and Environmental Studies or an Engineering and Society Program. (90939)

**THE EDWIN A. TAYLOR BURSARY**

Established in 2005 by Edwin A. Taylor (B.A. '54) and (M.B.A. '63). To be granted to a student in the Faculty of Social Sciences who demonstrates financial need. (91046)

**THE HERMANTEN CATE MEMORIAL BURSARY**

Established in 2002 in memory of Herman ten Cate by his family, in support of his belief that all students should have the opportunity to pursue their educational goals. To be granted to a student enrolled in the Faculty of Social Sciences who demonstrates financial need. (90975)

**THE TRILLIUM NON PROFIT VENTURES FOR YOUTH BURSARY**

Established in 2004 by Trillium Non Profit Ventures for Youth. To be granted to students who demonstrate financial need. Preference will be given to students enrolled in the School of Social Work. (91014)

**THE UNITED STEELWORKERS OF AMERICA BURSARY**

Established in 1997 by the United Steelworkers of America. To be granted to students enrolled in any program who demonstrate financial need. Preference will be given to students enrolled in a program in Labour Studies. (91042)

**THE SAM AND IRENE WATSON BURSARY FUND**

Established in 1998 by the estate of Irene Mary Watson. To be granted to students who demonstrate financial need and who have completed their second year with a Cumulative Average of at least 8.0 in the Arts and Science Program or any of the Faculties of Business, Engineering, Humanities, Science and Social Sciences.

Value: \$2,000 (90840)

**THE LYNN R. WILLIAMS BURSARY**

Established in 1997 as a tribute to Lynn R. Williams (Class of '44), International President of the United Steelworkers of America from 1983-1994, in recognition of his outstanding contributions to labour and labour studies. To be granted to a student who demonstrates financial need and is enrolled in a program in Labour Studies. The value of this bursary shall be no less than \$300. (90793)

**THE FRIDA AND JOACHIM WOLTER BURSARY**

Established in 1997 under the McMaster Student Opportunity Fund initiative by Claus Wolter (Class of '80) in honour of his parents, Frida and Joachim Wolter. To be granted to a student enrolled in the Kinesiology program who demonstrates financial need. (90790)

**THE ZONTA CLUB OF HAMILTON I BURSARIES**

Established in 1997 by the Zonta Club of Hamilton I in support of the McMaster Student Opportunity Fund initiative and in the belief that all students, particularly women in non-traditional fields, should have the opportunity to pursue their educational goals. To be granted to a student who demonstrates financial need and is enrolled in the Faculty of Engineering, or in Business or is enrolled in a course in Indigenous Studies. Preference to be given to female students. (90550)

**SUPPLEMENTARY BURSARY AID FOR AWARD RECIPIENTS**

Several donors to McMaster's Undergraduate Scholarships Program, in response to the Student Opportunity Trust Fund initiative of the Ontario Government, made donations in 1996-97 for the purpose of assisting a specific scholarship or award recipient who demonstrates financial need. To qualify for bursary support, scholarship and award recipients are required to demonstrate financial need in accordance with that required of applicants to the general McMaster Bursary Program:

- The Betty Taylor Campbell Scholarship
- The George P. Gilmour Memorial Scholarship
- The Dundas Scholarships
- The Gary Lautens Memorial Scholarship
- The Somerville Scholarships

**TRAVEL BURSARY PROGRAM**

Travel bursaries assist students taking McMaster courses that include a placement in a community outside Ontario. To apply, students must complete a McMaster bursary application, available in Gilmour Hall, Room 120. Please note that travel bursaries do not apply to programs where placement costs are an integral part of the normal study term, such as the School of Medicine within the Faculty of Health Sciences.

**THE ENGINEERING AND SOCIETY TRAVEL BURSARY**

Established in 1994 by the Department of Engineering and Society. To assist students with travel costs associated with their summer placement in the Engineering and Society program. To be granted to a student who demonstrates financial need and is enrolled in the Faculty of Engineering. Applications will be reviewed by the Director, Engineering and Society and the Office of Student Financial Aid & Scholarships. (90963)

**THE FREEMAN FAMILY FOUNDATION BURSARY FUND FOR STUDY AT THE HEBREW UNIVERSITY OF JERUSALEM**

Established in 1997 under the McMaster Student Opportunity Fund initiative in the belief that all students should have the opportunity to pursue their educational goals. To be granted, on the recommendation of the Religious Studies Selection Committee, to graduate and undergraduate students who demonstrate financial need and have enrolled in session(s) of study at the Hebrew University of Jerusalem. Applicants must have lived in Ontario for 12 consecutive months directly prior to commencing full-time post-secondary studies. Students should contact the Department of Religious Studies. (90818)

**EXCHANGE PROGRAM BURSARIES**

Bursary support may be available to students participating in McMaster approved exchange programs. Application procedures and deadline information are available from the Office of Student Financial Aid & Scholarships, Gilmour Hall, Room 120 or on our web site at <http://sfas.mcmaster.ca>. For further information about exchange programs, please refer to *International Study* in the *General Academic Regulations* section and *Student Exchanges* in the *Academic Facilities, Student Services and Organizations* section of this Calendar.

**THE BEALE-LINCOLN-HALL EXCHANGE PROGRAM BURSARIES**

Established in 1996 by Arnold A. Beale in memory of his parents, F. Arnold Beale and Margaret S. Beale and, Mr. and Mrs. Walter Gould Lincoln and Commander Harley H. Hall, U.S.N. To be granted to a student who demonstrates financial need and is enrolled in a program in Commerce, Biochemistry, Biology, English, Chemistry, Earth Sciences, History, Materials Science, Mathematics, Physics, Engineering Physics or Religious Studies who is participating in one of McMaster's formal exchange programs. Preference will be given to students who have demonstrated a lively interest in the humanities and the human and social implications of scientific developments. (90677)

**THE CHAN YIN CHAK BURSARY**

Established in 1997 by Tak Chan in honour of his great grandfather, Mr. Chan Yin Chak. This bursary will be used to help defray expenses of Level III Commerce students or M.B.A. students, who demonstrate financial need, and are participating in one of the international exchange programs at the DeGroot School of Business. (90682)

**THE JAMES R.A. LANGS STUDENT EXCHANGE PROGRAM BURSARIES**

Established in 1996 by family in memory of James R.A. Langs (Class of '37), a Hamilton business leader and great supporter of the Hamilton Community. A variable number of bursaries to be granted to students enrolled in a program in Humanities who demonstrate financial need and who are participating in a formal McMaster Exchange Program. (90655)

**THE LVIV POLYTECHNIC STATE UNIVERSITY EXCHANGE PROGRAM BURSARY**

Established in 2000 by the Hamilton Ukrainian Community. To be granted to visa students who have demonstrated financial need and are attending McMaster as participants in the Lviv Polytechnic State University Exchange Program. (90954)

**THE McLAY BURSARY**

Established in 1997 by David and Jean McLay under the McMaster Student Opportunity Fund initiative. To be granted to a student in any program who demonstrates financial need and who is participating in one of McMaster's formal exchange programs. Preference to be given to students who have been active in international clubs and associations. (90767)

**THE McLEAN FAMILY EXCHANGE BURSARIES**

Established in 1997 by the McLean Family under the McMaster Student Opportunity Fund initiative, in gratitude for the learning and relationship enrichment which they obtained first at McMaster University, and subsequently through international travel. To be granted to students who wish to participate in exchange programs, who demonstrate financial need and who are enrolled in Level II or III of a program. Preference to be given to international exchanges, for students from the Faculty of Engineering or the Faculty of Humanities with a CA above 7.0 at the most recent review and who have shown leadership and involvement in university and/or community activities. (90849)

**THE RANDOLPH E. ROSS MEMORIAL BURSARY**

Established in 1998 by family and friends in memory of Dr. Randolph E. Ross, who was a dedicated and cherished faculty member for over 25 years at McMaster University. To be granted to a student enrolled in the School of Business or the Engineering and Management Program. Preference will be given to a McMaster student participating in an international exchange program. (90854)

**THE JAMES MASON YOUNG BURSARY**

Established in 1996 by James Mason Young in honour of his family's long-standing association with McMaster University. A variable number of bursaries to be granted to students enrolled in the Faculty of Business who demonstrate financial need. Preference to be given to students participating in a formal McMaster Exchange Program. (90779)

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<b>AT</b> Athletic	<b>HS</b> Health Sciences
<b>B</b> Business	<b>H</b> Humanities
<b>CS</b> Community Service	<b>R</b> Regional
<b>D</b> Disabilities	<b>S</b> Science
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# THE COMMUNITY CONTRIBUTION AWARDS

The Community Contribution Awards represent recognition for contribution to the University or the community-at-large. To be eligible for consideration for the Community Contribution Awards, full-time and part-time students must be registered in Level II, III, IV or V of a first or second baccalaureate program. Eligible candidates must be registered and in good standing as a student of McMaster University.

A student may receive only one Community Contribution Award per year, but may be considered for the same or other awards the following year. A student may apply to a maximum of only three Community Contribution Awards per year.

These awards have no monetary benefit but a notation will appear on the student's transcript. The recipient of these awards may be eligible to receive the corresponding donor bursary if financial need is demonstrated. Further information on our bursary program can be found at <http://sfas.mcmaster.ca/bursary/macbur.html>.

The Community Contribution Awards are awarded by a Selection Committee based on an application. Application forms may be picked up in the Office of Student Financial Aid & Scholarships, in Gilmour Hall, Room 120 after February 1. Completed applications are to be received by the Student Financial Aid Office, by April 15.

## THE ATKINSON CHARITABLE FOUNDATION AWARD

Established in 1996 by The Atkinson Charitable Foundation. To be awarded to a student enrolled in any program who participates in activities displaying superior leadership or innovative skills and demonstrates service to the community-at-large. Preference to be given to a student enrolled in the Faculty of Social Sciences. (80022)

## THE AUBURN INDUSTRIAL SERVICES LTD. AWARDS

Established in 1997 by Auburn Industrial Services Ltd. To be awarded to students enrolled in any program who display superior leadership or innovative skills. (80037)

## BRANTFORD ALUMNI BRANCH

### COMMUNITY CONTRIBUTION AWARDS

Established in 2000 by the Brantford Alumni Branch of the McMaster Alumni Association. A variable number of awards to be granted to students enrolled in any program who demonstrate leadership and innovative skills through participation in either university or community activities. Preference will be given to students from the Brant County area high schools. (80052)

## THE ELVA CARROL AWARD

Established in 1996 by Elva Carrol. To be awarded to a student enrolled in any program who demonstrates outstanding athletic participation. Preference to be given to an athlete who participates on an inter-university women's team and has demonstrated leadership and fair play. (80028)

## THE EDWARD FRANK DAVIS MEMORIAL AWARD

Established in 1996 by bequest in memory of Edward Frank Davis. A variable number of awards to be granted to students entering any program who have shown commitment and contribution to their community through volunteer work. (80060)

## THE DAMIAN MIGUEL HEADLEY AWARDS

Established in 1997 by family and friends in memory of Damian Miguel Headley (Class of '89). To be awarded to students enrolled in any program who demonstrate one or more of the following: service to McMaster University or the community-at-large, outstanding athletic or artistic participation or display superior leadership or innovative skills. (80050)

## THE RUDY HEINZL AWARD

Established in 1996 by family, friends and colleagues upon the retirement of Rudy Heinzl as Dean of Student Affairs, in recognition of 32 years of dedicated service to students and to the McMaster University community. To be awarded to a student enrolled in any program who, in the judgment of a selection committee, has made a significant contribution to the university life of his/her fellow students. (80004)

## THE STUART AND MARJORIE IVISON AWARDS

Established in 1997 by Donald Ivison (Class of '53) and Betty Ivison (Class of '52) in honour of his parents Stuart and Marjorie Ivison (Class of '28 (Arts)). A variable number of awards to be granted to students enrolled in a program in the Department of English and Cultural Studies who demonstrate a lively interest in English/Cultural Studies, involvement in extra-curricular activities and service to the University or community-at-large. (80061)

## THE JAMES A. JOHNSON COMMUNITY CONTRIBUTION AWARD

Established in 1997 by the McMaster Social Sciences Society Executive Committee to recognize Dr. James A. Johnson, Dean of Social Sciences (1989-97), for his outstanding service to the Faculty of Social Sciences and the broader campus community. One award to be granted annually to a Social Sciences student enrolled in a program involving Anthropology, Economics, Geography, Gerontology, Labour Studies, Political Science, Psychology, Religious Studies, Social Work or Sociology who, in the judgment of the appropriate selection committee in the Faculty of Social Sciences, has provided outstanding service to McMaster University or the community-at-large. Preference will be given to students whose service has been undertaken within the Faculty of Social Sciences at McMaster University. (80023)

## THE JUNIOR LEAGUE OF HAMILTON-BURLINGTON, INC.

### COMMUNITY CONTRIBUTION AWARD

Established in 1997 by the Junior League of Hamilton-Burlington, Inc. under the McMaster Student Opportunity Fund initiative. To be awarded to a student in any program who has demonstrated service to the community-at-large. (80032)

## THE ALEC JOHN ROYSTON MACMILLAN MEMORIAL AWARDS

Established in 1996 by his family in memory of Alec John Royston MacMillan. Three awards to be granted upon completion of Level I: a) one to a student in any program; b) one to a student enrolled in the Faculty of Business, Humanities or Social Sciences; and, c) one to a student enrolled in the Faculty of Engineering, Health Sciences or Science who, in the judgment of a selection committee, demonstrate qualities of innovation, leadership and service to the community through participation in campus and community programs including athletics. (80012)

## THE McMASTER ATHLETIC COUNCIL AWARD

Established in 1997 by the Men's Athletic Council and the Women's Intercollegiate Athletics Council under the McMaster Student Opportunity Fund initiative. To be awarded to a student enrolled in any program who demonstrates outstanding athletic participation. Preference will be given to students in Level II or higher who exhibit leadership and dedication to sport and prove to be an overall asset to their team(s). (80033)

## THE ROBERT JOHN MORRIS AWARDS

Established in 1996 by family, friends and colleagues of Robert John Morris. Six awards: three to be granted to students upon completion of Level I or higher of a program in Engineering, and three to be granted to students upon completion of Level II or higher of a program in Engineering Physics who, in the judgment of the appropriate selection committee in the Faculty of Engineering, have demonstrated leadership or innovative skills in the field of Engineering or, through their participation in campus and community activities, have had a significant influence on the lives of Engineering students at McMaster University. (80024)

## THE HELEN K. MUSSALLEM AWARD

Established in 1996 by Dr. Helen K. Mussallem (C.C., B.N., Ed.D., LL.D. (Queen's), D.Sc., D.St.J., F.R.C.N., M.R.S.H.) to stimulate interest in professional nursing affairs through participation in meetings, conferences, professional associations and societies related to the field of nursing. A variable number of awards granted to students who have completed Nursing I and who, in the judgment of the School of Nursing, have demonstrated notable involvement in extracurricular activities. (80009)

## THE ONCOLOGY NURSING PROGRAM AWARDS

Established in 1997 in recognition of the contribution of McMaster students. To be awarded to students enrolled in the Oncology Nursing program who display superior leadership or innovative skills. Preference to be given to students who are working in under-resourced communities and who must travel long distances to participate in the program. (80040)

## THE PIONEER GROUP INC. LEADERSHIP AWARDS

Established in 1997 by the Pioneer Group of Companies Inc. in recognition of the community contributions of McMaster students. A variable number of awards to be granted to students enrolled in any program who, in the judgment of a selection committee, have demonstrated leadership and community service. (80025)

## THE GORDON AND JANE PRICE AWARDS

Established in 1997 by their sons in honour of Gordon and Jane Price. To be awarded to students in the Arts and Science Program or in the Faculty of Health Sciences who demonstrate service to the community-at-large, outstanding athletic participation or who display superior leadership and innovative skills. (80048)

**THE GORDON RAYMOND AWARD**

Established in 1996 by the McMaster Association of Part-time Students and other friends and colleagues in honour of Gord Raymond in recognition of his 27 years of service to McMaster University including 15 years as Coordinator of Part-time Degree Studies. To be awarded to the part-time student who, in the judgment of a selection committee, demonstrates enthusiasm for life-long learning and/or had an influence on the lives of part-time students. (80011)

**THE ROTARY CLUB OF ANCASTER COMMUNITY CONTRIBUTION AWARD**

Established in 1997 by the Rotary Club of Ancaster in keeping with Rotary's mission to foster the ideal of service within the community. To be awarded to a student enrolled in any program who demonstrates commendable service to the community-at-large. Preference to be given to a student enrolled in an Environmental Science Program. (80044)

**THE ROTARY CLUB OF BURLINGTON CENTRAL COMMUNITY CONTRIBUTION AWARD**

Established in 1997 by the Rotary Club of Burlington Central in keeping with Rotary's mission to foster the ideal of service within the community. To be granted to a student enrolled in any program who demonstrates involvement in extra-curricular or community activities. Preference will be given to a student from the Burlington area. (80041)

**THE ROTARY CLUB OF HAMILTON A.M. COMMUNITY CONTRIBUTION AWARD**

Established in 1997 by the Rotary Club of Hamilton A.M. in keeping with Rotary's mission to foster the ideal of service within the community. To be awarded to a student enrolled in any program who demonstrates outstanding service to the community-at-large. (80042)

**THE ROTARY CLUB OF HAMILTON COMMUNITY CONTRIBUTION AWARD**

Established in 1997 by the Rotary Club of Hamilton in keeping with Rotary's mission to foster the ideal of service within the community. To be awarded to a student enrolled in any program who demonstrates outstanding service to the community-at-large. (80043)

**THE SATURN OF HAMILTON EAST ACHIEVEMENT AWARDS**

Established in 1996 by SATURN of Hamilton East. To be awarded to McMaster students who promote the ideals of leadership and community service. One award to be granted in each Faculty. (80020)

**THE SCIENCE CLASS OF '97 LEGACY AWARD**

Established in 1997 by the Science Class of '97. To be awarded to a student enrolled in the Faculty of Science who, in the judgment of a selection committee, has demonstrated leadership, innovativeness and/or community service. Preference will be given to students entering Level III or IV. (80030)

**THE MEENA AND NARESH SINHA AWARD**

Established in 1996 by Meena and Naresh Sinha. To be awarded to a student enrolled in the Faculty of Engineering who, in the judgment of the Department of Electrical and Computer Engineering, has demonstrated superior leadership or innovative skills through participation in either University and/or community activities. (80014)

**THE LORNA AND DAVID SOMERS AWARD**

Established in 1997 by Lorna Somers (Class of '81) and David Somers (Class of '88) under the McMaster Student Opportunity Fund initiative. To be awarded to a student enrolled in the Faculty of Humanities who, in the judgment of a selection committee, has demonstrated one or more of the following: service to McMaster or the community-at-large; superior leadership or innovative skills; outstanding athletic or artistic participation. Preference will be given to a student enrolled in Art and Art History. (80031)

**THE ADAM SUDAR PRINTMAKING AWARD**

Established in 1997 in memory of Adam Sudar by his friends, this award fund will be used to assist students entering Level III or IV of the Honours Art Program at McMaster who, in the judgment of the School of the Arts, have demonstrated outstanding achievement or promise in the area of printmaking, and who have contributed significantly to the School's cultural presentations within the community. (80054)

**THE STEPHEN F. H. THRELKELD AWARD**

Established in 1997 by friends and colleagues of Stephen F. H. Threlkeld. To be awarded to a student entering Level IV of an Honours program in Biology who has demonstrated leadership or innovative skills through participation in either university and/or community activities. Preference will be given to students who have taken at least nine units of Genetics courses. (80026)

**THE TTK INC. AWARDS**

Established in 1997 by TTK Inc. in recognition of the contributions of McMaster students. To be awarded to students enrolled in the Faculty of Engineering who demonstrate outstanding athletic participation and display superior leadership or innovative skills. (80046)

**THE ROGER TRULL AWARD**

Established in 1997 by friends and colleagues in recognition of Roger Trull's ten years of outstanding service and commitment to the Advancement area and the McMaster University community in general. The award will be granted annually to a student who demonstrates solid academic standing and superior leadership in extra-curricular activities in the McMaster community. (80053)

**THE UBS GLOBAL ASSETS MANAGEMENT (CANADA) COMPANY AWARDS**

Established in 1997 by Brinson Partners Inc. under the McMaster Student Opportunity Fund initiative. To be awarded to a student enrolled in any program who demonstrates one or all of the following: service to McMaster University or the community-at-large; superior leadership or innovative skills; outstanding athletic or artistic participation. (80036)

**THE SAM WATSON MEMORIAL AWARD**

Established in 1996 by his wife Irene M. Watson and friends of Samuel Watson. One or two awards to be granted to students enrolled in a program in Arts and Science who, in the judgment of the Arts and Science Program Admissions, Awards and Review Committee, have made a notable contribution in the community-at-large through participation in extra-curricular activities. (80002)

**THE WESCAST INDUSTRIES CONTINUOUS LEARNING AWARD**

Established in 1997 by Westcast Industries Inc. in recognition of the contributions of McMaster students. To be awarded to a student enrolled in the Faculty of Engineering who is involved in activities displaying superior leadership or innovative skills. Preference will be given to a student enrolled in Materials Engineering. (80047)

**THE ALLAN AND JOY WILLIAMS AWARD**

Established in 1996 by Mary Williams (Class of '87), Anne Williams (Class of '89) and Ellen and Dan Walker in honour of their parents. To be awarded to a student enrolled in any program who, in the judgment of the Department of English and Cultural Studies, has made a notable contribution to campus and community life and demonstrates a lively interest in English studies. (80019)

**THE ZENON ENVIRONMENTAL AWARDS**

Established in 1997 by Zenon Environmental Inc. in recognition of the contributions of McMaster students. To be awarded to students enrolled in the Faculty of Engineering who display superior leadership or innovative skills. (80051)

**THE ZOOM MEDIA AWARDS**

Established in 1997 by Zoom Media Inc. in support of McMaster students. A variable number of awards to be granted to students enrolled in any program who, in the judgment of a selection committee, have demonstrated superior leadership and innovative skills through participation in either university and/or community activities. (80029)

# UNDERGRADUATE ACADEMIC AWARDS

WEB ADDRESS: <http://sfas.mcmaster.ca>

EMAIL ADDRESS: [awards@mcmaster.ca](mailto:awards@mcmaster.ca)

## Director, Student Financial Aid & Scholarships

Elizabeth Seymour

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Gilmour Hall, Room 120

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Hamilton, Ontario, L8S 4L8

Telephone: (905) 525-9140, ext. 24319

The University Senate, acting on behalf of generous benefactors and donors to the University, bestows academic awards on entering, in-course and graduating students to encourage and recognize high levels of scholarship.

In recognizing such scholastic achievement, 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 attaching to academic awards is solely the prerogative of the Undergraduate Council.

## TERMINOLOGY

An explanation of the terminology used to describe Academic Awards is provided in the sections of the Calendar described below. Please refer to the *Glossary* section of this Calendar for definitions of **Continuing Students**, **Cumulative Average (CA)**, **Level**, **Post-Degree Students**, **Review** and **Reviewing Period**.

**Baccalaureate Degrees** are those listed in the Degrees and Programs section of this calendar, the abbreviations of which start with the letter B, such as B.A., B.Com.

**Failures** are determined by reviewing period, not by session. They include failures in Extra courses.

**Full-time Student** for academic purposes is an undergraduate student who is registered in at least 24 units in the Fall/Winter session, including Extra Courses.

**Graduand Awards** are granted to eligible students on the completion of their graduating session.

**In-Course Awards** are granted to eligible students, based on academic achievement in other than their graduating session.

**Part-time Studies Awards** are referred to under Category C. To be eligible for these awards, students must have been registered in at least 50% of all units attempted at McMaster, while fulfilling the University's definition of a part-time student as described in the *Glossary* section of this Calendar.

**Reviewing Period** for scholarship purposes, normally refers to work completed during the Fall/Winter session. Please refer to the *Glossary* section of this Calendar.

**Session**, for scholarship purposes, refers to the Fall/Winter session. The Fall/Winter session is the period from September to April as defined in the *Sessional Dates* section of this Calendar.

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

2. To ensure a wide distribution of the limited number of awards, there are restrictions on the number of awards that a student may receive. An eligible student may be granted:
  - a) travel scholarships and non-monetary awards such as books and medals; and
  - b) awards granted on the basis of an application; and
  - c) awards continued from a previous year (including entrance scholarships), except as provided by the particular terms of an award; and
  - d) either one (major) award greater than or equal to the value of a Senate Scholarship (\$800 in 2005-2006) and one (minor) award of less than the value of a Senate Scholarship; or two awards of less than the value of a Senate Scholarship; and
  - e) an academic grant.

When a student is named the winner of an award but may not receive it because of the conditions listed above, the next eligible student will be granted the award.

3. The monetary benefits of travel scholarships, awards won by graduating students, and awards such as books and medals will be disbursed directly to the student.
4. The monetary benefits of awards, other than those listed in 3. above will be disbursed only if the recipient is registered in a baccalaureate degree program, or a specific program when explicitly required by the terms of the award, at McMaster University in the next Fall/Winter session after the award was earned and will be credited to the student's University account.  
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 University account are not refundable in cash if there is an outstanding balance.
6. Students wishing to defer the benefits of an award to a later session (other than an award for entering students) should apply to the Office of Student Financial Aid & Scholarships. Approval of applications is not automatic, and deferments are not normally granted for more than one calendar year.
7. Students holding four-year, full-fees scholarships who choose to accelerate their program and to complete their degree earlier than normal by completing Spring/Summer session courses and who wish to employ the benefits of their award to defray the academic fees for such courses should apply to the Office of Student Financial Aid & 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, and to suspend granting of an award or to adjust the stated value of an award in years in which insufficient investment income is available due to fluctuations in investment markets.
9. Appeals on the basis of exceptional circumstances must be submitted in writing to the Office of Student Financial Aid & Scholarships. To submit an appeal, students must provide a covering letter outlining the situation and include relevant documentation which might include a letter of support from the Associate Dean/Director of the program and medical documentation if appropriate. The appeal must be submitted to the Undergraduate Council Awards Committee c/o the Awards Officer in Gilmour Hall, Room 120.
10. The particular terms for University Academic Awards are listed in *AWARDS FOR ENTERING STUDENTS*, *AWARDS FOR IN-COURSE*, *GRADUAND*, *PART-TIME AND SECOND DEGREE STUDENTS* and *ACADEMIC GRANTS*.

## CATEGORIES OF AWARDS

1. Awards for Entering Students (page 349)
2. Awards for In-Course, Graduand, Part-time and Second Degree Students (page 350)
3. Academic Grants (page 370)

## LISTING OF AWARDS AND ACADEMIC GRANTS BY FACULTY (page 370)

To find awards offered to students in a specific Faculty or program

## INDEX OF AWARDS, ACADEMIC GRANTS AND COMMUNITY CONTRIBUTION AWARDS (page 378)

To find a specific award, use the Index of Awards.

## GENERAL CONDITIONS FOR ACADEMIC AWARDS

1. The University Academic Awards listed below are provided exclusively for students entering, registered in, or graduating from baccalaureate degree programs at McMaster University. Continuing Students, Post-degree Students, and students registered in the McMaster Medical program are not eligible for these awards.

## CONDITIONS FOR AWARD CATEGORIES

### Awards for Entering Students (A)

1. These awards are provided exclusively for those qualifying for admission to Level I of a first baccalaureate degree in the Fall/Winter session as full-time students.
2. Students who have registered at any post-secondary institution after graduation from secondary school will not be considered for an entrance award.
3. Canadian citizens and permanent residents are eligible for any entrance award regardless of where they complete their secondary school education.
4. Students completing the final year of secondary school in Canada are also eligible. International students studying outside Canada are not eligible for entrance awards administered by the Office of Student Financial Aid & Scholarships.
5. To be considered for an entrance award, students must obtain at least an average of 80% or equivalent in the secondary school credits required for University admission to their program of study and must apply for admission to the University not more than two years after completion of their secondary school studies.
6. Final admission average for entrance awards is calculated using the prerequisites for program of study plus the next best Grade 12 U or M courses to a total of six final grades.
7. Registration in, or transfer to, another program of study at any time may result in forfeiture, or adjustment in the value, of the award. Students are advised to consult with the Office of Student Financial Aid & Scholarships and their Faculty Advisor prior to making any changes to their program of study or course load.
8. Students who withdraw or drop below 24 units on or before December 31 will lose their entrance award.
9. Recipients may retain an entrance award which provides for awards beyond Level II while registered in a first baccalaureate degree program and until graduation or for four years, whichever is less. To receive the next installment of an award, students must complete 24 units during each Fall/Winter session at the University, maintain a Sessional Average of at least 9.5, obtain no failures and register as a full-time student in the subsequent Fall/Winter session.
10. Co-op/Internship students are eligible to retain their entrance scholarship provided they meet the minimum course load requirement for their program of study as defined in the Undergraduate Calendar, but funding will be deferred until they return to full-time study.
11. Once an entrance award is lost, it will not be reinstated.
12. In addition to meeting the General Conditions, entrance award recipients will begin their studies in the next Fall/Winter session. Students wishing to defer the benefits of an award to a later session should apply to the Office of the Registrar (Admissions) for deferral of both admission and scholarship. Approval of applications is not automatic, and deferrals are not normally granted for more than one calendar year.

### Awards for Full-Time, In-Course Students (B)

These awards are based on competition across the University or within a Faculty or program.

1. These awards, which are granted in June or November, are provided exclusively for first baccalaureate degree students registered full-time qualifying on the basis of work included at the May review (or deferred examinations resulting therefrom) in other than graduating session.
2. Students choosing to graduate at the subsequent Fall Convocation will retain the transcript notation and monetary value of any donor-funded awards (e.g. The Accenture Inc. Scholarship). Recipients of University awards (e.g. Dr. H. L. Hooker Scholarships) will retain the transcript notation but forfeit the monetary benefit of the awards.
3. Students choosing to withdraw after the May review will retain the transcript notation but forfeit the monetary benefit of all awards.
4. In addition to meeting the General Conditions, a student must remain registered as a full-time student during the Fall/Winter session immediately prior to the May review and obtain a Sessional Average of 9.5 and no failures.
5. For students who remain full-time in the Fall/Winter session, a Sessional Average will be computed, which is the weighted average of the grades in all courses taken during that session. The Sessional Average will be used to determine academic standing for the awards listed below, unless otherwise stated in the terms of a particular award.
6. The Sessional Average will be used to break any tie in the competition for awards which are based on another criterion.

7. Co-op/Internship students are eligible for full-time awards provided they meet the minimum course load requirement for their program of study as defined in the Calendar.
8. Students who participate in a formal exchange program are eligible for full-time, in-course awards on the basis of 15 units completed in one term at McMaster. In order to be considered, students should identify themselves to their Faculty by October 15 when they return to full-time study the following Fall/Winter session. Students on exchange for the full year may not be eligible.

### Awards for Part-Time In-Course Students (Part-Time Studies) (C)

The following awards are based on competition across the University or within a Faculty or program.

1. These awards, which are granted in November, are provided exclusively for part-time first baccalaureate degree students who have completed a minimum of 18 units and who qualify on the basis of work included at the most recent review in other than their graduating session.
2. In addition to meeting the General Conditions, a student must obtain, at the most recent review, a Cumulative Average of at least 8.0 and no failures.
3. The Cumulative Average will be used to break any tie in the competition for awards which are based on another criterion.

### Specific Achievement Awards

#### for Full-Time and Part-Time Students (D)

The following awards are granted based on competition across the University or within a Faculty or program.

1. These awards, which are granted in June or November, are provided for either full-time or part-time first baccalaureate degree students qualifying on the basis of achievement during the Spring/Summer or Fall/Winter sessions immediately preceding the May review (or deferred examinations resulting therefrom). Students must have completed a minimum of 18 units to be reviewed. Normally, these awards will be granted to In-Course students. A number of awards under this category are also listed under Category F for Second Degree Students.
2. In addition to meeting the General Conditions, a student must obtain, at the most recent review, a Cumulative Average of at least 8.0 and no failures.
3. The Cumulative Average will be used to break any tie in the competition for these awards which are based on another criterion.
4. An award name ending with an \* indicates that the award is open to both full-time and part-time second baccalaureate degree students.

### Awards for Graduating Students (E)

The following awards are based on competition across the University or within a Faculty or program.

1. These awards, which are granted in May, are provided exclusively for graduating students qualifying on the basis of achievement in their first baccalaureate degree program.
2. In addition to meeting the General Conditions, a student must obtain:
  - a) Cumulative Average of at least 8.0;
  - b) no failures in the courses last taken equal to:
    - i) either the number of units specified in the Calendar for the final level of their program;
    - ii) or, if the Calendar does not specify the program work by individual levels, the final 24 units of work.

### Awards for Second Baccalaureate Degree Students (F)

The following awards are granted based on competition across the University or within a Faculty or program.

1. These awards, which are granted in June or November, are provided for either full-time or part-time second baccalaureate degree students qualifying on the basis of achievement during the Spring/Summer or Fall/Winter sessions immediately preceding the May review (or deferred examinations resulting therefrom).
2. In addition to meeting the General Conditions, a student must obtain, at the most recent review, a Cumulative Average of at least 8.0 and no failures.
3. The Cumulative Average will be used to break any tie in the competition for these awards which are based on another criterion.
4. A number of awards in this category are also listed in Category D - Specific Achievement Awards, and are indicated by an asterisk after the award name.

## Academic Grants for Full-Time, In-Course Students (G)

The following awards are granted based on competition within a Faculty or program.

1. Academic Grants are provided exclusively for students registered full-time in a baccalaureate degree program at McMaster University.
2. Students must be taking 24 units or more, with a Sessional Average of 9.5 or greater, and no failures.
3. The grants will be given to the student with a high Sessional Average and demonstrated financial need. The greater financial need will be used to break any tie.
4. The grants are given in August based on the previous Fall/Winter Sessional Average for students continuing as full-time students and who have a complete OSAP file in the previous Fall/Winter session.
5. A student may receive only one academic grant per Fall/Winter session and will remain eligible for McMaster bursaries and scholarships.

## AWARDS FOR ENTERING STUDENTS

### ◆ The McMaster President's Awards

McMaster University will reward students with the highest academic standing in their final year of secondary school. Students must obtain a final admission average of 95% or higher to their program of study. No application is required.

**Value:** \$3,000 per year\*

\*The President's Award is renewable at the same value provided that students remain full-time (24 units or greater) and achieve a Sessional Average of 9.5 (approximately 80%), with no failures in each year of University study. Awards may be held until graduation or for four years, whichever is less.

### ● The McMaster Honour Awards

McMaster University will reward students with high academic standing in their final year of secondary school. Honour Awards are based on the final admission average to the program of study. No application is required.

- 90 - 94.99% \$2,000 per year\*
- 85 - 89.99% \$1,000 per year\*
- 80 - 84.99% \$750 per year\*

\*The Honour Awards are renewable at the same value provided that students remain full-time (24 units or greater) and achieve a Sessional Average of 9.5 (approximately 80%), with no failures in each year of University study. Awards may be held until graduation or for four years, whichever is less.

McMaster's Awards for Entering Students are supported by the following:

#### THE ASHBAUGH SCHOLARSHIPS

Established in 1989 by bequest of Frederick K. Ashbaugh of St. Petersburg, Florida, in memory of Mary Eliza Kingston. (20140)

#### THE A.H. ATKINSON EDUCATION FUND SCHOLARSHIP

Established in 2001 by the A.H. Atkinson Education Fund. To be awarded to a student entering the Faculty of Engineering. (20141)

#### THE CLASS OF 1952 GOLDEN ANNIVERSARY ENTRANCE AWARDS

Established in 2001 by the Class of 1952 in honour of its 50th reunion. A maximum number of four entrance scholarships to be awarded each year to students entering any Level I program. (20116)

#### THE CLASS OF 1956 50TH ANNIVERSARY ENTRANCE SCHOLARSHIPS

Established in 2006 by the Class of 1956 in honour of its 50th anniversary. Two scholarships to be awarded to students entering any Level I program. (20166)

#### THE COCA-COLA SCHOLARSHIPS

Established in 1998 by Coca-Cola Bottling Ltd. A variable number of scholarships to be awarded to students entering a full-time program of study. (20145)

#### THE HELEN M. CURREY SCHOLARSHIP

Established in 1941 by bequest of Helen Maud Currey of Drumbo, Ontario. To be awarded every four years; the 15th award was made in 2000. (20146)

#### 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 Ingelheim, Smithkline Beecham, Monsanto and the Royal Bank. Two scholarships to be awarded to outstanding students graduating from a secondary school in the Halton Region; (a) one to a student entering a full-time program of study; and (b) one to a student entering full-time study in Science I or Music I. Preference will be given to women students. (20130)

#### THE DUNDAS SCHOLARSHIPS

Established in 1984 from funds donated anonymously. A variable number of scholarships to be awarded to students from Dundas and surrounding area entering a full-time program of study. (20147)

The recipient of this award is eligible to receive additional aid through the corresponding Supplementary Bursary Aid Fund if he/she demonstrates financial need. Please see the section on *Supplementary Bursary Aid for Award Recipients* in the *Student Financial Aid* section of this Calendar.

#### THE GEORGE AND NORA ELWIN SCHOLARSHIPS

Established in 1979 by bequest of George and Nora Elwin of Hamilton. (20148)

#### THE EILEEN GRAY FARLEY SCHOLARSHIP

Established in 1998 by Eileen Gray Farley (Class of '43 and winner of the D.E. Thomson Scholarship) in memory of Mr. D. E. Thomson who exemplified a generous spirit of giving throughout his life and established the D.E. Thomson Scholarship in 1909. A variable number of scholarships to be awarded to students entering the Faculty of Humanities. (20134)

#### THE FORTINOS SCHOLARSHIP

Established in 1990 by John Fortino. To be awarded to an outstanding full-time student entering the School of Business. (20137)

#### THE H.P. FRID SCHOLARSHIP

Established in 1982 by the family of H.P. Frid in her memory. To be awarded to a promising student entering a full-time program of study. (20136)

#### THE GENERAL MOTORS ENTRANCE SCHOLARSHIPS

Established in 1999 by General Motors of Canada Limited. A variable number to be awarded to female students entering the Faculty of Engineering. (20131)

#### THE JOHN HODGINS MEMORIAL SCHOLARSHIP

Established in 1985 by his wife, Jean, in memory of Dr. John W. Hodgins in recognition of his extraordinary contributions in founding the Faculty of Engineering which he served with distinction as the first Dean. To be awarded to an outstanding student entering the Faculty of Engineering. (20123)

#### THE NELLIE P. HOGG SCHOLARSHIP

Established in 1965 by bequest of Nellie P. Hogg of Hamilton. One scholarship to be awarded to a woman student entering a full-time program of study. (20150)

#### THE DR. HARRY LYMAN HOOKER ENTRANCE SCHOLARSHIPS

Established in 1981, and resulting from the bequest of Dr. H.L. Hooker. (20151)

#### THE CATHRYN E. KAAKE MERIT AWARD

Established in 1988 in memory of Cathryn E. Kaake (Class of '78) by family and friends. (20125)

#### THE RAYMOND C. LABARGE MERIT AWARDS

Established in 1990 in memory of Raymond C. Labarge (Class of '36) of Ottawa. (20127)

#### THE MARION LAING-KNOX ENTRANCE SCHOLARSHIP

Established in 2000 by bequest of Marion Laing-Knox. To be awarded to a student entering the Faculty of Humanities in a full-time program of study who presents an outstanding final admission average. (20126)

#### THE LLOYD MEMORIAL SCHOLARSHIP

Established in 1956 in memory of Henry Hoyes and Lizzie Lloyd by their children. Grade 12 U or M subjects to be included are: Physics, Chemistry, two credits of Mathematics, and either Biology or a third credit of Mathematics. (20152)

#### THE JOSEPHINE MAGEE SCHOLARSHIP

Established in 1959 by bequest of Josephine Magee of Hamilton. To be awarded on the basis of general proficiency in the subjects required for admission to students from any province or territory of Canada. (20153)

#### THE ALBERT MATTHEWS SCHOLARSHIP

Established in 1920. Grade 12 U or M subjects to be included are Latin and a language other than English. (20154)

#### THE HAROLD MATTHEWS MEMORIAL SCHOLARSHIP

Established in 1917. Grade 12 U or M subjects to be included are French and either German or Spanish. (20155)

#### THE ISABELLA CAMPBELL McNEE SCHOLARSHIP

Established in 1915 and augmented in 1926. Grade 12 U or M subjects to be included are three credits of Mathematics and Physics. (20156)

#### THE MOULTON COLLEGE ENTRANCE SCHOLARSHIP

Established in 1980 from funds originally subscribed by the Alumnae of Moulton College during the years 1946 to 1949. To be awarded to a woman student entering a full-time program of study. (20157)

**THE ALVIN I. OGILVIE SCHOLARSHIPS**

Established in 1984 by bequest of Alvin I. Ogilvie of Hamilton. Five scholarships to be awarded to students entering a full-time program of study. (20138)

**THE LILLIAN AND LEROY PAGE SCHOLARSHIP**

Established in 1982 by donation of the Lillian and Leroy Page Foundation for a student from the Hamilton area entering the Faculty of Science. (20129)

**THE LESLIE A. PRINCE MERIT AWARDS**

Established in 1979 in honour of Leslie A. Prince, Dean of Students, by his friends and colleagues upon the occasion of his retirement and in recognition of his outstanding contribution to the University community. Two to be awarded. (20128)

**THE A.G. REILLY SCHOLARSHIPS**

Established in 1991 by bequest of Lois E. Reilly of Toronto. A variable number of scholarships to be awarded to students entering a full-time program of study. (20158)

**THE D.E. THOMSON SCHOLARSHIP**

Established in 1909 and augmented in 1915. Grade 12 U or M subjects to be included are English and either Latin or French. (20159)

**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 program of study. (20160)

**THE WALLINGFORD HALL ENTRANCE SCHOLARSHIP**

Established in 1993. To be awarded to a student entering a full-time program of study. (20135)

**THE WHEELER SCHOLARSHIP**

Established in 1915. Grade 12 U or M subjects to be included are: History, English and a language other than English. (20161)

**◆ Music Awards**

The Music awards are for one year.

**THE JOAN FRANCES BOWLING ENTRANCE SCHOLARSHIPS**

Established in 1997 from the estate of Marie Bowling in memory of her daughter, Joan Frances Bowling. Two scholarships to be awarded to students entering Music I, who in the judgment of the School of the Arts, have demonstrated excellence in classical music.

**Value:** \$1,600 each (20059 559)

**THE MERRILL FRANCIS GAGE ENTRANCE SCHOLARSHIP**

Established in 1982 from the estate of Merrill Francis Gage of Hamilton. To be awarded to a keyboard student entering Music I who, in the judgment of the School of the Arts, has attained outstanding musical proficiency.

**Value:** \$900 (20031)

**THE FRANK THOROLFSON MEMORIAL SCHOLARSHIPS**

Established in 1978 in memory of Professor Frank Thorolfson, first Chair of the Department of Music. Two scholarships to be awarded to students entering Music I who, in the judgment of the School of the Arts, have attained high scholastic achievement and musical proficiency.

**Value:** \$1,000 each (20028)

**◆ Other Awards****THE NORTEL NETWORKS ENTRANCE SCHOLARSHIPS**

Established in 1999 by Nortel Networks. A variable number of scholarships to be awarded to students entering the Faculty of Engineering. Students must remain registered in the Faculty of Engineering to retain the second installment.

**Value:** \$6,000 each (\$3,000/yr) (20120 878)

**THE ONTARIO PROFESSIONAL ENGINEERS FOUNDATION FOR EDUCATION ENTRANCE SCHOLARSHIP**

Established in 1961 by the Ontario Professional Engineers Foundation for Education. Two scholarships to be awarded, one to a female student and one to a male student, entering the Faculty of Engineering.

**Value:** \$1,000 each (20027 232)

**THE DOMINIC ROSART SCHOLARSHIP**

Established in 2002 by Mrs. Patsy Rosart in loving memory of her husband Dominic Rosart. To be awarded to the student entering Level I of a full-time program of study in the Faculty of Health Sciences who has the highest final admission average and is eligible for OSAP or an equivalent provincial student assistance program. Award is tenable for up to four years provided the recipient maintains a Sessional Average of 9.5.

**Value:** \$20,000 (\$5,000 per year) (20132)

**◆ Awards Open to International Students****INTERNATIONAL AWARDS**

The following awards are provided exclusively for international students qualifying for admission to Level I of a first baccalaureate degree program and are administered by the Office of International Affairs (Gilmour Hall, Room 307).

The following support the International Awards, as outlined above:

**THE McMASTER CHINESE ALUMNI (TORONTO CHAPTER) INTERNATIONAL ENTRANCE SCHOLARSHIPS**

Established in 1999 by Chinese Alumni (Toronto Chapter) of McMaster University.

**NG MAN-CHUNG MEMORIAL SCHOLARSHIPS FOR INTERNATIONAL STUDENTS**

Established in 2000 by Joe Ng Engineering Limited in memory of Joe Ng's father Ng Man-Chung.

**THE WOO FAMILY INTERNATIONAL ENTRANCE SCHOLARSHIPS**

Established in 1999 by Mr. Chung How Woo in honour of his late wife, Mrs. Ching Yung Chiu-Woo, mother and mother-in-law of four McMaster graduates.

**AWARDS FOR IN-COURSE, GRADUAND, PART-TIME AND SECOND DEGREE STUDENTS**

No application is required for any award unless noted in the listing of *Awards and Academic Grants by Faculty*.

An award name ending with an \* indicates that the award is open to both full-time and part-time second baccalaureate degree students.

**THE ACCENTURE INC. SCHOLARSHIP**

Established in 1998 by Andersen Consulting. To be awarded to a student entering the final year of study in Engineering, Science or Commerce who, in the judgment of a Selection Committee, demonstrates a strong interest in Management Information Systems and qualities of leadership through service to McMaster University and/or the community in athletic, professional or social organizations.

**Value:** \$850 (30248 800)

Students should submit an application to the Office of Student Financial Aid & Scholarships by April 15th.

**THE ACHIEVEMENT AWARDS OF EXCELLENCE**

Established in 1998. A variable number of scholarships to be awarded to students who, in the judgment of the Centre for Student Development, give evidence of outstanding academic achievement.

**Value:** \$800 (40085 794)

Students who wish to be considered for this award must be registered with the Centre for Student Development. Application forms can be picked up at the Centre or in the Office of Student Financial Aid & Scholarships. Completed application forms should be submitted to the Office of Student Financial Aid & Scholarships by April 15th.

**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 program who, in the judgment of the Department of Civil Engineering, has demonstrated outstanding academic achievement and knowledge of concrete technology.

**Value:** \$300 (30215 319)

**THE AIR LIQUIDE CANADA INC. SCHOLARSHIPS**

Established in 1999 by Air Liquide Canada. One scholarship to be awarded to a student in a Level II or III program in Chemical Engineering, Materials Science and Engineering and/or Mechanical Engineering who, in the judgment of the Faculty of Engineering, has demonstrated outstanding academic achievement. The recipient must attain a minimum Sessional Average of 9.5 at the most recent Fall/Winter session.

**Value:** \$1,500 (30258)

**THE HENRIETTA ALDERSON SCHOLARSHIP**

Established in 2002 in memory of Henrietta Jane Alderson. Two scholarships to be awarded to students in the B.Sc.N. program who are entering Level II (A Stream) or Level IV (B and C Streams) and, in the judgment of the School of Nursing, have demonstrated exceptional achievement in required science courses.

**Value:** \$3,150 each (30287)

**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. A variable number of scholarships to be awarded to students who have completed Level I and an additional 30 - 75 units on the basis of excellence in an Honours program in the Faculty of Humanities. The purpose of the scholarships is to enable the recipients to study outside Canada during the twelve months prior to the final Fall/Winter session.

**Value:** \$5,500 each (30174)

Travel Scholarship applications are due February 15th.

**THE W.K. ALLAN MEMORIAL SCHOLARSHIP**

Established in 1994 in memory of William Kellock Allan (Class of '31) by his wife, Yvonne and augmented in 2002 by his family. To be awarded to a student entering the final level of a program in Mathematics or Physics who attains the highest Sessional Average.

**Value:** \$1,100 (30221 355)

**THE CAMERON D. ALLEN BOOK PRIZE**

Established in 1978 in memory of Cameron D. Allen. To be awarded to a student in an Honours program in the School of Geography and Earth Sciences who, in the judgment of the School of Geography and Earth Sciences, shows outstanding achievement in studies in a fourth year climatology course. Preference will be given to a graduating student.

**Value:** \$150 for books (40115)

**THE ALUMNI ASSOCIATION SCHOLARSHIP**

Established in 1974 by the McMaster University Alumni Association and later augmented by bequest of Harold E. Amy. One scholarship to be awarded to a part-time student who has attained the highest Cumulative Average at the most recent review.

**Value:** \$375 (60000)

**THE ALUMNI CANADIAN GEOGRAPHY PRIZE**

Established in 1985 by the Geography Branch of the McMaster University Alumni Association in recognition of Dr. Lloyd G. Reeds for his contribution to teaching during more than 35 years of service. To be awarded to the student who attains the highest grade in GEO 2HC3 (Canada).

**Value:** \$300 (40001 004)

**THE AMBASSADOR OF SPAIN BOOK PRIZE**

Established in 1982. To be awarded to a graduating student in a program in the Department of Linguistics and Languages who, in the judgment of the Department, has achieved notable proficiency in Spanish.

**Value:** Book (50002 005)

**THE E.H. AMBROSE GOLD MEDAL**

Established in 1971 by Clarkson Gordon in memory of their former Hamilton partner, E.H. Ambrose, member of the University's Board of Governors from 1957 to 1967 and its Chair, 1965 to 1967, and augmented by Mrs. E.H. Ambrose in 1987. To be awarded to the student in the graduating class of a program in Commerce who, on the basis of scholarship and leadership, is judged to be the outstanding member of the class. (50014 006)

**THE ANATOMY PRIZE**

Established in 1992. To be awarded every other year to a student who has completed Level III (or equivalent), has studied biological structure and who, in the judgment of the Education Program in Anatomy, has demonstrated excellence in Anatomy.

**Value:** \$1,000 and a medal (40088 847)

**THE ANTHROPOLOGY PRIZE**

Established in 1982. To be awarded to the graduating student who has completed a program in Anthropology primarily on a part-time basis and who, in the judgment of the Department of Anthropology, has demonstrated outstanding academic achievement.

**Value:** \$100 (50004)

Students who wish to be considered for this award are encouraged to submit a resume to the Department of Anthropology by April 15th.

**THE HERBERT S. ARMSTRONG MEMORIAL FUND**

Established in 1997 in memory of Herbert S. Armstrong. To be awarded to a student who has completed at least 30 units beyond Level I who, in the judgment of the School of Geography and Earth Sciences, has achieved notable academic standing and who has made a significant contribution to university life through extra-curricular activities.

**Value:** \$75 for books (30234 558)

**THE ARTS AND SCIENCE EXPERIENTIAL LEARNING TRAVEL SCHOLARSHIP**

Established in 2002 by Arts and Science alumni. To be awarded to a student who has completed at least Level II of the Honour's Arts and Science Program, is currently registered in an Arts and Science Experiential Learning course, and who, in the judgment of the Arts and Science Program, has achieved notable academic standing.

**Value:** \$1,000 (30290)

Travel Scholarship applications are due February 15th.

**THE ARTS AND SCIENCE PROGRAM BOOK AWARD**

Established in 1995. To be awarded from time to time to an Arts and Science student who, in the judgment of the Arts and Science Program Awards Committee, has demonstrated outstanding academic achievement in both arts and science.

**Value:** \$75 (40078 390)

**THE EDGAR R. ASHALL SCHOLARSHIP**

Established in 1965 by bequest of his wife, Edith M. Ashall.

**Value:** \$200 for books (30162)

**THE ASM INTERNATIONAL (ONTARIO CHAPTER) SCHOLARSHIP**

Established in 1971 by the local Chapter of the American Society for Metals. Three scholarships to be awarded to students who have completed Level I and an additional 30 - 85 units of the Honours Materials Science or Materials Engineering program and who attain the highest Sessional Average (at least 9.5).

**Value:** \$1,000 each (30003 003)

**THE A.H. ATKINSON PRIZE**

Established in 1980 by Atkinson Engineering Consultants Limited. To be awarded to the student in a Civil Engineering program who achieves the highest average in CIV ENG 3G03 and 3J04, taken in one session.

**Value:** \$200 (30001 342)

**THE ATOMIC ENERGY OF CANADA LIMITED SCHOLARSHIPS**

Established in 2001 by Atomic Energy of Canada Limited (AECL). Four scholarships to be awarded to students who have completed Level I in the Faculty of Engineering and who, in the judgment of the Faculty of Engineering, have demonstrated outstanding academic achievement and qualities of leadership at McMaster or in the community.

**Value:** \$2,500 each (30276 1544)

**THE AUDCOMP COMPUTER SYSTEMS SCHOLARSHIPS**

Established in 2005 by Audcomp computer Systems to support the dreams and aspirations of students attending university. To be awarded to a student who has completed Level II or above and who has attained the highest Sessional Average.

**Value:** \$2,000 each (30308)

**Note:** Facilities and programs will vary. This year the award will go to a student registered with the Department of Electrical and Computer Engineering.

**THE MAQBOOL AZIZ MEMORIAL SCHOLARSHIP**

Established in 2001 by family, friends and colleagues in memory of Maqbool Aziz, Professor of English from 1969 to 2000. To be awarded to a student in an English program who attains the highest grade in ENGLISH 2106 (Modern British Literature).

**Value:** \$425 (40105 1513)

**THE LAURA BALDWIN SCHOLARSHIP**

Established in 2005 from the bequest of Laura Baldwin. To be awarded to a student registered in a program in English who, in the judgment of the Department of English and Cultural Studies, has submitted an original literary work or poem that demonstrates the highest degree of literary excellence.

**Value:** \$500 (30313)

**THE CHARLES MURRAY BALL SCHOLARSHIPS IN EARTH SCIENCES**

Established in 1991 by May A. Ball in memory of her brother Murray Ball. Four scholarships to be awarded to students entering Level II, III, IV or V of a B.Sc. program in the School of Geography and Earth Sciences who, in the judgment of the School of Geography and Earth Sciences, have attained notable standing. Ordinarily, not more than one scholarship will be awarded to any one program.

**Value:** \$2,300 each (30182)

**THE BANK OF MONTREAL HUMANITIES MULTIMEDIA SCHOLARSHIPS**

Established in 1999 by the Bank of Montreal. A variable number of scholarships to be awarded to students entering Level II, III or IV of the Humanities Combined Honours Multimedia program who, in the judgment of the School of the Arts, demonstrate outstanding academic achievement in the Humanities Multimedia program or great promise in the area of Humanities multimedia.

**Value:** \$1,000 each (30259)

**THE J. DOUGLAS BANKIER MEMORIAL SCHOLARSHIP**

Established in 1977 in memory of Professor J. Douglas Bankier by his friends, colleagues, and former students. To be awarded to the student who has completed Level I and at least 60 units of an Honours program in the Department of Mathematics and Statistics, who attains the highest Sessional Average and who in that session achieves a grade of at least B in STATS 3D03 and 3DD3.

**Value:** \$375 (30076)

**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 graduand who, in the judgment of the Department of History, has attained notable standing in an Honours History program.

**Value:** \$150 (50050)

**THE SCOTT BARTLETT MEMORIAL PRIZE**

Established in 1985 in memory of Scott N. Bartlett by his family and friends. To be awarded to a student who has completed Level I and an additional 60 - 75 units of the Honours Commerce Program and who, in the judgment of the Faculty of Business, has achieved high standing in COMMERCE 3FA3 and 3FB3, taken in one session.

**Value:** \$200 (30134 012)

**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, 4AC3, 4AD3, 4AE3, 4AF3.

**Value:** \$1,000 and a medal (50006 013)

**THE M. BANKER BATES SCHOLARSHIP**

Established in 1975 by Dr. M. Banker Bates and augmented in 1978 in his memory by his family, friends and colleagues. To be awarded to the student who has completed Level I and an additional 60 - 75 units of a program in Commerce and who attains the highest Sessional Average.

**Value:** \$1,400 (30102 257)

**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 program in History who, in the judgment of the Department of History, has displayed outstanding achievement in Canadian history courses consistently throughout the degree program.

**Value:** \$85 for books (50034)

**THE BATES RESIDENCE SCHOLARSHIP**

Awarded to the student who resides in the residence with the highest Sessional Average (at least 9.5) in an undergraduate program, with the exception of those in their graduating session.

**Value:** \$750 (30155)

**THE BARBARA AND RONALD BAYNE GERONTOLOGY INTERNSHIP AWARD\***

Established in 2001 by Barbara and Ronald Bayne to provide practical learning experience for Gerontology students. To be awarded to a student who has completed at least Level II in a program in Gerontology and who, in the judgment of the Department of Health, Aging and Society, has indicated a clear internship plan and demonstrated notable academic achievement and qualities of leadership at McMaster or in the community.

**Value:** \$450 (40106 1571)

**Note:** Application required (500 word essay outlining internship plans). To be submitted to the Chair of the Department of Health, Aging and Society by October 15th.

**THE BEALE-LINCOLN-HALL TRAVEL SCHOLARSHIP**

Established in 1996 by Arnold A. Beale in memory of his parents F. Arnold Beale and Margaret S. Beale and Mr. and Mrs. Walter Gould Lincoln and Commander Harley H. Hall, U.S.N. To be awarded to students who demonstrate high academic standing and are participating in one of McMaster's formal exchange programs. Preference will be given to students enrolled in a program in Biochemistry, Biology, Chemistry, Commerce, Cultural Studies and Critical Theory, Earth and Environmental Sciences, Engineering Physics, English, French, Geography, History, Materials Science, Mathematics, Modern Languages, Physics or Religious Studies and who demonstrate a lively interest in the humanities and the human and social implications of scientific developments.

**Value:** \$2,200 (30236 561)

Travel Scholarship applications are due February 15th.

**THE BEAUTY COUNSELORS OF CANADA SCHOLARSHIP**

Established in 1956 by Beauty Counselors of Canada Limited. To be awarded to the student who has completed Science I with the highest Sessional Average and who is entering Level II of the Honours Biochemistry, or Honours Chemistry program.

**Value:** \$350 (30008 014)

**THE BENTALL SCHOLARSHIPS**

Established in 2001 by Dr. C. Howard Bentall (Class of '37) and Dr. Shirley F. Bentall (Class of '46). A variable number of scholarships to be awarded to students in any Faculty who demonstrate outstanding academic achievement.

**Value:** \$1,500 each (30281 1547)

**THE LOUISE E. BETTGER SCHOLARSHIPS IN MUSIC**

Established in 1982 in memory of Louise E. Bettger of New Hamburg, Ontario, by her nieces and nephews. Three scholarships to be awarded to students in an Honours program in Music who, in the judgment of the School of the Arts, are outstanding: (a) one in the area of choral or vocal music to a student who has completed Music I or an additional 30 - 75 units; (b) one to a keyboard student who has completed Level I and an additional 30 - 75 units; and (c) one to a student who has completed Music I and who has demonstrated overall musical excellence.

**Value:** \$450 each (30097 015)

**THE J.P. BICKELL FOUNDATION MINING SCHOLARSHIP**

Established in 2002 by the J.P. Bickell Foundation. A variable number of scholarships to be awarded to students who, in the judgment of the School of Geography and Earth Sciences, demonstrate an interest in the field of mining, and have completed Level II of an Honours Earth and Environmental Sciences, Honours Science (Geoscience) or B.Sc. Geoscience program.

**Value:** \$2,000 minimum (30291)

**THE BINKLEY MEDAL**

Established in 2000 by the University, friends and colleagues of Margaret Belec (nee Binkley) on the occasion of her retirement and for her outstanding contributions to McMaster University during her 43 years of service. To be awarded to a student graduating from an Honours program in Computer Science who has completed the program primarily on a part-time basis and who attains the highest Cumulative Average.

**Value:** \$350 and a medal (50085 389)

**THE BIOLOGY ACHIEVEMENT AWARD**

Established in 2004 by the Department of Biology. A variable number to be awarded to students registered in Science I who, in the judgment of the Department of Biology, have achieved the highest standing in BIOL-OGY 1A03 or the highest standing in BIOLOGY 1AA3.

**Value:** Book (40113) D)

**THE ABE BLACK MEMORIAL PRIZE**

Established in 1982 by friends and colleagues of Dr. A.H. Black in memory of a distinguished member of the Department of Psychology, Neuroscience and Behaviour from 1958 to 1978. To be awarded to the student who, in the judgment of the Department of Psychology, Neuroscience and Behaviour, has demonstrated outstanding achievement in PSYCH 4D06 (Honours Thesis).

**Value:** \$600 (40076 381)

**THE ABE BLACK MEMORIAL PRIZES\***

Established in 1982 by friends and colleagues of Dr. A.H. Black in memory of a distinguished member of the Department of Psychology, Neuroscience and Behaviour from 1958 to 1978. Three prizes to be awarded: (a) one to the student who attains the highest Cumulative Average in an Honours B.A. program in Psychology; (b) one to the student who attains the highest Cumulative Average in the Honours B.Sc. program in Psychology; (c) one to the student who attains the highest Cumulative Average in the Honours Biology and Psychology (Life Sciences) program.

**Value:** \$200 each (50000 017)

**THE LEONE BETTY BLACKWELL MEMORIAL BOOK PRIZE**

Established in 1999 by Dr. Bonnie Blackwell in memory of her mother, Leone Betty Blackwell. To be awarded to a graduating student with the highest grade in GEO 3P03.

**Value:** \$85 for books (50096)

**THE BRIAN BLAKEY MEMORIAL SCHOLARSHIP**

Established in 1979 in memory of Dr. Brian Blakey, Professor of French, by his friends, colleagues and former students, on behalf of his wife, Dorothy. To be awarded to the student who attains the highest Sessional Average on completion of Level I and an additional 60 - 75 units of an Honours program in Classics, Cultural Studies and Critical Theory, Theatre & Film Studies, English, French or Linguistics and Languages. Students in all programs except Theatre & Film Studies must have achieved a B- in both LINGUIST 1A03 and 1AA3.

**Value:** \$500 (30013 018)

**THE HILDA DOROTHY BORMAN SCHOLARSHIP**

Established in 1998 by bequest of Hilda Dorothy Borman. To be awarded to a student studying piano who, in the judgment of the School of the Arts, has attained high academic standing.

**Value:** \$1,050 (30245.795)

**THE JOAN FRANCES BOWLING SCHOLARSHIPS**

Established in 1997 from the estate of Marie Bowling in memory of her daughter, Joan Frances Bowling. Two scholarships to be awarded to outstanding classical music scholars registered in Level II and above of a Music program and who, in the judgment of the School of the Arts, have demonstrated excellence in Music.

**Value:** \$1500 each (30235 559)



**THE BRIEN SCHOLARSHIP IN PHILOSOPHY**

Established in 1944 by Dr. J.W. Brien of Windsor. To be awarded to the student who has completed Level I and an additional 30 - 45 units of an Honours program in Philosophy and who, in the judgment of the Department of Philosophy, shows the most academic promise.

**Value:** \$475 (30014)

**THE JOSEPHINE STAPLES BRIEN SCHOLARSHIP**

Established in 1936 by Dr. J.W. Brien of Windsor. To be awarded to a woman student who is entering her graduating session and who qualifies on the basis of academic standing and interest in undergraduate activities.

**Value:** \$350 for books (30091)

Students should submit an application to the Office of Student Financial Aid & Scholarships by April 15th.

**THE DR. AND MRS. F.R. BRITTON SCHOLARSHIP IN MATHEMATICS**

Established in 1962 by Dr. and Mrs. F.R. Britton and augmented by Mrs. Britton's bequest in 1982. To be awarded to the student who has completed Level I and an additional 29 - 45 units of an Honours program in Mathematics/ Sciences who attains the highest Sessional Average. Tenable in Levels III and IV provided that the recipient maintains satisfactory standing in an Honours program in which mathematics, pure or applied, is the major subject of study.

**Value:** \$1,200 (\$600 each year) (30051 019)

**THE TEN BROEKE-BENSEN MEMORIAL SCHOLARSHIP**

Established in 1990 in memory of Dr. James Ten Broeke and Dr. Roy C. Bensen, former Heads of the Department of Philosophy and Psychology. To be awarded to a student who has completed Level I and an additional 30 - 75 units of an Honours Program in Philosophy who, in the judgment of the Department of Philosophy, has demonstrated outstanding academic achievement.

**Value:** \$1,000 (30195)

**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. program who is named to the Deans' Honour List and who has made the most outstanding contribution to undergraduate activities. (50007)

**THE CAE SCHOLARSHIPS IN**

**COMPUTING AND SOFTWARE ENGINEERING**

Established in 2001 by CAE Inc. To be awarded to a student who has completed Level II of a Software Engineering program who, in the judgment of the Department of Computing and Software, has achieved notable academic standing and demonstrated qualities of leadership at McMaster or in the community.

**Value:** \$3,400 (30282 1577)

**THE CRISPIN CALVO SCHOLARSHIPS**

Established in 1992 by Dr. J.S. Kirkaldy and Dr. W.W. Smeltzer. Two scholarships to be awarded, one to a student with the highest combined average in CHEM 2PA3 and 2PB3, the other to a student with the highest combined average in MATLS 2B03 and 2D03.

**Value:** \$1,700 each (30211)

**THE BETTY TAYLOR CAMPBELL SCHOLARSHIP**

Established in 1998 by William F. Campbell of Ottawa, Ontario in memory of his wife Betty Taylor Campbell, a 1937 McMaster graduate, an Olympic medalist in 1936 and 1990 inductee into the Athletics Hall of Fame. To be awarded to a student who has completed Level I in a program in Kinesiology and who, in the judgment of the Department of Kinesiology, demonstrates academic excellence and outstanding athletic ability. The award is renewable for up to three years provided the recipient maintains a Cumulative Average of 8.0.

**Value:** \$4,500 (\$1,500 each year) (30246 796)

Students who wish to be considered for this award are encouraged to submit a resume to the Department of Kinesiology by April 15th.

The recipient of this award is eligible to receive additional aid through the corresponding Supplementary Bursary Aid Fund if he/she demonstrates financial need. Please see the section on *Supplementary Bursary Aid for Award Recipients* in the *Student Financial Aid* section of this Calendar.

**THE ELLA HALSTEAD CAMPBELL PRIZE**

Established in 1978 by Mrs. Verna Caskey and Miss June Caskey in memory of Ella Halstead Campbell and augmented by Mrs. Edna M. Miller in 1987. To be awarded to a keyboard student, registered in any level of a solo performance course, who is outstanding in the judgment of the School of the Arts.

**Value:** \$200 (30048 023)

**THE CANADIAN FEDERATION OF UNIVERSITY WOMEN (HAMILTON) MEMORIAL PRIZE**

Established in 1992 by current and past members of the Canadian Federation of University Women (Hamilton), formerly known as the University Women's Club of Hamilton. To be awarded to the graduating student from a program in Women's Studies who, in the judgment of the Committee of Instruction for Women's Studies, has demonstrated outstanding academic achievement in the Women's Studies component of the program.

**Value:** \$175 (50062 132)

**THE CANADIAN FEDERATION OF UNIVERSITY WOMEN (HAMILTON) PAST PRESIDENT'S PRIZE**

Established in 1976 by the Past Presidents of the University Women's Club of Hamilton which became the CFUW (Hamilton) on the occasion of the Club's 50th anniversary. To be awarded to the woman student who has completed Level I and an additional 60 - 85 units of a program in Engineering with the highest Cumulative Average.

**Value:** \$300 (30149 020)

**THE CANADIAN FEDERATION OF UNIVERSITY WOMEN (HAMILTON) RUBY BROWN BOOK PRIZE**

Established in 1970 by bequest of Mrs. Edgar Brown. To be awarded to a student in any Level I program for the most creative essay in a Level I English course.

**Value:** \$200 (40046 248)

**THE CANADIAN FEDERATION OF UNIVERSITY WOMEN (HAMILTON) SCHOLARSHIP**

Established in 1945 by the University Women's Club of Hamilton, now the Canadian Federation of University Women. To be awarded to the woman student who attains the highest Sessional Average in the penultimate level of any program.

**Value:** \$1,500 (30150 373)

**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 an additional 30 units of a program in Political Science who, in the judgment of the Department of Political Science, has achieved notable standing in at least six units of International Politics courses including an outstanding essay dealing with a topic related to the field of International Politics.

**Value:** \$300 (40071 349)

**THE CANADIAN INSTITUTE OF STEEL CONSTRUCTION (CISC) AWARD**

Established in 2005 by The Canadian Institute of Steel Construction (CISC). To be awarded to a student who attains high standing in CIV ENG 3S03 and who, in the judgment of the Department of Civil Engineering, has an interest in steel structure research.

**Value:** \$2,000 (40116)

**THE CANADIAN SOCIETY FOR CHEMICAL ENGINEERING PRIZE**

Established in 1947 by the Chemical Institute of Canada. To be awarded to the student who is entering his/her final year of study of a program in Chemical Engineering and who attained the highest Sessional Average.

**Value:** \$50, medal and certificate (30016 027)

**THE CANADIAN SOCIETY FOR CHEMICAL ENGINEERING (CSCHE) SCHOLARSHIP**

Established in 2004 by the organizing committee of the 2003 CSCHE Annual Meeting. To be awarded to a student entering Level II of a program in the Department of Chemical Engineering who has attained the highest academic standing in Level I.

**Value:** \$500 (30307)

**THE CANADIAN SOCIETY FOR CHEMISTRY PRIZES**

Established in 1947 by the Chemical Institute of Canada. Two awards to be made to students who are entering their final year of study: (a) one to a student in an Honours program in Chemistry or Honours Applied Chemistry who attained high standing in Chemistry; (b) one to a student in the Honours Biochemistry or Honours Biochemistry and Chemistry programs who attained high standing in biochemistry and organic chemistry.

**Value:** Medal and certificate (30017 028)

**THE CANADIAN SOCIETY OF CIVIL ENGINEERS (HAMILTON SECTION) PRIZE**

Established in 1987. To be awarded to a student entering the final level of a program in Civil Engineering who, in the judgment of the Department of Civil Engineering and Engineering Mechanics, has demonstrated participation in extracurricular activities and has attained high academic standing.

**Value:** Plaque (30018 029)

**THE EZIO CAPPADOCIA MEDAL**

Established in 1986 by Professor E. Cappadocia on the occasion of his retirement from the Department of History. To be awarded to a student graduating from an Honours program in History who, in the judgment of the Department of History, has displayed outstanding achievement and has contributed to the Department's activities.

**Value:** Medal (50018 030)

**THE NANCY CAR MEMORIAL SCHOLARSHIP IN KINESIOLOGY**

Established in 2001 in loving memory of Kinesiology student Nancy Car. To be awarded to a student entering Level IV of Kinesiology who, in the judgment of the Faculty of Social Sciences, has attained notable academic standing and demonstrated leadership at McMaster University or in the community.

**Value:** \$400 (30277 1544)

Students who wish to be considered for this award are encouraged to submit a resume to the Department of Kinesiology by April 15th.

**THE GRACE DOROTHY AND WILLIAM P. CARPENTER AWARD**

Established in 2001 by the Hamilton Community Foundation. To be awarded to a student entering Level II in Mechanical Engineering who, in the judgment of the Department of Mechanical Engineering, demonstrates outstanding academic achievement. Preference will be given to a student who has graduated from a publicly funded secondary school in the Hamilton or Burlington area.

**Value:** \$1,500 (30284 1580)

**THE JAMES ROBERTSON CARRUTHERS MEMORIAL PRIZE\***

Established in 1984 in memory of James Robertson Carruthers (Class of '74) by his family and friends. To be awarded to the student who, in the judgment of the Department of History, attains notable standing in HISTORY 2R03 and 2RR3 (United States History).

**Value:** \$425 (40025 032)

**THE NORMAN N. CASKEY MEMORIAL PRIZE**

Established in 1983 by Mrs. Verna Caskey and Miss June Caskey in memory of husband and father. To be awarded to a student who has completed Music I or Level I and an additional 30 - 75 units of an Honours program in Music and who, in the judgment of the School of the Arts, has demonstrated musical excellence.

**Value:** \$150 (30115)

**THE CGA ONT. AWARD FOR EXCELLENCE**

Established in 1982 by the Certified General Accountants Association of Ontario. To be awarded to the graduating student who, in the judgment of the School of Business, has displayed outstanding achievement in accounting and has attained an average of at least 10.0 in COMMERCE 2AB3, 3AB3, 3AC3 and 4AA3.

**Value:** \$150 (50012 033)

**THE MARIA CHAN SCHOLARSHIPS FOR INTERNATIONAL STUDIES IN BUSINESS**

Established in 1999 by Professor Luke Chan and his family in support of students in the School of Business who wish to pursue academic studies abroad. A variable number of scholarships to be awarded to students participating in one of McMaster's formal exchange programs who, in the judgment of the Faculty of Business, demonstrate notable academic achievement.

**Value:** \$1,000 each (30283 1579)

**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 program at the most recent spring review, and who ranks highest in scholarship, leadership and influence.

**Value:** Medal (30022)

**THE CHEMICAL INSTITUTE OF CANADA (HAMILTON SECTION) PRIZES**

Established in 1947 by the Hamilton Section. Two prizes to be awarded to students who have completed Level I and an additional 29 - 36 units: (a) one to a student in an Honours program in Chemistry who, in the judgment of the Department, shows particular promise in Chemistry; and (b) one to a student in a program in Chemical Engineering who, in the judgment of the Department, shows particular promise in Chemical Engineering.

**Value:** \$150 each (30023 035)

**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 program 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:** \$500 (40006 031)

**THE CITY OF HAMILTON ECONOMIC DEVELOPMENT DEPARTMENT SCHOLARSHIPS**

Established in 1976. (a) Two scholarships to be awarded on the basis of Sessional Average to students entering Level II of a Commerce program; (b) Four scholarships to be awarded on the basis of Sessional Average: two to students who have completed Level I and an additional 30 - 45 units, and two to students who have completed Level I and an additional 60 - 75 units of a program in Commerce. Recipients must have obtained all their secondary school education in the Hamilton-Wentworth Region.

**Value:** \$775 each (six awards) (30064 072)

**THE HUGH CLARK SCHOLARSHIP**

Established in 1989 by Hugh Clark in celebration of McMaster's fiftieth year since moving to Hamilton. To be awarded to the student who has completed Level I and an additional 60 - 75 units of an Honours program in Social Sciences and attains the highest Sessional Average.

**Value:** \$1,950 (30068 239)

**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 Program. To be awarded to a student who has completed Level I and an additional 30 - 72 units of an Honours program in the Arts and Science Program. 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:** \$1,300 (30175 037)

Travel Scholarship applications are due February 15th.

**THE CLASS OF '43 GOLDEN ANNIVERSARY SCHOLARSHIP**

Established by the Class of '43 in celebration of their 50th anniversary. To be awarded to the student who has completed Level I and at least an additional 60 units of an Honours program in Theatre & Film Studies who, in the judgment of the School of the Arts, has achieved notable academic standing and has made a significant contribution to theatre on campus.

**Value:** \$950 (30214 329)

**THE CLASS OF '44 SCHOLARSHIP**

Established by the Class of '44 in celebration of their 50th anniversary. To be awarded to the student entering the penultimate year of any program who has attained the highest Sessional Average.

**Value:** \$1,500 (30224 361)

**THE CLASS OF '50 SCHOLARSHIP IN HONOURS ECONOMICS**

Established in 1982 by members of the Class of 1950 who graduated in Honours Economics. To be awarded to the student who has completed at least Level II of an Honours program in Economics, and who, in the judgment of the Department of Economics, has attained a high Sessional Average and has demonstrated leadership in undergraduate extracurricular activities.

**Value:** \$700 (30027 038)

Students who wish to be considered for this award are encouraged to submit a resume to the Department of Economics by April 15th.

**THE CLASS OF 1953 50TH ANNIVERSARY SCHOLARSHIP**

Established by the Class of 1953 in honour of its 50th reunion. A variable number of scholarships to be awarded to students in Level II and above in a program in Arts and Science who, in the judgment of the Arts and Science Program, have attained high academic standing and demonstrated community involvement.

**Value:** \$1,500 (30264 482)

**THE CLASS OF '92 SCIENCE LEGACY AWARD**

Established by the 1992 graduating class of the Faculty of Science. To be awarded to a graduating full-time student who, in the judgment of the Faculty of Science, has demonstrated notable academic achievement; contributed to the program, and participated in extra-curricular activities during his/her time at McMaster.

**Value:** \$1,000 (50091 1557)

**THE CLASSICS PRIZE**

Established in 1978 by Professor D.M. Shepherd. To be awarded to the student who has completed Level I and an additional 30 - 45 units of an Honours program in Classics and who, in the judgment of the Department of Classics, shows most promise.

**Value:** \$100 (30028 040)

**THE DENTON COATES MEMORIAL SCHOLARSHIP**

Established in 1982 in memory of Denton E. Coates (Class of '70) by his friends. To be awarded to the graduand who, in the judgment of the Department of Materials Science and Engineering, has demonstrated outstanding achievement in independent research as exemplified by the senior thesis in MATLS 4K04.

**Value:** \$275 (50013)

**THE COMPARATIVE LITERATURE PRIZE\***

Established in 1988. To be awarded to a student in an Honours program in Comparative Literature who, in the judgment of the Comparative Literature Program, has achieved notable standing in Level II.

**Value:** \$250 (40008)

**THE CONSUL GENERAL OF ITALY BOOK PRIZE IN ITALIAN\***

Established in 2003 by the Istituto Italiano di Cultura as Cultural Section of the Consulate General of Italy. To be awarded to a student in an honours program in the Department of Linguistics and Languages who attains the highest grade in a Level I course in Italian.

**Value:** \$150 for books (40110)

**THE BEATRICE CORRIGAN MEMORIAL BOOK PRIZE**

Established in 1980 in memory of Professor Beatrice Corrigan by her friends and colleagues. To be awarded to the student who has completed at least nine units beyond Level I and who, in the judgment of the Department of Linguistics and Languages, has achieved notable standing in Italian.

**Value:** \$125 (40004)

**THE CRANSTON PRIZES\***

Established in 1958 by William H. Cranston of Midland in honour of his parents, J. Herbert Cranston (Class of '05) and Eva Wilkins Cranston (Class of '07). Two prizes to be awarded for excellence in the study of Canadian literature: (a) one for the highest grade in ENGLISH 2G06, and (b) one for the highest grade in ENGLISH 2C03.

**Value:** \$175 each (40011)

**THE CSEP/SCPE UNDERGRADUATE STUDENT AWARD**

Established in 1993 by the Canadian Society for Exercise Physiology. To be awarded to the student from the Kinesiology program who, in the judgment of the Department of Kinesiology, shows high standing in KINESIOL 2C06 (Physiology of Exercise) and either KINESIOL 4C03 or 4CC3.

**Value:** Medal and Certificate (50068)

**THE EDWIN MARWIN DALLEY MEMORIAL SCHOLARSHIPS**

Established in 1965 by bequest of Edwin Marwin Dalley of Hamilton.

**Value:** \$800 each (30164)

**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 an additional 60 units of an Honours program in Biology and who attains the highest average in at least 12 units of senior level courses in whole-animal biology, taken in one session.

**Value:** \$575 (40099 047)

**THE DEAN'S MEDAL FOR EXCELLENCE IN THE HUMANITIES**

Established in 2000 by Donald T. Betzner (Class of '52). Three prizes to be awarded to the graduating students who, in the judgment of the Faculty of Humanities, have demonstrated outstanding academic achievement

**Value:** \$5,300 (1<sup>st</sup> and a medal (50083))

\$3,300 (2<sup>nd</sup> and a medal (50093))

\$2,300 (3<sup>rd</sup> and a medal (50094))

**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 an additional 69 - 80 units of Electrical or Computer Engineering program and who elects to do a fourth-year thesis on a topic in the field of Information Theory.

**Value:** \$1,900 (30041 240)

**THE JOHN DEERE LIMITED SCHOLARSHIP**

Established in 1992 by John Deere Limited. To be awarded to the student who has completed Level I and an additional 60 - 75 units of the Honours Commerce program who, in the judgment of the Faculty of Business, has demonstrated outstanding academic achievement in courses offered by the Human Resource/Labour Relations Area and has displayed leadership and self-motivation in extracurricular activities.

**Value:** \$2,000 (30207 305)

**THE DeGROOTE SCHOOL OF BUSINESS**

**ALUMNI UNDERGRADUATE SCHOLARSHIP**

Established in 2004 through the generosity of the DeGroot School of Business alumni and friends. To be awarded to a student who has completed Level I in the Faculty of Business who, in the judgment of the Faculty of Business, has achieved academic excellence in COMMERCE 1E03, ECON 1B03 and 1BB3, and has demonstrated leadership ability through school activities, work and/or community involvement.

**Value:** \$800 (30309)

**THE DELOITTE & TOUCHE SCHOLARSHIP**

Established in 2000 by Deloitte & Touche. A variable number of scholarships to be awarded to students who have completed Level I and an additional 60 - 75 units of the Honours Commerce program who, in the judgment of the Faculty of Business, have achieved notable academic standing in COMMERCE 3AB3 and 3AC3 (taken in one session), and have demonstrated qualities of leadership at McMaster University or in the community.

**Value:** \$1,500 each (30268 537)

**THE AUDREY DIEMERT MEMORIAL BOOK PRIZE**

Established in 1991 by family, friends and colleagues in memory of Audrey Diemert. To be awarded to a part-time student who attains the highest standing in ENGLISH 2G06 or 2I06.

**Value:** \$100 for books (60005 258)

**THE MARGERY E. DIXON MEMORIAL SCHOLARSHIP**

Established in 2003 in loving memory of Margery E. Dixon (Class of '35) by Geraldine Phenix. To be awarded to a student who has completed Level II of an Honours English program and who attains the highest Sessional Average.

**Value:** \$2,000 (30301)

**THE LAURA DODSON PRIZE**

Established in 1985 by Laura Dodson (Class of '56). To be awarded to the student graduating from the Honours Arts and Science Program who has displayed outstanding achievement in both arts and science.

**Value:** \$200 (50031 049)

**THE ROSEMARY DOUGLAS-MERCER MEMORIAL PRIZE**

Established in 1989. To be awarded to a student who has completed Level I and an additional 30 - 45 units of an Honours program in French and who has attained the highest average in FRENCH 2BB3 and one of FRENCH 2J03 or 2JJ3 and one of FRENCH 2W03 or 2WW3.

**Value:** \$175 (30124)

**THE DUBECK BIOCHEMISTRY AWARD**

Established in 2004 by Dr. Michael Dubeck (B.S.CH. '51 and M.Sc. '52). To be awarded to a student who has completed Level I and an additional 58 - 75 units of an Honours program in Biochemistry who, in the judgment of the Department of Biochemistry and Biomedical Sciences, has achieved notable academic standing and has an interest in pursuing an academic career in basic biochemical research.

**Value:** \$1,000 (30306)

**THE DUBECK CHEMISTRY AWARD**

Established in 2004 by Dr. Michael Dubeck (B.S.CH. '51 and M.Sc. '52). To be awarded to a student who has completed Level I and an additional 58 - 75 units of an Honours program in Chemistry who, in the judgment of the Department of Chemistry, has achieved notable academic standing and has an interest in pursuing an academic career in basic chemical research.

**Value:** \$1,000 (30304)

**THE HORACE A. DULMAGE PRIZE IN PHILOSOPHY**

Established in 1976 in honour of Professor Horace A. Dulmage by his colleagues and friends upon the occasion of his retirement from McMaster University. To be awarded to the full-time student in Level II of an Honours program in Philosophy who attained the most notable standing in his or her Level I program.

**Value:** \$200 (30066)

**THE JOAN JACKSON DUNBAR TRAVEL SCHOLARSHIP**

Established in 1960 by Mayor Lloyd D. Jackson (Class of '09), LL.D (Class of '55) and Mrs. Jackson of Hamilton in memory of their daughter, Joan (Class of '40). To be awarded to a woman student who has completed Level I and an additional 60 - 75 units of an Honours program in English for excellence in the work of the program (with emphasis on English). The winner must have secured all her secondary school education in Canada. The award is to be used for study and travel in the United Kingdom and Continental Europe during the vacation before the final Fall/Winter session.

**Value:** \$3,675 (30177 053)

Travel Scholarship applications are due February 15th.

**THE EDWARDS HALL RESIDENCE SCHOLARSHIP**

Awarded to the student who resides in the residence with the highest Sessional Average (at least 9.5) in an undergraduate program, with the exception of those in their graduating session.

**Value:** \$750 (30156)

**THE CLARA I. ELMAN SCHOLARSHIPS**

Established in 2002 by Clara I. (Graham) Elman (Class of '46), faculty member of the School of Nursing from 1949 to 1953. A variable number of scholarships to be awarded to students who have completed Level II in a program in Nursing who, in the judgment of the School of Nursing, demonstrate academic excellence and a commitment to the patient-nurse relationship.

**Value:** \$1,000 each (30289)

**THE HELEN EMERY SCHOLARSHIPS IN ENVIRONMENTAL SCIENCE**

Established in 1990 by Miss Helen Emery of Barrie, Ontario. Two scholarships to be awarded to students in Level II, III, IV or V of a B.Sc. program in the School of Geography and Earth Sciences who, in the judgment of the School of Geography and Earth Sciences, demonstrate leadership and influence in addressing environmental matters. Recipients must have attained a Sessional Average of 9.5 or greater.

**Value:** \$1,650 each (30184 380)

**THE MURRAY AND ELEANOR ENKIN MIDWIFERY AWARD**

Established in 2005 by Dr. Murray Enkin and his wife, Eleanor Enkin to reflect their belief in the importance of midwifery within Canadian maternity care. One scholarship to be awarded to a graduating student in the Midwifery program who, in the judgment of the Midwifery program, exemplifies superior achievement in the humanitarian, professional and academic domains of midwifery practice.

**Value:** \$5000 (50098)

**THE ENVIRONMENTAL ISSUES PRIZE\***

Established in 1993 by the Regional Municipality of Hamilton-Wentworth in recognition of Metal Recovery Industries and Philip Environmental, Industrial Filter Fabrics Ltd., and Laidlaw Waste Systems. To be awarded to the student who attains the highest grade in GEO 4R06.

**Value:** \$100 (40070 341)

**THE GABRIELE ERASMI TRAVEL SCHOLARSHIP TO ITALY**

Established in 2003 by the Dante Alighieri Society of Hamilton, the Department of Linguistics and Languages, the Julian-Dalmatians of Hamilton, and friends, in honour of Dr. Gabriele Erasmi, distinguished Faculty member of the Department of Linguistics and Languages. To be awarded to an outstanding student who has completed Level II of a Humanities program. The purpose of the scholarship is to assist with the expenses of travel and study in Italy for academic credit at McMaster University. The applicant must submit a plan of study for approval by the Department of Linguistics and Languages.

**Value:** \$900 (30292)

Travel Scholarship applications are due February 15th.

**THE EUROPEAN HISTORY PRIZE**

Established in 1986 by Professor Ezio Cappadocia, on the occasion of his retirement from the Department of History, in memory of his mentor, Professor Frank H. Underhill. To be awarded to a student graduating from an Honours program in History who, in the judgment of the Department of History, has displayed outstanding achievement in European history courses consistently throughout the degree program.

**Value:** \$100 (50017 368)

**THE JOHN P. EVANS TRAVEL SCHOLARSHIP**

Established in 1991 by many friends, colleagues, students and graduates of McMaster University as a tribute to John (Jack) P. Evans upon his retirement as Associate Vice-President, University Services and Secretary of the Board of Governors in recognition of his 25 years of outstanding contribution to the University Community. To be awarded to a student who has completed at least 30 units beyond Level I of an Honours program with notable academic standing and has demonstrated a scholarly interest in some aspect of Asian languages, history or cultures, with preference being given to a student wishing to study in China.

**Value:** \$1,500 (30193 273)

Travel Scholarship applications are due February 15th.

**THE FACULTY OF SOCIAL SCIENCES INQUIRY AWARD**

Established in 2000 by the Faculty of Social Sciences INQUIRY 1SS3 instructors, recipients of the President's Awards of Excellence in course design 2000-2001. To be awarded to the student who attains the highest standing in INQUIRY 1SS3.

**Value:** \$500 (40091 270)

**THE FEDERATION OF CHINESE CANADIAN****PROFESSIONALS EDUCATION FOUNDATION SCHOLARSHIPS**

Established in 1988 by the Foundation. Two scholarships to be awarded: (a) one to a student in a program in Arts and Science, and (b) one, on a rotating basis, to a student in a program in Chemistry, Mechanical Engineering, and Physics.

**Value:** \$1,000 each (30163 056)

**THE BARBARA M. FERRIER SCHOLARSHIP IN ARTS AND SCIENCE**

Established in 2000 by students in the Arts and Science Program, on the occasion of Dr. B.M. Ferrier's retirement. One scholarship to be awarded to a graduating student in a B.Arts Sc. (Honours) program who, in the judgment of the Arts and Science Program, has demonstrated outstanding achievement in both the Arts and Sciences as well as exceptional leadership and service to the University community.

**Value:** \$500 (50089 168)

**THE NEIL FORSYTH PRIZE\***

Established in 1992 by The Steel Founders' Society of America in honour of Neil Forsyth, president of the organization in 1990 and 1991, in recognition of his outstanding service to the steelcastings industry. To be awarded to the student who attains the highest grade in MATLS 3E04.

**Value:** \$120 (40067 121)

**THE BARBARA FRANCIS SCHOLARSHIP**

Established in 1985 by Laura Dodson (Class of '56) in memory of her sister. To be awarded to the student who has completed Level I and at least an additional 30 units of an Arts and Science program and who has demonstrated outstanding achievement in both arts and science.

**Value:** \$400 (30007 372)

**THE HAROLD AND GERTRUDE FREEMAN SCHOLARSHIP IN FRENCH**

Established in 1981 by members of the Class of '43 as a grateful tribute to Harold A. and Gertrude Freeman; Professor Freeman was honorary president of the Class of '43 and was a long-time teacher of French at McMaster University. To be awarded to the student returned from completing Level III abroad as part of the Humanities Study Abroad Program and entering the final session of an Honours program in French who, in the judgment of the Department of French, has attained the highest level of accomplishment in knowledge of French language, literature and culture. The recipient must obtain a Cumulative Average of at least 8.0 and no failures in the review at the end of the Fall/Winter session immediately prior to entering the *Humanities Study Abroad Program*.

**Value:** \$1,000 (30054 059)

**THE FRENCH GOVERNMENT BOOK PRIZES**

To be awarded from time to time to in-course students for proficiency in Level I French.

**Value:** Book (40017)

**THE KLAUS FRITZE MEMORIAL PRIZE**

Established in 1980 by friends of Professor K. Fritze. To be awarded to the student who has completed Level I and an additional 30 - 45 units of an Honours Chemistry program with the highest Sessional Average.

**Value:** \$350 (30096 063)

**THE MERRILL FRANCIS GAGE SCHOLARSHIPS**

Established in 1982 from the estate of Merrill Francis Gage of Hamilton. Two scholarships to be awarded to a student who has completed Level I and an additional 30 - 75 units of an Honours program in Music and who, in the judgment of the School of the Arts, has demonstrated excellence in performance on a keyboard or orchestral instrument.

**Value:** \$450 each (30110)

**THE SAMUEL GELLER MEMORIAL BOOK PRIZE**

Established in 1999 by Libby Geller in memory of her husband Samuel Geller (Class of '33). To be awarded to a student who has completed Level III of an Honours Program in History and who, in the judgment of the Department of History, has attained notable academic standing.

**Value:** \$425 for books (30261)

**THE R. LOUIS GENTILCORE PRIZE**

Established in 1989 by the family and friends of Professor R. Louis Gentilcore on the occasion of his retirement from the Department of Geography. To be awarded to a student in an Honours program in the School of Geography and Earth Sciences who, in the judgment of the School, has demonstrated exceptional achievement in historical-cultural geography.

**Value:** \$550 (40062 064)

**THE GWEN GEORGE AWARD**

Established in 1997 in loving memory of Gwen George by her family and friends. To be awarded to a student who has completed any Level I program who, in the judgment of a Selection Committee, has achieved notable academic standing and has demonstrated qualities of leadership and service to McMaster University and/or the Hamilton-Wentworth, surrounding or world communities. The scholarship is tenable for up to three years provided the recipient maintains a Cumulative Average of 8.0.

**Value:** \$4,500 (\$1,500 each year) (30240 773)

Students should submit an application to the Office of Student Financial Aid & Scholarships by April 15th.

**THE GWEN GEORGE MEDAL**

Established in 2001 in loving memory of Gwen George by her family. To be awarded to a part-time student who has completed at least Level I of any program and who, in the judgment of the McMaster Association of Part-time Students, has achieved notable academic standing and has demonstrated qualities of leadership and service to McMaster University and/or the Hamilton-Wentworth, surrounding or world communities.

**Value:** \$400 and a medal (60011)

Students who wish to be considered for this award must submit an application to the McMaster Association of Part-time Students by September 15th.

**THE GERMAN EMBASSY BOOK PRIZE**

To be awarded from time to time for in-course students for proficiency in Level II or III German.

**Value:** Book (40018)

**THE J.L.W. GILL PRIZES**

Established in 1944 by bequest of J.L.W. Gill, B.A., Principal of Hamilton Technical School. Nine scholarships to be awarded on the basis of Cumulative Averages to students who have completed Level I and an additional 58 - 75 units of Honours B.Sc. programs. Ordinarily, not more than one scholarship will be awarded in any one discipline.

**Value:** \$325 each (30079)

**THE GILMOUR MEMORIAL PRIZE\***

Established in 1927 by Year '27, in memory of Dr. Joseph Leeming Gilmour, Honorary President of their first year in 1923, and subsequently enlarged by his children. To be awarded to the student who attains the highest standing in RELIG ST2GG3 or 2HH3.

**Value:** \$125 (40019)

**THE GEORGE P. GILMOUR MEMORIAL SCHOLARSHIP**

Established in 1987 by the Graduating Class of 1962 in honour of Dr. G.P. Gilmour (Class of '21), Chancellor of McMaster University from 1941 to 1950 and President and Vice-Chancellor from 1950 to 1961. To be awarded to a student who has completed Level I and an additional 60 - 75 units of an Honours program in the Arts and Science Program and who, in the judgment of the Arts and Science Program Admissions, Awards, and Review Committee, has demonstrated outstanding academic achievement and has made notable contribution to the campus or community by participation in extracurricular activities.

**Value:** \$325 (30058 067)

The recipient of this award is eligible to receive additional aid through the corresponding Supplementary Bursary Aid Fund if he/she demonstrates financial need. Please see the section on *Supplementary Bursary Aid for Award Recipients* in the *Student Financial Aid* section of this Calendar.

**THE 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 program who, in the judgment of the selection committee, has attained the highest standing throughout the program.

**Value:** Medal (50022)

**THE DAPHNE ETHERINGTON GRAHAM MEMORIAL SCHOLARSHIP IN ENGLISH**

Established in 1989, in memory of a former student and dedicated servant of the University, by her 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, 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:** \$975 (30034 242)

**THE DAPHNE ETHERINGTON GRAHAM MEMORIAL SCHOLARSHIP IN HISTORY**

Established in 1997 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 15 units of History, all taken in the same session, with an average of at least A-

**Value:** \$1,000 (30231 556)

**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 graduands, and who has completed the program primarily on a part-time basis. (50029)

**THE GREEK COMMUNITY OF BURLINGTON AND DISTRICT SCHOLARSHIP**

Established in 1983. To be awarded to the student who obtains the highest standing in GREEK 1Z03 and 1ZZ3

**Value:** \$250 (40020 068)

**THE H.B. GREENING BOOK PRIZE**

Established in 1969 by bequest of Gladys Powis Greening in memory of her husband, Herald Benjamin Greening. To be awarded to the student who has completed Level I and an additional 30 - 45 units of an Honours program in Music and who, in the judgment of the School of the Arts, has demonstrated excellence in music.

**Value:** \$100 for books (30062 069)

**THE GROUP EIGHT ENGINEERING LIMITED L.F. EULL PRIZE**

Established in 1980 by Group Eight Engineering Limited. To be awarded to the student in a program in Electrical Engineering who attains the highest average in ELEC ENG 3PI4.

**Value:** \$1,000 (30098 057)

**THE GUPTA FAMILY INTERNATIONAL SCHOLARSHIPS**

Established in 2005 by Kulbushan (Joe) Gupta and family. A variable number of scholarships to be awarded to international students who have completed Level I and an additional 29 - 40 units with the highest Sessional Averages.

**Value:** \$1,500 (30311)

**THE ROBERT S. HAINES MEMORIAL SCHOLARSHIP**

Established in 2002 by Margaret E. Haines in memory of her twin brother Robert Samuel Haines (Class of '44). To be awarded to a student graduating from an Honours program in Chemistry who attains the highest Cumulative Average.

**Value:** \$1,000 (50097)

**THE AMELIA HALL GOLD MEDAL**

Established in 1985 by members of the Class of '38 in recognition of Amelia Hall (Class of '38), D. Litt. (Class of '75), one of the great pioneers of Canadian theatre and a consummate actress, who performed on Canadian stage, screen, radio and television for 35 years. To be awarded to a graduating student who, in the judgment of the School of the Arts, has made a significant contribution to drama during the student's University career. (50003 070)

**THE RUTH AND JACK HALL PRIZE**

Established in 1983 by Jackie MacDonald in memory of her parents. To be awarded to a student who has completed Level I and an additional 60 - 75 units of an Honours program in Computer Science, or Level I and an additional 69 - 90 units of a program in Computer Engineering, and who attains the highest Sessional Average.

**Value:** \$225 (30131)

**THE RONALD K. HAM MEMORIAL PRIZE**

Established in 1971 in memory of Professor R.K. Ham by his friends and former colleagues. Awarded to the student who has completed Level I and at least an additional 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:** \$125 (30128)

**THE HAMILTON AND DISTRICT HEAVY CONSTRUCTION ASSOCIATION SCHOLARSHIPS**

Established in 2003 by the Hamilton and District Heavy Construction Association. A maximum of two scholarships to be awarded to students who, in the judgment of the Department of Civil Engineering, have demonstrated outstanding academic achievement and who have attained a grade of at least A- in CIV ENG 3M03.

**Value:** \$500 (30294)

**THE BRUCE M. HAMILTON AWARD**

Established in 1999 by Bruce M. Hamilton. To be awarded to a student graduating from a Commerce program who, in the judgment of the Faculty of Business, has made a significant contribution through extra-curricular activities to the benefit of McMaster University or the local community.

**Value:** \$500 (50081 872)

**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 an additional 30 - 45 units of an Honours program in Chemistry and who attains the highest Cumulative Average.

**Value:** \$140 (30063)

**THE HAMILTON INDUSTRIAL SCHOLARSHIPS**

Established in 1958.

**Value:** \$800 each (30165)

**THE HAMILTON PORT AUTHORITY SCHOLARSHIP**

Established in 1994 by the Commissioners in recognition of outstanding Canadian students who continue their studies at McMaster University. To be awarded to a student who has completed Level I and an additional 60 - 75 units of a program in Commerce who, in the judgment of the Faculty of Business, has demonstrated outstanding academic achievement and involvement in the local community.

**Value:** \$1,275 (30227 389)

**THE HAMILTON UTILITIES CORPORATION ENERGY CONSERVATION AND ALTERNATIVE ENERGY UNDERGRADUATE SCHOLARSHIP**

Established in 2003 by the Hamilton Utilities Corporation to encourage excellence in research in the areas of energy conservation and alternative energy. To be awarded to a student who has completed at least Level I of any program who, in the judgment of the McMaster Institute of Energy Studies, has demonstrated excellence in research in energy conservation or alternative energy.

**Value:** \$1,000 (30303)

**THE DONALD HART SCHOLARSHIP**

Established in 1985 by Mrs. Pamela Hart and Joel Jordan in honour of Donald Neil Hart (Class of '70). To be awarded to a student who has completed Level I and an additional 30-45 units of a program 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:** \$400 (30037 075)

**THE HAWKRIGG FAMILY SCHOLARSHIPS IN BUSINESS**

Established in 1999 by the Hawkrigg Family. To be awarded to a student who, in the judgment of the Faculty of Business, has attained notable academic standing and demonstrated involvement in University or community activities, and outstanding athletic ability. This scholarship is tenable for up to three years provided the recipient maintains a Cumulative Average of 8.0.

**Value:** \$7,500 (\$2,500 each year) (30256 869)

**THE HAWKRIGG FAMILY SCHOLARSHIPS IN KINESIOLOGY**

Established in 1999 by the Hawkrigg Family. To be awarded to a student who, in the judgment of the Department of Kinesiology, has attained notable academic standing and demonstrated involvement in University or community activities and outstanding athletic ability. This scholarship is tenable for up to three years provided the recipient maintains a Cumulative Average of 8.0.

**Value:** \$7,500 (\$2,500 each year) (30255 868)

Students who wish to be considered for this award are encouraged to submit a resume to the Department of Kinesiology by April 15th.

**THE HEDDEN HALL RESIDENCE SCHOLARSHIP**

Awarded to the student who resides in the residence with the highest Sessional Average (at least 9.5) in an undergraduate program, with the exception of those in their graduating session.

**Value:** \$750 (30198)

**THE HELLENIC PRIZE**

Established in 1995 by the Greek communities of Hamilton and district and the Greek Community of Burlington and district. To be awarded to a student entering Level IV who has completed at least 12 units in subjects pertaining to Greek studies and who, in the judgment of the Faculty of Humanities, demonstrates outstanding academic achievement in Greek studies.

**Value:** \$1,000 (30226 386)

**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 Sessional Average. The recipient may not hold another scholarship of equal or greater value.

**Value:** \$1,550 (30208 300)

**THE ROSE HILL SCHOLARSHIPS**

Established in 1985 by the alumni, faculty and staff of the School of Physical Education and Athletics as a tribute to Professor Rose Hill, long-time teacher, coach and administrator in the School. Two scholarships to be awarded to students who have completed 60 units of the Kinesiology program and who, in the judgment of the Department of Kinesiology, best demonstrate the philosophy of physical education espoused by Professor Hill throughout her career, namely, excellence in scholarship and leadership and participation in sport, dance or fitness.

**Value:** \$1,200 each (30130 077)

Students who wish to be considered for this award are encouraged to submit a resume to the Department of Kinesiology by April 15th.

**THE DR. SHIGEAKI HINOHARA SCHOLARSHIP**

Established in 2003 by Dr. Shigeaki Hinohara and the School of Nursing. To be awarded every three years to a student who has completed Level I in the B.Sc.N Program and who, in the judgment of the School of Nursing, has demonstrated outstanding academic achievement in health sciences and behavioural science courses. The scholarship is tenable for up to three years provided the recipient maintains a Cumulative Average of 9.5.

**Value:** \$2,400 (\$800 each year) (30293)

**THE DR. THOMAS HOBLEY PRIZE**

Established in 1936 by bequest of Mrs. A. McNee of Windsor. To be awarded to a woman student on the basis of the Sessional Average obtained in the penultimate level of a program in Economics or Political Science.

**Value:** \$300 (30042)

**THE DR. HARRY LYMAN HOOKER SCHOLARSHIPS**

Established in 1981, and resulting from the bequest of Dr. H.L. Hooker. Awarded for overall academic excellence (Sessional Average of at least 9.5) to students in undergraduate programs, with the exception of those in their graduating session and those retaining scholarships of \$1,000 or greater. Each year quotas are established for each Faculty and other academic units in proportion to the number of full-time undergraduate students who obtain a Sessional Average of 9.5 or greater.

**Value:** \$1,500 each (30043)

**THE BERTRAM OSMER HOOPER SCHOLARSHIP**

Established in 1957 by bequest of Isobel F. Hooper. To be awarded in Arts.

**Value:** \$250 (30161)

**THE NINA LOUISE HOOPER SCHOLARSHIP**

Established in 1959 by bequest of Bertram O. Hooper.

**Value:** \$500 (30200)

**THE HUGHES SCHOLARSHIP**

Established in 1993 by Heidi Dickensen-Hughes in memory of her husband Peter Hughes (Class of '69). To be awarded to a student who has completed Level I and an additional 30-75 units of the Music Program who, in the judgment of the School of the Arts, has displayed outstanding achievement in Music Education.

**Value:** \$200 (40069 330)

**THE HUMAN RIGHTS AWARD**

Established in 1998 by the Theme School on International Justice and Human Rights. To be awarded to the student who attains the highest grade in POL SCI-3Y03 or 4D06.

**Value:** \$275 for books (40087 828)

**THE HUMANITIES MEDALS FOR SPECIAL ACHIEVEMENT**

Established by the University in 1982. Up to five medals to be awarded to graduating students in the Faculty of Humanities in recognition of outstanding achievement in scholarship and contributions to the cultural and intellectual life of the University including such areas as the creative and performing arts and faculty government.

**Value:** Medal (50026)

**THE WILLIAM D.G. HUNTER PRIZE**

Established in 1995 by family, friends and colleagues in memory of Professor William D.G. Hunter, member of the Department of Economics from 1951 to 1984. To be awarded to the student who achieved the highest standing in ECON 3LL3.

**Value:** \$500 (40080 394)

**THE HURD MEDAL**

Established in 1955 by Donald W. Hurd (Class of '49) in memory of his father, Dean William Burton Hurd and augmented in 2003 in his memory by his wife Alice Hurd. To be awarded to a student at graduation for distinguished achievement in an Honours program in which economics is a major field of study.

**Value:** Medal (50027 079)

**THE PAUL HYPHER PRIZE**

Established in 1988 in memory of Paul F. Hypher by his friends and classmates. To be awarded to the student in a program in Commerce who attains the highest standing in COMMERCE 2MA3.

**Value:** \$250 for books (40039 080)

**THE INCO SCHOLARSHIP IN ENVIRONMENTAL SCIENCE**

Established in 2000 by Inco Limited. To be awarded to a student entering Level III, IV (or Year V of a Co-op program) in the Honours Earth and Environmental Sciences programs who, in the judgment of the School of Geography and Earth Sciences has achieved notable academic standing and demonstrated qualities of leadership at McMaster or in the community.

**Value:** \$2,000 (30275 1515)

**THE INCO SCHOLARSHIP IN MATERIALS ENGINEERING**

Established in 2000 by Inco Limited. To be awarded to a student entering Level II of the Materials Engineering, Materials Engineering and Management or Materials Engineering and Society program who, in the judgment of the Department of Materials Science and Engineering has achieved notable academic standing and demonstrated qualities of leadership at McMaster or in the community.

**Value:** \$1,900 (30274 1514)

**THE INTERMETCO LIMITED SCHOLARSHIP**

Established in 1977. To be awarded to the student who has completed Level I and an additional 66-90 units of a program in Mechanical Engineering and who, in the judgment of the Department of Mechanical Engineering, has attained notable standing.

**Value:** \$600 (30072 084)

**THE INTER NATIONES (BONN) BOOK PRIZE\***

To be awarded from time to time to in-course students for proficiency in German studies.

**Value:** Book (40024)

**THE INTER-RESIDENCE COUNCIL SCHOLARSHIP**

Established in 1995 by the McMaster Inter-Residence Council in recognition of the IRC's continued support of the University and its students. To be awarded to a student who has completed at least Level I of any program who, in the judgment of an Awards Selection Committee of Undergraduate Council, has demonstrated notable academic achievement and has demonstrated leadership and influence in residence life.

**Value:** \$400 (30228 392)

Students should submit an application to the Office of Student Financial Aid & Scholarships by April 15th.

**THE IODE MEMORIAL SCHOLARSHIP**

Established in 2000 with funds from the Paardeburg Chapter and 67th University Battery Chapters of the IODE. To be awarded to a student enrolled in the Bachelor of Health Science program who has completed at least Level I and who, in the judgment of the Faculty of Health Sciences, has attained notable academic standing. Preference will be given to a student from a secondary school in Hamilton.

**Value:** \$500 (30285)

**THE MUNICIPAL CHAPTER OF HAMILTON,**

**IODE, MURIEL E. SKELTON AWARD**

Established in 1944 by the Municipal Chapter of Hamilton, Imperial Order Daughters of the Empire. To be awarded to the student who attains the highest standing in a Level I History course.

**Value:** \$150 (40036 081)

**THE IROQUOIS TROPHY**

Established in 1970 by the Department of Mechanical Engineering. To be presented to a graduating mechanical engineer on the basis of academic excellence, participation in campus societies, clubs, or other activities, and general leadership. A replica of the Trophy is permanently held by each winner. (50028)

**THE 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 program in the Department of Linguistics and Languages and who, in the judgment of the Department, has attained notable standing in at least six units of Italian courses above Level I. The recipient must have graduated from a secondary school in the Hamilton area.

**Value:** \$125 (30070 086)

**THE IVEY SCHOLARSHIP**

Established in 1971 by Professor and Mrs. G.S. French in memory of Mr. and Mrs. I.E. Ivey, the parents of Mrs. French. To be awarded to the student who has completed Level I and an additional 60 - 75 units of an Honours program in Music and who, in the judgment of the School of the Arts, has attained notable standing.

**Value:** \$125 (30074 087)

**THE H.L. JACKSON MEMORIAL SCHOLARSHIP**

Established in 1989 in memory of Professor H.L. Jackson by his friends and colleagues. To be awarded to the student who has completed Level I and at least an additional 60 units of an Honours program in the Department of Mathematics and Statistics, who in the judgment of the department has demonstrated achievement in MATH 3AA3.

**Value:** \$425 (40021 311)

**THE BURTON R. JAMES MEMORIAL PRIZE**

Established in 1974 by his friends and colleagues in honour of Burton R. James (Class of '39), Controller, 1963-71, Assistant Vice-President - Administration, 1971-73, McMaster University. To be awarded to the student who, in the judgment of the Faculty of Business, has attained an outstanding Cumulative Average in a program in Commerce.

**Value:** \$200 (50008)

**THE W. NORMAN JEEVES SCHOLARSHIP**

Established in 1987 by the French Section, Department of Romance Languages, in honour of W. Norman Jeeves, Professor of French from 1965 to 1987. To be awarded to a graduand of an Honours program in French who, in the judgment of the Department of French, has demonstrated outstanding academic achievement in the French component of the program.

**Value:** \$475 (50052 088)

**THE HERBERT M. JENKINS PRIZE**

Established in 1990 as a tribute to Dr. Herbert M. Jenkins, first Director of the Arts and Science Program, 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 program whose work, in the judgment of the Arts and Science Program Awards and Review Committee, best reflects scholarship and the spirit of inquiry.

**Value:** \$150 (40096 249)

**THE JENSEN MEDAL**

Established in 1995 by friends and colleagues as a tribute to Dr. Doris E.N. Jensen in recognition of her contribution in developing Cooperative Education Programs in the Faculty of Science and her 31 years of service in the wider university community. To be awarded to a student graduating from the Honours Biology and Pharmacology (Co-op) Program who, in the judgment of the Committee of Instruction, demonstrates outstanding academic achievement and excellence in co-op placements. (50075 387)

**THE A.I. JOHNSON SCHOLARSHIP**

Established in 1977 in memory of Dr. A.I. Johnson by his friends and former colleagues. To be awarded to a student who has completed Level I and an additional 90 - 130 units of a program in Engineering and Management. Award to be based on distinguished academic performance during the student's undergraduate career. Consideration will also be given to noteworthy contribution in extracurricular activities.

**Value:** \$800 and certificate (30002 259)

**THE LAWRENCE AND KATHLEEN MARY JOHNSTON MEMORIAL PRIZE**

Established in 1963. To be awarded to the student who has completed Level I and an additional 30 - 45 units of an Honours program in Religious Studies and who attains the highest Sessional Average.

**Value:** \$175 (30094 090)

**THE FRANK E. JONES PRIZE**

Established in 1982 in honour of Professor F.E. Jones for his outstanding contributions to the Department of Sociology. To be awarded to the full-time student with the highest Cumulative Average in an Honours program in Sociology.

**Value:** \$100 (50020)

**THE DR. JEAN JONES MEMORIAL SCHOLARSHIP\***

Established in 2005 by family and friends in memory of Dr. Jean Jones. To be awarded to a full-time graduating student who attains the highest cumulative average in either the Bachelor of Arts/Bachelor of Social Work or Bachelor of Social Work post degree program.

**Value:** \$800 (50099)

**THE DR. RONALD V. JOYCE "AMAZING" GRACE AWARDS**

Established in 2003 by Dr. Ronald V. Joyce '98 in honour of his mother, Grace Joyce. A variable number to be awarded to students in Level II or above of any program who, in the judgment of the selection committee, demonstrate a commitment to community service by volunteering during the academic year with children who have special needs. Preference will be given to those students who volunteer with underprivileged children.

**Value:** \$2,500 each (30295)

Students should submit an application to the Office of Student Financial Aid & Scholarships by April 15th.

**THE DR. RONALD V. JOYCE AWARDS FOR ATHLETES**

Established in 2003 by Dr. Ronald V. Joyce '98. A variable number to be awarded to students who have completed Level I of any program who, in the judgment of a selection committee, have demonstrated outstanding athletic ability as members of a McMaster varsity team which competes in the Canadian Interuniversity Sports (CIS). Students must meet the eligibility requirements of the CIS and Ontario University Athletics (OUA). Not open to students in their graduating year.

**Value:** \$2,500 each (40117)

Students should submit an application to the Office of Student Financial Aid & Scholarships by April 15th.

**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 an additional 30 - 45 units of the Honours History program and who attains the highest Sessional Average.

**Value:** \$1,500 (30093)

**THE STANFORD N. KATAMBALA EARTH SCIENCES PRIZE**

Established in 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 an additional 60 - 75 units of the Honours Earth and Environmental Sciences program and who attains high standing.

**Value:** \$75 (30143)

**THE ERNEST ROBERT MacKENZIE KAY SCHOLARSHIPS**

Established in 1999 by Ernest Robert MacKenzie Kay. A variable number to be awarded to students in a program in Biology, Biochemistry or Chemistry who, in the judgment of the Faculty, show outstanding academic achievement. Preference will be given to students who plan to continue in the field of medical research.

**Value:** \$800 each (30254 846)

**THE GERALD L. KEECH MEDAL**

Established in 1994 by his friends and colleagues as a tribute to Gerald L. Keach in recognition of his outstanding contributions to McMaster University during his 33 years of service in Computer Science and computer services. To be awarded to the graduating student from a program in Computer Science who attains the highest Cumulative Average. (50069 344)

**THE ROBERT ALAN KENNEDY SCHOLARSHIP**

Established in 1998 by Robert Alan Kennedy. To be awarded to any student entering a Level II, III or IV program in the Faculty of Business who, in the judgment of the Faculty, demonstrates outstanding academic achievement.

**Value:** \$475 (30243 788)

**THE MARY E. KEYES RESIDENCE SCHOLARSHIP**

Awarded to the student with the highest Sessional Average (at least 9.5) in an undergraduate program, with the exception of those in their graduating session, who resides in the residence.

**Value:** \$750 (30299)

**THE GEORGE P. AND LEATHA M. KEYS SCHOLARSHIPS**

Established in 1982 by Mrs. Leatha Keys. Three scholarships to be awarded to students who, in the judgment of the Departments of Computing and Software, and of Mathematics and Statistics, have demonstrated outstanding achievement in Honours programs in those Departments: (a) one to a student who has completed Level I and an additional 30 - 75 units of the Computer Science program; (b) one to a student who has completed Level I and an additional 60 - 75 units of a program in Mathematics; and (c) one to a student who has completed Level I and an additional 60 - 75 units of a program in Mathematics and Statistics.

**Value:** \$500 each (30057 091)

**THE KARL KINANEN ALUMNI PRIZE IN GERONTOLOGY**

Established in 1992 by the Gerontology Alumni of McMaster University in recognition of Karl Kinanen for his leadership in the development of Gerontological Studies at the University. To be awarded to a student graduating from a program in Gerontology who, in the judgment of the Department of Health, Aging and Society, has demonstrated high academic achievement and leadership in community activities.

**Value:** \$50 (50064 317)

Students who wish to be considered for this award are encouraged to submit a resume to the Chair of the Department of Health, Aging and Society by April 15th.

**THE KINESIOLOGY PRIZE**

Established in 1982. To be awarded to the graduating student who, in the judgment of the Department of Kinesiology, has submitted an outstanding paper or project.

**Value:** \$100 (50058)

**THE KINESIOLOGY PRIZES**

Established in 1982. Two prizes to be awarded to students who have completed the courses in Level III of the Kinesiology program: (a) one to a student who, in the judgment of the Department of Kinesiology, has submitted an outstanding paper or project, and (b) one to the student who has attained the highest average in Kinesiology courses taken in Levels I, II and III.

**Value:** \$100 each (40041)

**THE KIT MEMORIAL SCHOLARSHIP**

Established in 1936 by the Hamilton Branch of the Canadian Women's Press Club (now the Media Club of Canada, Hamilton Branch) in memory of 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 an additional 30 units on the basis of journalistic ability or on completion of Level I and an additional 60 - 75 units of an Honours program in English on the basis of Sessional Average.

**Value:** \$200 (30095 092)

**THE KPMG SCHOLARSHIP**

Established in 1956 by Pettit, Hill and Bertram, Toronto, and continued after amalgamation of firms. To be awarded to an outstanding student on the basis of qualifications and academic record after the completion of Level I and an additional 60 - 75 units of a program in Commerce. Preference will be given to students who plan to continue their studies after graduation with a practising firm of chartered accountants.

**Value:** \$350 (30146 175)

**THE RUTH LANDES PRIZE**

Established in 1982 in honour of Professor Ruth Landes for her outstanding contributions to the Department of Anthropology. To be awarded to the graduating full-time student in a three-Level program in Anthropology who, in the judgment of the Department of Anthropology, has demonstrated outstanding academic achievement.

**Value:** \$100 (50048)

Students who wish to be considered for this award are encouraged to submit a resume to the Department of Anthropology by April 15th.

**THE LATIN PRIZE\***

Established in 1987 by Dr. John B. Clinard. To be awarded to a student who, in the judgment of the Department of Classics, has demonstrated notable achievement in LATIN 1Z03 and 1Z23.

**Value:** \$150 (40031 096)

**THE GARY LAUTENS MEMORIAL SCHOLARSHIP**

Established in 1992 by family, friends and colleagues in memory of Gary Lautens (Class of '50), columnist and editor of the Toronto Star (1962-92), the Hamilton Spectator (1950-62) and the McMaster Silhouette (1948-50), remembered as a journalist with wit and insight. To be awarded to a student who has completed any Level I program who, in the judgment of a Selection Committee, has achieved notable academic standing and has demonstrated journalistic skills in the written media. The scholarship is tenable for up to two years provided the recipient maintains a Cumulative Average of 8.0. Students who wish to be considered for this award should consult the Office of Student Financial Aid & Scholarships.

**Value:** \$4,000 (\$2,000 each year) (30212 321)

Students should submit an application to the Office of Student Financial Aid & Scholarships by April 15th. A 500 word essay and two examples of published material are required.

The recipient of this award is eligible to receive additional aid through the corresponding Supplementary Bursary Aid Fund if he/she demonstrates financial need. Please see the section on *Supplementary Bursary Aid for Award Recipients* in the *Student Financial Aid* section of this Calendar.

**THE E. DORIS LAWRENCE SCHOLARSHIP**

Established in 1999 in memory of E. Doris Lawrence (Class of '47). To be awarded to a student who, in the judgment of the Department of French, has demonstrated academic excellence in French.

**Value:** \$2,200 (30253 845)

**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 90 units of the Kinesiology program 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)

Students who wish to be considered for this award are encouraged to submit a resume to the Department of Kinesiology by April 15th.

**THE SAM LAWRENCE PRIZE\***

Established in 1957 by the East Hamilton Independent Labour Party C.C.F. Club in honour of Sam Lawrence. To be awarded to the student who, in the judgment of the Department of Economics, has demonstrated outstanding academic achievement in courses in labour economics.

**Value:** \$175 (40048)

**THE JAMES B. LAWSON SCHOLARSHIP**

Established in 1999 by a grateful student and friend of Professor Lawson. To be awarded to a student who has completed either GERMAN 1Z06 or 1BB3 in Level I or to a student who has completed GERMAN 2ZZ3 in Level II and who, in the judgment of the Department of Linguistics and Languages, has demonstrated progress and interest in German. Eligibility for this award is restricted to non-native speakers of German. The award may be used for travel and study in a German-speaking country and/or for other expenses associated with the student's German studies.

**Value:** \$150 (40090 820)

**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 Sessional Averages in an Engineering and Management program: (a) one to a student who has completed Level I and an additional 70 - 90 units, and (b) one to a student who has completed Level I and at least an additional 109 units beyond Level I.

**Value:** \$275 each (30126 099)



**THE SAKARKHANU K. LILA MEMORIAL SCHOLARSHIP\***

Established in 2000 by the children and grandchildren of the late Sakarkhanu K. Lila, mother of ten. To be awarded to a full-time student who has completed Level II of the Midwifery Program and who, in the judgment of the Midwifery Program, has demonstrated academic excellence, leadership and social awareness. Preference will be given to students who have registered for or completed an overseas clinical placement in a developing country.

**Value:** \$1,000 (40093 208)

**THE LINGUISTICS PRIZE**

Established in 1988. To be awarded to a student in an Honours program in Modern Languages and Linguistics who, in the judgment of the Department of Linguistics and Languages, has achieved notable standing in Level II courses in Linguistics.

**Value:** \$250 (40032)

**THE 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 program in the School of Business.

**Value:** \$625 (30199 262)

**THE FELIKS LITKOWSKI MEMORIAL PRIZE IN POLITICAL SCIENCE**

Established in 1987 by Albert Litkowski (Class of '78) and Richard Litkowski (Class of '86) in honour of their father. To be awarded to a full-time student graduating from an Honours program in Political Science who, in the judgment of the Department of Political Science, has demonstrated outstanding academic achievement.

**Value:** \$750 (50032 100)

**THE ALLAN LUDBROOK MEMORIAL SCHOLARSHIP**

Established in 2004 by the family and friends of Allan Ludbrook ('04). To be awarded to a mature student enrolled in a Music program who, in the judgment of the School of the Arts, has attained notable standing.

**Value:** \$1,000 (40014)

**THE MacGIBBON SCHOLARSHIP\***

Established in 1970 by bequest of Professor Duncan A. MacGibbon (Class of '08). To be awarded to the student in a program in Economics who, in the judgment of the Department of Economics, stands highest in courses in economic history.

**Value:** \$475 (40034)

**THE BERT MacKINNON MEMORIAL SCHOLARSHIP**

Established in 1996 in memory of Bert MacKinnon, B.A. (Class of '43), LL.D. (Class of '77), first Associate Chief Justice of Ontario (1978 to 1986). One scholarship to be awarded to a graduating student who enrolls in a Bachelor of Laws degree program in the academic session immediately following graduation. The student selected will have demonstrated high academic achievement and leadership in extracurricular activities.

**Value:** \$750 (50061 298)

Applications and the names of two referees should be submitted to the Office of Student Financial Aid & Scholarships by April 15th.

**THE WILLIAM MacKENZIE MEMORIAL PRIZE\***

Established in 1977 in memory of Professor William MacKenzie by his friends and colleagues. To be awarded to the student who, in the judgment of the Department of Economics, has demonstrated outstanding academic achievement in either ECON 3T03 (Economic Development: Agriculture and Population) or ECON 2F03 (Globalization and Economic Development) or, in exceptional circumstances, for work in a related area.

**Value:** \$425 (40053 312)

**THE BETTY MacMILLAN PRIZE**

Established in 1960 by her classmates in memory of Elizabeth Johnstone MacMillan (Class of '50). To be awarded to the student who has completed Level I and an additional 60 - 75 units in an Honours program in Sociology and who, in the judgment of the Department of Sociology, is the most promising student.

**Value:** \$150 (30010)

**THE AGNES AND JOHN MacNEILL MEMORIAL PRIZE**

Established in 1946 by bequest of Annie May MacNeill (Class of '03). To be awarded to the student graduating from an Honours program in English who has attained the most notable standing in English throughout the degree program.

**Value:** \$200 (50001)

**THE CATHERINE MacNEILL PRIZE**

Established in 1946 by bequest of Annie May MacNeill (Class of '03). To be awarded to a woman student in her graduating year who has attained notable standing in scholarship and has shown qualities of leadership.

**Value:** \$175 (50011)

Students should submit an application to the Office of Student Financial Aid & Scholarships by April 15th.

**THE MAPS CENTENNIAL AWARD**

Established in 2000 by the McMaster Association of Part-Time Students (MAPS). To be awarded to a part-time student who, in the judgment of MAPS, ranks highest in qualities of scholarship and leadership.

**Value:** \$500 and a medal (60010 1393)

Students who wish to be considered for this award must submit an application to the McMaster Association of Part-time Students by September 15th.

**THE MAPS GOLD MEDAL**

Established in 1996 by the McMaster Association of Part-time Students. To be awarded to the graduating student completing studies primarily on a part-time basis and who attains the highest Cumulative Average. (50076 397)

**THE LIANNE MARKS SCHOLARSHIP**

Established by her family, in 1980 as a bursary and in 1985 as a scholarship, in honour of Lianne Marks, a student at McMaster University (1977-80). To be awarded to a student who has completed Level I and an additional 60 - 75 units of an Honours program in Sociology and who, in the judgment of the Department of Sociology, has demonstrated outstanding academic achievement and has made notable contribution to the campus or community by participation in activities other than sports.

**Value:** \$800 (30100 102)

Students who wish to be considered for this award are encouraged to submit a resume to the Department of Sociology by April 15th.

**THE ELEANOR DORNBUSH MARPLES PRIZE IN ART HISTORY\***

Established in 1985 by Mrs. Barbara Niedermeier and her family in memory of her sister. To be awarded to a student who, in the judgment of the School of the Arts, has demonstrated outstanding achievement.

**Value:** \$175 (40015 103)

**THE ELEANOR DORNBUSH MARPLES PRIZE IN THEATRE & FILM STUDIES\***

Established in 1987 by Vaughan W. Marples in memory of his wife. To be awarded to the student who attains the highest grade in THTR&FLM 2C03.

**Value:** \$125 (40016 104)

**THE RONALD E. MATERICK SCHOLARSHIPS**

Established in 1987 by Ronald E. Materick (Class of '70). Four scholarships to be awarded to students who have completed at least Level II in a Civil Engineering program, who are continuing in an undergraduate Civil Engineering program and who, in the judgment of the Department of Civil Engineering, have attained notable academic standing. Preference, for two of the scholarships, is to be given to students in the penultimate year of a Civil Engineering program.

**Value:** \$2,000 each (30127 106)

**THE MATTHEWS HALL RESIDENCE SCHOLARSHIP**

Awarded to the student who resides in the residence with the highest Sessional Average (at least 9.5) in an undergraduate program, with the exception of those in their graduating session.

**Value:** \$750 (30157)

**THE JOHN MAYBERRY SCHOLARSHIPS**

Established in 1998 by John Mayberry. One scholarship to be awarded a student who has completed Level II or III of a program in Chemical Engineering, Mechanical Engineering or Materials Engineering who, in the judgment of the Faculty of Engineering, have demonstrated outstanding academic achievement. The recipients must attain a minimum Sessional Average of 9.5 at the most recent Fall/Winter session.

**Value:** \$1,000 (30262 905)

**THE CHARON BURKE McCAIN MEMORIAL SCHOLARSHIP**

Established in 2004 in memory of Charon Burke McCain by family, friends, colleagues and students. To be awarded to an Honours Arts and Science student who has completed Level III and who, in the judgment of the Arts and Science Program, has demonstrated exceptional qualities of leadership and service at McMaster University or in the community, as well as notable academic achievement.

**Value:** \$500 (30305)

**THE WILLIAM J. McCALLION SCHOLARSHIPS**

Established in 1984 in honour of Professor McCallion (B.A. '43, M.A. '46), first Dean of the School of Adult Education from 1970 to 1978, in recognition of his outstanding contribution to adult education and to the Department of Mathematical Sciences during 41 years of service. A variable number to be awarded to part-time students who have attained the highest Cumulative Average at the most recent review.

**Value:** \$250 each (60004)

**THE ESTHER McCANDLESS MEMORIAL PRIZE**

Established in 1984 by friends and colleagues in memory of Professor E.L. McCandless, a humanitarian and distinguished member of the Department of Biology from 1964 to 1983. To be awarded to a student who achieves an outstanding Cumulative Average in an Honours program in Biology.

**Value:** \$300 (50016)

**THE JOHN R. McCARTHY SCHOLARSHIP**

Established in 1987 by John R. McCarthy LL.D. (Class of '65), former Deputy Minister of University Affairs and Deputy Minister of Education for the Province of Ontario. To be awarded to a student graduating from a program in Arts and Science, Humanities, Science, or Social Sciences who 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.

**Value:** \$700 (50030 107)

Students should submit an application to the Office of Student Financial Aid & Scholarships by April 15th.

**THE H.W. McCREADY PRIZE IN BRITISH HISTORY\***

Established in 1981 in memory of Professor H.W. McCready, a member of the Department of History from 1943 to 1975, by former students, colleagues, and friends. To be awarded to the Level II student who, in the judgment of the Department of History, attains notable standing in HISTORY 2M03 or 2MM3.

**Value:** \$100 (40022)

**THE McGREGOR-SMITH-BURR MEMORIAL SCHOLARSHIP**

Established in 1910 by the Class of 1912 in Arts, in memory of their classmates, Percy Neil McGregor, Lee Wilson Smith and George William Burr, and supplemented in 1944 by bequest from Professor R. Wilson Smith, father of Lee Wilson Smith. To be awarded to the student who has completed Level I and an additional 60 - 75 units of the Honours English and History program and who has the highest Sessional Average.

**Value:** \$525 (30105)

**THE R.C. McIVOR MEDAL**

Established by the Faculty of Social Sciences in 1982 in recognition of Professor R.C. McIvor, former Dean of the Faculty, for his outstanding contributions to the Faculty and the University during 35 years of service. To be awarded on the recommendation of the Faculty of Social Sciences to the full-time student in the graduating class who, on the basis of scholarship, is judged to be the outstanding member of the class of Social Sciences graduands. (50043)

**THE McKAY HALL RESIDENCE SCHOLARSHIP**

Awarded to the student who resides in the residence with the highest Sessional Average (at least 9.5) in an undergraduate program, with the exception of those in their graduating session.

**Value:** \$750 (30201)

**THE A.G. McKAY PRIZE IN CLASSICAL STUDIES**

Established in 1990 by Professor Emeritus A.G. McKay. To be awarded to a graduating student from an Honours program in Classics who, in the judgment of the Department of Classics, has demonstrated outstanding academic achievement and leadership.

**Value:** \$100 (50054 269)

**THE ALEXANDER GORDON McKAY SCHOLARSHIP**

Established in 1990 by friends and colleagues of Professor A.G. McKay, first Dean of the Faculty of Humanities from 1968 to 1973, to mark his retirement after 33 years of service at McMaster University. To be awarded to a student who has completed Level I and an additional 60 - 75 units of an Honours Classics program 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 JANET McKNIGHT AWARD\***

Established in 1994 by faculty, friends and students in memory of Janet McKnight, beloved colleague and teacher, a recognized expert in educational methodology and small-group, problem-based learning. To be awarded to a student entering Level IV of a program in Nursing who, in the judgment of the School of Nursing has demonstrated notable academic achievement and leadership in clinical and educational aspects of gerontology or, problem-based, self-directed learning in nursing education.

**Value:** \$600 (40077 385)

**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 an additional 30 - 45 units of an Honours program in Physics and who, in the judgment of the Department of Physics and Astronomy, has attained notable standing.

**Value:** \$500 (30186 254)

**THE BOYD McLAY SCHOLARSHIP IN PHYSICS**

Established in 1977 to commemorate the contributions of Dr. A. Boyd McLay (Class of '22) to teaching and research in optics and spectroscopy at McMaster University from 1930 to 1967. To be awarded to a student who has completed Level I and an additional 60 - 75 units of an Honours program in Physics with a high Sessional Average.

**Value:** \$575 (30011 109)

**THE WALTER SCOTT McLAY PRIZE**

Established in 1938 in honour of Dean McLay, by his daughter, Mrs. R.R. McLaughlin (Marjorie McLay Class of '25) and further enlarged in 1950 by A.H. Wilson of Woodstock. To be awarded to the student who attains the highest Cumulative Average in an Honours program in English.

**Value:** \$250 (50057 279)

**THE McMASTER HUMANITIES SOCIETY SCHOLARSHIPS**

Established in 1998 by the McMaster Humanities Society. Two scholarships to be awarded to students who have completed Level I and an additional 30 units and who, in the judgment of the Faculty of Humanities, have demonstrated an enthusiastic interest in the University through their involvement in extra-curricular activities.

**Value:** \$250 each for books (30244 798)

**THE McMASTER NURSING ALUMNI MEMORIAL PRIZE\***

Established in 1984 and augmented in 2001 by the McMaster Nursing Alumni Branch to recognize graduates from the McMaster University School of Nursing. To be awarded to a student who in the judgment of the School of Nursing, has demonstrated leadership while participating in undergraduate activities.

**Value:** \$300 (50092 111)

**THE McMASTER UNIVERSITY FUTURES FUND GRADUAND AWARD**

Established in 2000. To be awarded to the child of a member of McMaster University's salaried pension plan who has demonstrated outstanding academic achievement. Recipient must obtain a Sessional Average of 9.5 or greater.

**Value:** \$1,000 (50084 1498)

Students should submit an application to the Office of Student Financial Aid & Scholarships by April 15th.

**THE McMASTER UNIVERSITY FUTURES FUND IN-COURSE AWARDS**

Established in 2000. Four scholarships to be awarded to the children of members of the McMaster University salaried pension plan who have demonstrated outstanding academic achievement. Recipient must obtain a Sessional Average of 9.5 or greater.

**Value:** \$1,800 each (30270)

Students should submit an application to the Office of Student Financial Aid & Scholarships by April 15th.

**THE McMASTER UNIVERSITY RETIREES ASSOCIATION PRIZE**

Established in 1992 by the McMaster University Retirees Association. To be awarded to the part-time student enrolled in a program in Gerontology who attains the highest Cumulative Average.

**Value:** \$250 for books (60007 364)

**THE McMASTER UNIVERSITY RETIREES ASSOCIATION SCHOLARSHIP**

Established in 1991 by the McMaster University Retirees Association. To be awarded to the student who has completed Level I and at least an additional 30 units of a program in Gerontology and who attains the highest Sessional Average. The student must enrol in a program in Gerontology in the subsequent Fall/Winter session.

**Value:** \$1,000 (30187 271)

**THE DONALD G. McNABB SCHOLARSHIP**

Established in 1989 in memory of Donald G. McNabb (Class of '37) by friends, family and business associates. To be awarded to the student who has completed Level I plus 60 to 75 units of an Honours program 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:** \$925 (30108 243)

**THE SIMON McNALLY SCHOLARSHIP**

Established in 1972 by S. McNally and Sons Limited, in honour of Simon McNally. One or two scholarships to be awarded to Canadian citizens who have completed Level I and an additional 37 - 50 units of a program in Civil Engineering. Awards are based on scholarship and evidence of practical engineering experience and background.

**Value:** \$650 each (30139 112)

**THE JOHN D. McNIE ACHIEVEMENT AWARD OF EXCELLENCE**

Established in 2001 by David O. Davis in honour of John D. McNie. To be awarded to a student with a visual impairment who, in the judgment of the Centre for Student Development, demonstrates notable academic achievement.

**Value:** \$400 (40107 1576)

Students who wish to be considered for this award must be registered with the Centre for Student Development. Application forms can be picked up at the Centre or in the Office of Student Financial Aid & Scholarships. Completed application forms should be submitted to the Office of Student Financial Aid & Scholarships by April 15th.

**THE PETER McPHATER MEMORIAL SCHOLARSHIP**

Established in 1988 by Peter McPhater's friends in recognition of his art, craftsmanship and humanitarianism. To be awarded to a student who has completed Level I and an additional 60 - 75 units of a program in Honours Art or Honours Art History and who, in the judgment of the School of the Arts, is outstanding.

**Value:** \$450 (30119 114)

**THE MEDICAL-SURGICAL EXCELLENCE IN CLINICAL NURSING AWARD**

Established in 1998 by Professor Gerry Benson. To be awarded every two years to a student who has completed at least Level II of the Nursing Program who, in the judgment of the School of Nursing, demonstrates academic excellence in medical-surgical nursing. Students who wish to be considered for this award should consult the School of Nursing for terms and conditions.

**Value:** \$250 (40086 799)

**THE AUDREY EVELYN MEPHAM AWARD IN GERONTOLOGY\***

Established in 2001 by Gordon W. Mepham in loving memory of his wife Audrey Evelyn Mepham. To be awarded to a student graduating from an Honours program in Gerontology who, in the judgment of the Department of Health, Aging and Society, has demonstrated notable academic achievement. Preference will be given to a student who has completed a thesis or course paper on issues relating to Alzheimer's disease.

**Value:** \$1,200 (50090 1558)

Students who wish to be considered for this award are encouraged to submit a resume to the Chair of the Department of Health, Aging and Society by April 15th.

**THE MERRIAM SCHOOL OF MUSIC SCHOLARSHIP**

Established in 2003 by the Merriam School of Music. To be awarded to an Honours Music student who has completed at least 60 units of work and who, in the judgment of the School of the Arts, has demonstrated good academic standing, excellent musicianship skills, a strong commitment to teaching and community service.

**Value:** \$1,000 (30298)

**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 program with an outstanding Sessional Average and a grade of at least A- in BIOLOGY 3E03 in Level III.

**Value:** \$575 (30077 115)

**THE DR. F.A. MIRZA SCHOLARSHIP**

Established in 1997 in memory of Farooque Mirza by family, friends and colleagues. To be awarded to a student enrolled in a Civil Engineering program who achieves the highest average in CIV.ENG 2C04 and ENGIN-NEER 2P04 taken in one session.

**Value:** \$250 (40100 781)

**THE MMG-NEOSID CANADA LIMITED CERAMIC ENGINEERING PRIZE**

Established in 1978 by MMG-Neosid Canada Limited. To be awarded to the student who has completed Level I and at least an additional 75 units of the Materials Engineering program and who attains the highest standing in MATLS 3B03.

**Value:** \$100 (40037 122)

**THE MODERN LANGUAGES TRAVEL SCHOLARSHIP**

Established in 1991 by the Department of Linguistics and Languages. To be awarded to a student who has completed at least 30 units beyond Level I in a program in Modern Languages and who, in the judgment of the Department of Linguistics and Languages, has attained notable academic standing. The purpose of the scholarship is to assist with travel expenses to study and travel abroad. Priority will be given to a student participating in the *Humanities Study Elsewhere Program*.

**Value:** \$925 (30188 274)

Travel Scholarship applications are due February 15th.

**THE MOFFAT KINOSHITA ARCHITECTS 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 GEO 4HY3; and (b) the student who attains the highest grade in GEO 4HZ3.

**Value:** \$150 each (40060 250)

**THE MOLSON SCHOLARSHIP IN ENVIRONMENTAL STUDIES**

Established in 1992 by the Molson Companies Donations Fund. To be awarded to the student entering the final level of a program in Geography and Environmental Studies, Earth and Environmental Sciences or Engineering and Society, who attains the highest Sessional Average.

**Value:** \$1,100 (30213 181)

**THE E.S. MOORE PRIZE**

Established in 1956 by Elwood S. Moore, LL.D. (Class of '55). To be awarded to the student graduating in an Honours program in Geography who, in the judgment of the School of Geography and Earth Sciences, has attained the most notable standing in Geo.

**Value:** \$225 (50015 116)

**THE JOHN F. MOORE PRIZE**

Established in 1990 by the Steel Founders' Society of America in honour of John Moore's contributions to the Society over the past 25 years. To be awarded to the student who attains the highest grade in MATLS 4C03.

**Value:** \$125 (40061 264)

**THE MICHAEL J. MORTON MEMORIAL BOOK PRIZE**

Established in 1979 in memory of Dr. M.J. Morton. To be awarded to a student who has completed Level I and an additional 60 - 75 units in an Honours program in Chemistry and who, in the judgment of the Department of Chemistry, is outstanding in the field of inorganic chemistry.

**Value:** \$175 for books (30111)

**THE ELIZABETH MOSGROVE SCHOLARSHIP**

Established in 1959 by bequest of John W. Mosgrove in memory of his mother. To be awarded to descendants of members of Her Majesty's Canadian Armed Forces on the basis of Sessional Average.

**Value:** \$1,500 (30047)

Students should submit an application to the Office of Student Financial Aid & Scholarships by April 15th.

**THE MOTOROLA SOFTWARE ENGINEERING SCHOLARSHIP**

Established in 1999 by the Motorola Foundation. To be awarded to a student entering Level III in a Software Engineering program who, in the judgment of the Department of Computing and Software, has achieved notable academic standing, displayed strong communication skills, demonstrated leadership and involvement in extra-curricular activities.

**Value:** \$1,500 (30252 844)

**THE MOULTON COLLEGE SCHOLARSHIPS**

Established in 1957 from funds originally subscribed by the Alumnae of Moulton College during the years 1946 to 1949 for the expansion of Moulton College. Two scholarships to be awarded to the women students of Moulton Hall with the highest Sessional Averages: (a) one after completion of Level I and an additional 30 - 45 units, and (b) one after completion of Level I and an additional 60 - 75 units.

**Value:** \$1,000 each (30112 377)

**THE MOULTON HALL RESIDENCE SCHOLARSHIP**

Awarded to the student who resides in the residence with the highest Sessional Average (at least 9.5) in an undergraduate program, with the exception of those in their graduating session.

**Value:** \$750 (30239)

**THE ANNE MURRAY SCHOLARSHIP**

Established in 1985 in memory of Anne M. Murray (Class of '82) by her family. To be awarded to a student who has completed at least 30 units beyond Level I in a program in the Department of Linguistics and Languages and who, in the judgment of the Department, has attained notable standing in at least nine units of German courses above Level I.

**Value:** \$300 (30005 119)

**THE ELAINE NARDOCCHIO MEMORIAL SCHOLARSHIP FUND**

Established in 1998 by family, colleagues and many friends in memory of Dr. Elaine Nardocchio, a professor for over 23 years at McMaster University, Chair of the Department of French from 1990 to 1993 and President of the Canadian Federation for the Humanities from 1994 to 1996. To be awarded to an undergraduate student enrolled in a French program who, in the judgment of the Department of French, has shown a strong interest in computer skills as applied to the Humanities.

**Value:** \$250 (40101 827)

**THE NATIONAL ASSOCIATION OF CORROSION ENGINEERS PRIZE**

Established in 1989 by the Toronto Section of the National Association of Corrosion Engineers. To be awarded to the graduand, who, in the judgment of the Department of Materials Science and Engineering, has submitted an outstanding thesis or project in the area of Corrosion Science and Engineering. In the absence of a qualified candidate, the award will be made to the student who attains the highest standing in MATLS 4D03 (Corrosion).

**Value:** \$100 (50036 120)

**THE P.L. NEWBIGGING PRIZES**

Established in 1982 in recognition of Dr. Lynn Newbigging for his outstanding contributions to the Department of Psychology, Neuroscience and Behaviour. Four prizes to be awarded to students with the highest Cumulative Average: (a) one to a full-time student in the three-level B.A. program in Psychology; (b) one to a student in a B.A. program in Psychology who has completed the program primarily on a part-time basis; (c) one to a full-time student in the three-level B.Sc. program in Life Sciences with a concentration in Psychology; and (d) one to a student in a B.Sc. program in Life Sciences with a concentration in Psychology who has completed the program primarily on a part-time basis.

**Value:** \$100 each (50040 280)

**THE P.L. NEWBIGGING SCHOLARSHIP**

Established in 1994 by family, friends and colleagues in memory of Dr. P.L. Newbigging, founding Chair of the Department of Psychology, Neuroscience and Behaviour and member of the Faculty from 1955-1990, in recognition of his outstanding contributions to the Department and the University. To be awarded to the student entering Level II of an Honours program in Psychology who has attained the highest average in PSYCH 1A03 and 1AA3.

**Value:** \$375 (40072 363)

**THE ALAN G. NEWCOMBE PRIZE IN PEACE STUDIES**

Established in 1991 in memory of Dr. Alan G. Newcombe (1923-1991), who devoted 30 years to Peace Studies and was co-founder, with Dr. Hanna Newcombe, of the Canadian Peace Research and Education Association and the Peace Research Institute - Dundas. To be awarded to a student who, in the judgment of the Coordinating Council of the Centre for Peace Studies, demonstrates leadership in extracurricular endeavours and high academic achievement.

**Value:** \$300 (40064 308)

**THE NIEMEIER SCHOLARSHIP**

Established in 1938 and augmented in 1952 by Dr. O.W. Niemeier. To be awarded to the student who attains the highest Sessional Average at the completion of Level I and an additional 31 - 55 units of the Nursing program.

**Value:** \$1,100 (30114 244)

**THE ROBERT NIXON SCHOLARSHIP**

Established in 1991 by the Brant-Haldimand Liberal Association in honour of Dr. Robert Nixon (Class of '50, LL.D., '76). To be awarded to a student who, in the judgment of the Department of History, has demonstrated academic excellence and an active involvement in community life.

**Value:** \$575 (30203 144)

**THE NORTEL NETWORKS SCHOLARSHIPS IN INFORMATION TECHNOLOGY**

Established in 1999 by Nortel Networks. Ten scholarships to be awarded to students entering a program in Electrical Engineering, Computer Engineering, Software Engineering, Engineering Physics or Computer Science.

**Value:** \$1,000 each (30257 870)

**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 program 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:** \$650 (40012 125)

**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 an additional 60 - 75 units of an Honours program in Chemistry and who, in the judgment of the Department of Chemistry, shows particular promise as an experimental scientist.

**Value:** \$150 for books (30053)

**THE ONTARIO ASSOCIATION OF SOCIAL WORKERS PRIZES\***

Established in 1986 and augmented in 1992 by the Hamilton Branch. Two prizes to be awarded to the graduating students, one first degree and one second degree, who successfully completes SOC WORK 4DD6 and attains the highest grade in SOC WORK 4D06 in the same session.

**Value:** \$125 each (50037 126)

**THE ONTARIO PROFESSIONAL ENGINEERS FOUNDATION FOR EDUCATION GOLD MEDAL**

Established in 1961 by the Ontario Professional Engineers Foundation for Education. To be awarded to the graduand of a program in Engineering who attains the highest Cumulative Average. (50005 008)

**THE ONTARIO PROFESSIONAL ENGINEERS FOUNDATION FOR EDUCATION IN-COURSE SCHOLARSHIPS**

Established in 1961 by the Ontario Professional Engineers Foundation for Education. Two scholarships to be awarded to students with the highest Sessional Average in the Faculty of Engineering: one to be awarded to a student after completion of Engineering I, and one to be awarded to a student after completion of Engineering I and 35 - 90 units.

**Value:** \$1,000 each (30006)

**THE ONTARIO PROFESSIONAL ENGINEERS FOUNDATION FOR EDUCATION UNDERGRADUATE SCHOLARSHIPS**

Established in 1961 by the Ontario Professional Engineers Foundation for Education. Two scholarships to be awarded to students in the Faculty of Engineering who, in the judgment of the Faculty of Engineering, have demonstrated leadership and involvement in extracurricular activities and high academic achievement.

**Value:** \$1,000 each (40109)

**THE CONNIE O'SHAUGHNESSY MEMORIAL PRIZE\***

Established in 1988 by family, friends and associates of Connie O'Shaughnessy (Class of '88), a part-time student who chose to return to complete her degree on a full-time basis. To be awarded to a student who has completed Level I and an additional 29 - 60 units who, in the judgment of the Selection Committee for Part-Time Awards, has made a significant contribution to the University life of part-time students.

**Value:** \$425 (40009 265)

Students should submit an application to the Office of Student Financial Aid & Scholarships by April 15th.

**THE GLADYS BALLANTYNE PARKER PRIZE**

Established in 1953 in memory of Gladys Ballantyne Parker by her father, Harry Ballantyne. To be awarded to the student enrolled in a program in Classics who, in the judgment of the Department of Classics, demonstrates outstanding achievement in Greek or Latin.

**Value:** \$50 (30060 133)

**THE F.W. PAULIN SCHOLARSHIP**

Established in 1981 by the Canadian Engineering and Contracting Co. Limited in honour of its founder. To be awarded to a student who has completed Level I and an additional 73 - 85 units of the Civil Engineering program, or Level I and an additional 110 - 130 units of the Civil Engineering and Management program. Award is based on scholarship Sessional Average of at least 9.5 and evidence of leadership, self-motivation, and practical aptitude appropriate for a future in the construction industry.

**Value:** \$1,500 (30052 134)

**THE IRENE PEARCE SCHOLARSHIP**

Established in 1994 by Centenary United Church of Hamilton in honour of Irene Pearce, organist and choir director for fifty-four years. To be awarded to a student who has completed Music I or 30-78 units of an Honours Music Program who, in the judgment of the School of the Arts, has attained notable academic standing and demonstrated excellence in keyboard performance.

**Value:** \$675 (30222 356)

**THE HARRY L. PENNY PRIZE**

Established in 1984 in recognition of Professor Harry L. Penny, founding Director of the School of Social Work, for his outstanding contribution to the School. To be awarded to the student with the highest Cumulative Average in a Social Work program.

**Value:** \$100 (50023)

**THE PEVENING SCHOLARSHIP**

Established in 1987 by David C. Hannaford (Class of '64). To be awarded to a student who has completed Level I and an additional 60 - 75 units of an Honours program in Economics and who, in the judgment of the Department of Economics, has attained notable academic standing.

**Value:** \$600 (30120 135)

**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).

**Value:** \$425 (30172)

**THE PIONEER GROUP INC. 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 program in Gerontology who, in the judgment of the Department of Health, Aging and Society, have demonstrated high academic achievement and leadership in extracurricular activities.

**Value:** \$45 each (50021 066)

Students who wish to be considered for this award are encouraged to submit a resume to the Chair of the Department of Health, Aging and Society by April 15th.

**THE PIONEER GROUP INC. PRIZE**

Established in 1990. To be awarded to a student in a Gerontology program who, in the judgment of the Department of Health, Aging and Society, has achieved notable academic standing, and demonstrates practical aptitude for a career in health care of the elderly.

**Value:** \$400 (40058 270)

Students who wish to be considered for this award are encouraged to submit a resume to the Chair of the Department of Health, Aging and Society by April 15th.

**THE PIONEER GROUP INC. PRIZES IN NURSING**

Established in 1989 by the Pioneer Group Limited in conjunction with the R. Samuel McLaughlin Centre for Gerontological Health Research. Two prizes to be awarded to students graduating from the Nursing program who, in the judgment of the School of Nursing, have achieved notable standing and demonstrated practical aptitude for a career in the health care of the elderly.

**Value:** \$150 (50056 370)

**THE PIONEER GROUP INC. SCHOLARSHIP**

Established in 1988. To be awarded to a student who has completed Level I and at least an additional 30 units of a program in Gerontology and who, in the judgment of the Department of Health, Aging and Society, achieves high standing in 12 units of Gerontology courses (excluding GERONTOL 1A03) and who, demonstrates leadership in the field of Gerontology.

**Value:** \$350 (30121 371)

Students who wish to be considered for this award are encouraged to submit a resume to the Chair of the Department of Health, Aging and Society by April 15th.

**THE PITCHER-RATFORD AWARDS**

Established in 2000 by Bruce Ratford (Class of '71) and Elda Ratford (Pitcher) (Class of '71). Two scholarships (one to a male and one to a female) to be awarded to students who have completed Level III of an Honours Geography program and who, in the judgment of the School of Geography and Earth Sciences, have achieved notable academic standing and demonstrated qualities of leadership at McMaster or in the community.

**Value:** \$500 each (30273 1386)

**THE BRIAN POCKNELL MEMORIAL SCHOLARSHIP**

Established in 2004 in memory of Brian Pocknell. To be awarded to an undergraduate student who has completed Level II in a French program and, in the judgment of the Department of French, has achieved notable academic standing.

**Value:** \$500 (30302)

**THE POLITICAL SCIENCE HONOURS ESSAY PRIZE**

Established in 1982. To be awarded to the student who in the judgment of the Department of Political Science, has demonstrated outstanding academic achievement in POL SCI 4Z06

**Value:** \$100 (50059)

**THE POLITICAL SCIENCE PRIZE**

Established in 1982. To be awarded to a graduating student who has completed a program in Political Science primarily on a part-time basis and who, in the judgment of the Department of Political Science, has demonstrated outstanding academic achievement.

**Value:** \$200 (50042)

**THE BILL PRESTWICH SCHOLARSHIP IN MEDICAL AND HEALTH PHYSICS**

Established in 2003 by friends, colleagues and students in recognition of Bill Prestwich and his career as a teacher and researcher. To be awarded to a student entering Level II of the Medical and Health Physics program with the highest Sessional Average in any Level I program.

**Value:** \$500 (30300)

**THE PRICEWATERHOUSECOOPERS SCHOLARSHIPS**

Established in 2000 by PricewaterhouseCoopers. Two scholarships to be awarded to students entering Level III of the Honours Commerce program enrolled in COMMERCE 3AB3 and 3AC3 who, in the judgment of the School of Business, have achieved notable academic standing in COMMERCE 2AA3 and 2AB3, and demonstrated qualities of leadership at McMaster or in the community.

**Value:** \$2,500 each (30271 074)

**THE PROVOST'S HONOUR ROLL MEDAL**

Established in 2005. A variable number of medals to be awarded to students named to the Provost's Honour Roll.

**Value:** Medal (30314)

**THE PSYCHOLOGY SOCIETY PRIZES**

Established in 1985 by the Psychology Society and the Faculty and Alumni of the Department of Psychology, Neuroscience and Behaviour. Three prizes to be awarded to students who have completed Level I and an additional 60 - 75 units with the highest Sessional Average: (a) one in the Honours Psychology B.A. program; (b) one in the Honours Psychology B.Sc. program; and (c) one in a combined Honours program in Psychology.

**Value:** \$70 each (30123 141)

**THE DR. JOHN A. PYLYPIUK SCHOLARSHIP**

Established in 1967 in memory of Dr. John A. Pylypiuk and in recognition of Canada's Centennial Year. To be awarded to the student who has completed Level II of an Honours program in History with the highest Sessional Average and who in that session achieves a grade of at least A- in HISTORY 2T03 and 2TT3.

**Value:** \$700 (30039 142)

**THE RAND MEMORIAL PRIZE OF CLASS '98**

Established by the Class of 1898 in Arts, on the occasion of the 25th anniversary of graduation, 1923, in memory of Chancellor Theodore Harding Rand, to encourage original literary work. To be awarded to the student who has completed Level I and an additional 60 - 75 units and who, in the judgment of the Department of English and Cultural Studies, has made the most notable original contribution to student publications.

**Value:** \$250 (40045)

**THE LLOYD REEDS PRIZES**

Established in 1983 in recognition of Dr. Lloyd G. Reeds for his outstanding contributions to the Department of Geography during 35 years of service. Four prizes to be awarded: (a) one to the student who attains the highest Cumulative Average in an Honours B.A. program in Geography; (b) one to the student who attains the highest Cumulative Average in an Honours B.Sc. program in Earth and Environmental Sciences; (c) one to the student who attains the highest Cumulative Average in a three-level B.A. program in Geography or B.Sc. program in Geoscience with a concentration in Geo; and (d) one to the student who, in the judgment of the School of Geography and Earth Sciences, has demonstrated outstanding achievement in GEO 4R06.

**Value:** \$100 each (50033)

**THE SHARON REEVES SCHOLARSHIP**

Established in 1987 by Kevin W. Reeves (Class of '80) in memory of his wife, Sharon (Class of '79). To be awarded to a student entering Level III or IV of an Honours program in Music (Education) and who, in the judgment of the School of the Arts, has attained notable standing.

**Value:** \$425 (30135 143)

**THE RELIGIOUS STUDIES PRIZES**

Established in 1982. Two prizes to be awarded to students who attain the highest Cumulative Average in a three- or four-level program in Religious Studies: (a) one to a student who has completed the program on a full-time basis, and (b) one to a student who has completed the program primarily on a part-time basis.

**Value:** \$100 each (50045)

**THE 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:** \$100 (50044)

**THE RETIRED TEACHERS OF ONTARIO HAMILTON/HALDIMAND DISTRICT PRIZE IN GERONTOLOGY**

Established in 1987 by the Superannuated Teachers of Ontario, District 13. To be awarded to the student who attains the highest standing in GERONTOL 1A03.

**Value:** \$200 (40047 163)

**THE ELLA JULIA REYNOLDS SCHOLARSHIPS**

Established in 1984 by bequest of Ella Julia Reynolds of Hamilton. Two scholarships to be awarded on the basis of scholarship and character to students who have completed Level I and an additional 30 - 75 units of the Honours English or the Honours English and History programs with a Sessional Average of at least 9.5. The recipients must not be holders of another scholarship.

**Value:** \$1,000 each (30044)

**THE GLADYS RICHARDS SCHOLARSHIP**

Established in 2002 by bequest of Gladys Richards. Two scholarships to be awarded to students who have completed at least Level II of a single Honours program in English or a Combined Honours English and History program who, in the judgment of the Departments, have demonstrated outstanding academic achievement. Students may not hold another scholarship of equal or greater value.

**Value:** \$2,000 each (30288)

**THE JACK RICHARDSON MEMORIAL SCHOLARSHIP**

Established in 2002 in memory of Jack Richardson by family, friends and colleagues. To be awarded to a part-time student who has completed at least Level II in an Honours Sociology program and who attains the highest Cumulative Average at the most recent review.

**Value:** \$400 (60013)

**THE HERBERT A. RICKER SCHOLARSHIPS**

Established in 1982 by bequest of Mrs. Edna Elizabeth Ross Reeves of Hamilton in memory of her husband, Herbert A. Ricker. Four scholarships to be awarded on the basis of scholarship (Sessional Average of at least 9.5) and character to: (a) two to students who have completed Engineering I, or Level I and an additional 35 - 90 units of a program in Engineering, and (b) two to students who have completed Science I or Level I and an additional 30 - 75 units of a program in Science.

**Value:** \$2,000 each (30065 145)

**THE ROSART PROPERTIES INC. SCHOLARSHIP**

Established in 1988 by John D. and Dominic J. Rosart of Burlington. To be awarded to a student who has completed Level I and an additional 60 - 75 units of an Honours program in Geography and who, in the judgment of the School of Geography and Earth Sciences, has attained high academic standing.

**Value:** \$325 (30129 146)

**THE ABRAHAM ROSENBERG MEMORIAL PRIZE**

Established in 1986 by bequest of Abraham I. Rosenberg (Class of '34) of Hamilton and Kitchener. To be awarded to the graduating student who attains the highest Cumulative Average in the Honours Philosophy program.

**Value:** \$225 (50095)

**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 1A03 and 1AA3

**Value:** \$125 (40033 152)

**THE ROTARY CLUB OF HAMILTON SCHOLARSHIP**

Established in 1989.

**Value:** \$575 (30168 263)

**THE ELLEN BOUCHARD RYAN SCHOLARSHIP\***

Established in 2000 by the McMaster Centre for Gerontological Studies, and supported by family, in recognition of Dr. Ellen Bouchard Ryan's outstanding contribution to the field of aging. To be awarded to a student who, in the judgment of the Department of Health, Aging and Society, has demonstrated high academic achievement and leadership in ages-related community activities.

**Value:** \$400 (40092 1130)

Students who wish to be considered for this award are encouraged to submit a resume to the Chair of the Department of Health, Aging and Society by April 15th.

**THE E.T. SALMON SCHOLARSHIP**

Established in 1991 by Mrs. Edward Togo Salmon in memory of her husband, world-renowned Roman historian and member of the Faculty for 43 years. To be awarded to the student who has completed Level I and an additional 60 - 75 units of any Honours Classics or Honours History program, including at least 12 units of Ancient History and Archaeology, and who, in the judgment of a committee of the two Departments, shows outstanding achievement and promise. The purpose of the scholarship is to enable the winner to travel and study abroad during the vacation before the final Winter Session, and/or to fund the final year of study at McMaster; candidates should submit to the committee a statement of their aims and plans for study.

**Value:** \$2,000 (30204 304)

Travel Scholarship applications are due February 15th.

**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 an additional 60 - 75 units and who, in the judgment of the Department of History, attains notable standing in an Honours program in History.

**Value:** \$175 for books (30045 245)

**THE NOEL SANDUSKY MEMORIAL PRIZE\***

Established in 1994 by family and friends in memory of Noel Sandusky. To be awarded to a student who has completed Level I and an additional 30 - 45 units of a program in History who, in the judgment of the Department of History, attains notable academic standing in at least nine units of History courses.

**Value:** \$150 for books (40075 359)

**THE HILDA SAVAGE MEMORIAL SCHOLARSHIP**

Established in 1960 by bequest of Bertha Savage.

**Value:** \$500 (30166)

**THE LARRY SAYERS PRIZE IN EAST ASIAN HISTORY\***

Established in 1983 in memory of Larry P. Sayers (Class of '82) by his friends. To be awarded to the student who, in the judgment of the Department of History, has demonstrated outstanding achievement in at least six units of courses work in East Asian history.

**Value:** \$275 (40030 149)

**THE DR. SINA SAZGAR MEMORIAL SCHOLARSHIP**

Established in 1999 in memory of Dr. Sina Sazgar (Hon. B.Sc. '93), a young, exceptionally gifted and caring medical doctor who tragically passed away on October 26, 1993. To be awarded to a student enrolled in an Honours Bachelor of Science program who, in the judgment of the Faculty of Science, has demonstrated outstanding academic performance.

**Value:** \$1,000 (30263 876)

**THE FEDOR SCHNEIDER SCHOLARSHIP IN ITALIAN**

Established in 2004 by bequest of Mary Anna Schneider. To be awarded to a student entering Level III of an Honours Italian or Honours Linguistics program with a concentration in Italian and who, in the judgment of the Department of Linguistics and Languages, has achieved notable academic standing. Open to non-native speakers of Italian only.

**Value:** \$750 (30310)

**THE SCHOOL OF THE ARTS SCHOLARSHIP IN MUSIC**

Established in 1993 by the Department of Music which later became part of the School of the Arts. To be awarded to a student who, in the judgment of the School of the Arts, has demonstrated academic excellence in Music.

**Value:** \$950 (30216 324)

**THE SCIENCE ALUMNI SCHOLARSHIPS**

Established in 2001 by the Faculty of Science through the generosity of its alumni and friends. A variable number of scholarships to be awarded to students entering a Level III program in Science who, in the judgment of the Faculty of Science, have demonstrated outstanding academic achievement and leadership.

**Value:** \$500 each (30278 1533)

**THE SHEILA SCOTT SCHOLARSHIP FOR BRANDON HALL**

Awarded to the student who resides in the residence with the highest Sessional Average (at least 9.5) in an undergraduate program, with the exception of those in their graduating session.

**Value:** \$750 (30202)

**THE SHEILA SCOTT SCHOLARSHIP IN ENGLISH**

Established in 1983 by graduates of McMaster University and friends in honour of Sheila Scott, Dean of Women from 1965 to 1982, in recognition of her outstanding contribution to the University community during 25 years of service. To be awarded to the student who has completed Level I and an additional 60 - 75 units of the Honours English program, and who attains the highest Sessional Average.

**Value:** \$475 (30136 150)

**THE SHEILA SCOTT SCHOLARSHIP FOR WALLINGFORD HALL**

Awarded to the student who resides in the residence with the highest Sessional Average (at least 9.5) in an undergraduate program, with the exception of those in their graduating session.

**Value:** \$750 (30158)

**THE LARRY SEFTON SCHOLARSHIPS\***

Established in 1985 by the Hamilton Steelworkers Area Council in memory of Larry Sefton, area supervisor (1946-53) and director of District 6 (1953-73) of the United Steelworkers of America, to recognize his commitment to education, to working people, to unions and to the City of Hamilton. Three scholarships to be awarded to students in the Labour Studies program who, in the judgment of the Committee of Instruction for Labour Studies, have achieved notable standing in any level.

**Value:** \$500 each (40097 151)

**THE GRACE SENRA-FONTES MEMORIAL PRIZE\***

Established in 1989 by the graduating class (Class of '88) in association with the McMaster University Nursing Society and the McMaster Nursing Alumni Executive in memory of Grace Senra-Fontes (Class of '88) of Toronto. To be awarded to a student in Level III or IV of the Nursing program and who, in the judgment of the School of Nursing, best demonstrates excellence in scholarship and leadership, and has served as a valuable role model for those qualities deemed important to success in a nursing career. Preference will be given to students enrolled in Level IV of the Nursing Program.

**Value:** \$250 (40103 246)

**THE MARGARET A. SERVICE BOOK PRIZE**

Established in 1990 by friends, colleagues and former students in memory of Margaret A. Service. To be awarded to the student who upon completion of Level I attains the highest average in BIOLOGY 1A03 and 1AA3.  
**Value:** \$120 for books (40059 277)

**THE ALBERT SHALOM TRAVEL SCHOLARSHIP**

Established in 1994 by family, friends and colleagues in memory of Albert Shalom, Professor of Philosophy at McMaster University from 1966 to 1991. To be awarded to a student who is enrolled in a program in Philosophy, and has, in the judgment of the Department of Philosophy, attained notable standing. Preference will be given to a student travelling and studying abroad during the summer before the final Fall/Winter session, but the scholarship could also be used to fund the final year of study at McMaster.  
**Value:** \$725 (30225 365)

Travel Scholarship applications are due February 15th.

**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 program and faculty member from 1958 to 1980. To be awarded to a student who, in the judgment of the Department of Linguistics and Languages, has achieved notable standing in a Russian language course.  
**Value:** \$375 (30189 255)

**THE SHELL CANADA PRIZES IN ENGINEERING AND MANAGEMENT**

Established in 1983. Three prizes to be awarded to students graduating from an Engineering and Management program. Awards will be based on scholarship and on the quality of and creativity shown in written communication.  
**Value:** \$300 each (50049 154)

**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 an additional 110 units of a program in Engineering and Management. Awards will be based on scholarship and on the quality of and creativity shown in written and oral reports.  
**Value:** \$1,100 each (30137 384)

**THE SHENSTONE PRIZE**

Established in 1903 by J.N. Shenstone of Toronto, and continued by members of his family. To be awarded to the student who has completed Science I and who attains the highest average in any four of the Level I courses in Chemistry, Physics and Biology.  
**Value:** \$200 (30138)

**THE GERALD AND VERA SIMPSON MEMORIAL SCHOLARSHIP**

Established in 1957 by the children in memory of their parents. To be awarded to the student who has completed Level I and an additional 30 - 45 units of the Honours Physics program with the highest Sessional Average.  
**Value:** \$450 (30059 156)

**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 program who, in the judgment of the Department, has demonstrated outstanding academic achievement.  
**Value:** \$100 (50046)

Students who wish to be considered for this award are encouraged to submit a resume to the Department of Anthropology by April 15th.

**THE PATRICIA L. SMYE MEMORIAL PRIZES**

Established in 1972 by the Patricia Smye Memorial Fund Committee. Two scholarships to be awarded to students who have completed Level I and an additional 30 - 45 units and who attain the highest Sessional Average: (a) one in the three-level English program and (b) one in the three-level Psychology B.A. program.  
**Value:** \$375 each (30118)

**THE SOCIAL WORK PRIZE**

Established in 1982. To be awarded to the student who attains the highest grade in SOC WORK 2A06.  
**Value:** \$100 (40050)

**THE SOCIETY OF CHEMICAL INDUSTRY MERIT AWARDS**

Established in 1961. Three plaques to be awarded: (a) one to a Chemical Engineering graduand, (b) one to an Honours Biochemistry or Honours Biochemistry and Chemistry graduand, and (c) one to an Honours Chemistry graduand, who have attained the highest Cumulative Average (at least 9.5) and have completed the program in the normal number of years.  
**Value:** Plaque (50060 369)

**THE SOCIETY OF MANAGEMENT ACCOUNTANTS OF ONTARIO SCHOLARSHIP**

Established in 1983. To be awarded to the student who has completed Level I and an additional 60 - 75 units of a program in Commerce and who obtains the highest Sessional Average and in that Session attains a grade of at least A- in COMMERCE 3AB3.  
**Value:** \$500 (30140 158)

**THE SOCIOLOGY PRIZES**

Established in 1982. Two prizes to be awarded to students with the highest Cumulative Averages: (a) one to a student who has completed the three-level program in Sociology on a full-time basis; and (b) one to a student who has completed a program in Sociology primarily on a part-time basis.  
**Value:** \$100 each (50051)

**THE SOMERVILLE SCHOLARSHIPS**

Established in 1966 by bequest of William L. Somerville, architect of the McMaster University buildings of 1930.  
**Value:** \$800 (30169 159)

The recipient of this award is eligible to receive additional aid through the corresponding Supplementary Bursary Aid Fund if he/she demonstrates financial need. Please see the section on *Supplementary Bursary Aid for Award Recipients* in the *Student Financial Aid* section of this Calendar.

**THE SONS OF ITALY OF ONTARIO SCHOLARSHIP**

Established in 1971 by the Order Sons of Italy of Ontario. To be awarded to a student who has completed at least 30 units beyond Level I in a program in the Department of Linguistics and Languages and who, in the judgment of the department, has attained notable standing in at least six units of Italian courses above Level I.  
**Value:** \$500 (30141 160)

**THE SOUTH ONTARIO ECONOMIC DEVELOPMENT COUNCIL SCHOLARSHIPS**

Established in 1973 by the South Ontario (formerly Niagara) Economic Development Council. Two scholarships to be awarded, normally one in each of the B.A. and B.Sc. programs, to the students who have completed Level I and an additional 60 - 75 units of the Honours Geography program and who elect GEO 4R06 in their graduating session. Awards are based on scholarship and interest in undertaking studies relating to regional development and regional planning in the Niagara Peninsula.  
**Value:** \$2,000 each (30142 161)

**THE ROBERT SOWERBY MEMORIAL SCHOLARSHIP**

Established in 2002 by family, friends and colleagues, in memory of Dr. R. Sowerby, a professor of Mechanical Engineering. To be awarded to a student enrolled in the Bachelor of Technology program who, in the judgment of the Department of Mechanical Engineering, has demonstrated notable academic achievement.  
**Value:** \$500 (40108)

**THE MARNIE SPEARS SCHOLARSHIP**

Established in 1993 by many friends, colleagues and alumni of McMaster University as a tribute to Marnie Spears (Class of '69), Executive Director, Development and Public Relations from 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 an additional 30 units of an Honours program with notable academic standing and who, in the judgment of a Selection Committee, has demonstrated leadership in public, community or University alumni relations.  
**Value:** \$1,150 (30217 323)

Students should submit an application to the Office of Student Financial Aid & Scholarships by April 15th.

**THE SPORT COACHING PRIZE**

Established in 2003 by Pauline McCullagh, a former faculty member of the School of Physical Education, Athletics and Recreation. To be awarded to a Level III or IV Kinesiology student who, in the judgment of the Department of Kinesiology, attains notable standing in one of KINESIOL 3M03, 4EE3 or 4N03 and has demonstrated excellence in sport coaching.  
**Value:** \$500 (40112)

Students who wish to be considered for this award should pick up an application form from the Department of Kinesiology by April 1.

**THE S.L. SQUIRE SCHOLARSHIPS**

Established in 1938 by bequest of S.L. Squire of Toronto. Four awards to be made to students in any Level I program who attain the highest standing in any two of MATH 1AA3, 1B03, 1H03, 1NN3, and in other tests provided for this scholarship by the Department of Mathematics and Statistics.  
**Value:** \$425 each (30132)

**THE CLARENCE L. STARR PRIZE**

Established in 1946 in memory of Dr. C.L. Starr, M.D., LL.D., F.A.S.S., Professor of Surgery at the University of Toronto, and an honorary alumnus of McMaster University (LL.D. 1922). To be awarded to the student who has completed Nursing I and who attains the highest Sessional Average.  
**Value:** \$150 (30025)

**THE ANNE STEIN MEMORIAL PRIZE\***

Established in 1981. To be awarded to the part-time student who successfully completes SOC WORK 3DD6 and attains the highest grade in SOC WORK 3D06 in the same session.

**Value:** \$125 (60001)

**THE ANNE STEIN MEMORIAL PRIZE**

Established in 1971 by friends and colleagues of Anne Stein. To be awarded to the student who successfully completes SOC WORK 3DD6 and attains the highest grade in SOC WORK 3D06 in the same session.

**Value:** \$125 (40003)

**THE LEONA ALBERSTON RYAN AND****GORDON HENRY STEVENS MEMORIAL SCHOLARSHIP**

Established in 1995 by Elaine Keillor in memory of Leona and Gordon Stevens. To be awarded to a student who has completed Level I and an additional 30 - 75 units of an Honours program in Music or Art who, in the judgment of the School of the Arts, has demonstrated outstanding achievement.

**Value:** \$525 (30229 393)

**THE MABEL STOKLEY SCHOLARSHIP**

Established in 1956 by the Young Women's Canadian Club of Toronto (now the Career Women's Canadian Club of Toronto). To be awarded to a woman student who has completed Level I and an additional 30 - 45 units of any program and who gives evidence of outstanding academic achievement and leadership.

**Value:** \$425 for books (30103)

Students should submit an application to the Office of Student Financial Aid & Scholarships by April 15th.

**THE STOBO SCHOLARSHIP**

Established in 1957 by bequest of William Q. Stobo.

**Value:** \$325 (30170)

**THE MARIE L. STOCK SCHOLARSHIP**

Established in 1987 by the French Section of the Department of Romance Languages in honour of Marie L. Stock, Professor Emeritus of French, and Chair of the Department of Romance Languages from 1962 to 1965. To be awarded to the student who has completed Level I and an additional 60 - 75 units of an Honours program in French and who, in the judgment of the Department of French, has achieved notable academic standing.

**Value:** \$450 (30104 166)

**THE MARK JOHN STOJCIC SCHOLARSHIPS**

Established in 1997 by bequest of Mark John Stojcic. Two scholarships to be awarded to students who have completed Level III of a Materials Science and Engineering program who, in the judgment of the Department of Materials Science and Engineering, demonstrate outstanding academic achievement.

**Value:** \$1,800 each (30242 780)

**THE SWISS MINISTER TO CANADA BOOK PRIZES**

Established in 1950. To be awarded from time to time to in-course students for proficiency in French, German, or Italian.

**Value:** Book (40051)

**THE JUANITA LEBARRE SYMINGTON SCHOLARSHIP**

Established in 1981 by The Women's Art Association of Hamilton in memory of Juanita LeBarre Symington. To be awarded to the student entering the graduating session of the Honours Art program with the highest Sessional Average. The recipient must be from the Hamilton-Wentworth Region.

**Value:** \$750 (30092 169)

**THE DR. ANDREW SZENDROVITS MEMORIAL SCHOLARSHIP**

Established in 1999 by family, friends and colleagues in memory of Dr. Andrew Szendrovits, a former professor of Production and Management Science since 1962 and Dean of the Faculty of Business from 1979 to 1984 at McMaster University. To be awarded to the student enrolled in a Commerce program who achieves the highest average in the operations/management science courses (COMMERCE 3QC3 and 3QA3) taken in the same session.

**Value:** \$450 (30265 1221)

**THE KENNETH W. TAYLOR BOOK PRIZE\***

Established in 1976 by his children in memory of Dr. Kenneth W. Taylor (Class of '21), LL.D. (Class of '50). To be awarded to the student who, in the judgment of the Department of Economics, has demonstrated outstanding academic achievement in courses within the areas of monetary economics and financial institutions, and of public finance.

**Value:** \$100 for books (40029 171)

**THE THEATRE & FILM STUDIES BOOK PRIZE**

Established in 1974 by Professor Ronald W. Vince. To be awarded to the student who attains the highest standing in THTR&FLM 1A03 and 1B03  
**Value:** Book (40014 052)

**THE HUGH R. THOMPSON MEMORIAL PRIZE**

Established in 1960 in memory of Dr. Hugh R. Thompson. To be awarded to the student who has completed Level I and an additional 30 - 45 units of an Honours program in the School of Geography and Earth Sciences with the highest Sessional Average.

**Value:** \$250 (30069)

**THE DR. R.A. THOMPSON PRIZE IN MATHEMATICS**

Established in 1954 by bequest of Dr. William Bethune, in memory of R.A. Thompson, B.A., LL.D., Principal of Central Collegiate Institute, Hamilton, from 1897-1919, in recognition of his contribution to education in Hamilton. To be awarded to the student who has completed Level I and an additional 60 - 75 units of the Honours Computer Science, Honours Computer Science and Mathematics, Honours Computer Science and Statistics, Honours Mathematics or Honours Statistics program, and who attains a high Sessional Average.

**Value:** \$300 (30040)

**THE MICHAEL THOMSON MEMORIAL BOOK PRIZES**

Established in 1975 by the members of the Departments of German and Russian in memory of Michael Thomson, Supervisor of the McMaster University language laboratories from 1961 to 1975. Two prizes to be awarded: (a) one to the student who attains the highest standing in GERMAN 1Z06 and (b) one to the student who attains the highest standing in RUSSIAN 3AA3.

**Value:** \$50 each for books (40035 266)

**THE TINNEMAN PALNUT ENGINEERED PRODUCTS SCHOLARSHIP IN MECHANICAL ENGINEERING**

Established in 2001 by Tinnerman Palnut Engineered Products. To be awarded to a student entering Level II of a Mechanical Engineering Program who, in the judgment of the Department of Mechanical Engineering, has achieved notable academic standing and demonstrated qualities of leadership at McMaster or in the community.

**Value:** \$2,800 (30279 1540)

**THE GRAHAM RONALD TOOP SCHOLARSHIP**

Established in 1989 in memory of Graham Toop (Class of '89) by family and friends. To be awarded to the student entering Level IV of an Honours Philosophy program and who, in the judgment of the Department of Philosophy, has demonstrated leadership and influence in scholarly activities related to the field of philosophy.

**Value:** \$500 (30190 256)

**THE CORELENE HELEN TOSTEVIN SCHOLARSHIPS**

Established in 1998 by bequest of Corelene Tostevin. Five awards to be granted to students who are registered in a Post-RN degree program and who, in the judgment of the School of Nursing, have demonstrated notable academic achievement.

**Value:** \$250 each (40083 791)

**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 PRIZE**

Established in 1989 as a tribute to Professor John H. Trueman by his many friends, colleagues and students on the occasion of his retirement from McMaster University. To be awarded to the graduating student who demonstrates the most outstanding ability in medieval history.

**Value:** \$250 (50067 367)

**THE JOHN H. TRUEMAN SCHOLARSHIP\***

Established in 1989 as a tribute to Professor John H. Trueman by his many friends, colleagues and students on the occasion of his retirement from McMaster University. To be awarded to the student who has completed Level I and who, in the judgment of the Department of History, has achieved notable academic standing in medieval history.

**Value:** \$250 (40104 179)

**THE THOMAS TRUMAN MEMORIAL PRIZE**

Established in 1992 by friends and colleagues in memory of Professor Thomas Truman, a member of the Department of Political Science from 1966 to 1990. To be awarded to the student entering the final level of an Honours program in Political Science who, in the judgment of the Department of Political Science, has achieved notable academic standing in at least nine units of Comparative Politics courses.

**Value:** \$75 (40068 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 UNIVERSITY (SENATE) SCHOLARSHIPS**

Made available from by authorization of the Board of Governors of the University.  
**Value:** \$800 each (30173)

**THE UNIVERSITY SCHOLARSHIPS**

Established in 1978. Twenty scholarships to be awarded to part-time students who have attained the highest Cumulative Average at the most recent review.  
**Value:** \$250 each (60003)

**THE VALLEY CITY MANUFACTURING CO. LTD. SCHOLARSHIPS**

Established in 1991 by the Valley City Manufacturing Co. Ltd. of Dundas, Ontario. Two scholarships to be awarded to the students enrolled in an Honours B.Sc. program: one to the student entering Level II and one to the student entering Level III who attain the highest Sessional Average. Recipients may not hold another scholarship of equal or greater value.  
**Value:** \$1,575 each (30205 227)

**THE VAREY SCHOLARSHIP**

Established in 1978 by J.C. Varey, Dundas, in memory of Albert E. Varey. To be awarded to a student in an Honours Program in Classics who, in the judgment of the Department of Classics has achieved notable academic standing.  
**Value:** \$275 (30151 182)

**THE JIM WADDINGTON PRIZE IN PHYSICS AND ASTRONOMY**

Established in 2004 by friends, colleagues and students in recognition of Jim Waddington and his career as a teacher and researcher. To be awarded to a student entering Level II of an Honours program in the Department of Physics and Astronomy who has attained the highest grade in PHYSICS 1BA3.  
**Value:** \$500 (30312)

**THE HARRY WAISGLASS BOOK PRIZE**

Established in 1988 in honour of Harry Waisglass, the first Director of the Labour Studies Education Program at McMaster. To be awarded to a student graduating from a program in Labour Studies who, in the judgment of the Committee of Instruction for Labour Studies, has demonstrated outstanding achievement.  
**Value:** \$50 for books (50024)

**THE MELINDA WAPSHAW ACHIEVEMENT AWARD\***

Established in 1993 by the Labour Studies Student Association and the Labour Studies Program. To be awarded to a student who has completed Level I and an additional 60 - 75 units of an Honours Program in Labour Studies and who, in the judgment of the Committee of Instruction, demonstrates outstanding achievement.  
**Value:** \$175 (40074 358)

**THE F.W. WATERS SCHOLARSHIP IN PHILOSOPHY**

Established in 1990 by the former students, colleagues and friends of Dr. F.W. Waters, Professor from 1935 to 1959. To be awarded to the student entering Level IV of an Honours Program in Philosophy who, in the judgment of the Department of Philosophy, shows the most academic promise.  
**Value:** \$750 (30197)

**THE F.W. WATERS SCHOLARSHIP IN PHILOSOPHY FOR PART-TIME STUDENTS**

Established in 1998 by former students, colleagues and friends of Dr. F. W. Waters, Professor from 1935 to 1959. To be awarded to a part-time student in a Philosophy program who, in the judgment of the Department of Philosophy, has demonstrated outstanding academic achievement. No student will be eligible to receive this award more than once.  
**Value:** \$250 (60008 782)

**THE RALPH WEEKES SCHOLARSHIP\***

Established in 1994 by the Investors Group Financial Services to recognize the accomplishments of Ralph Weekes (Class of '73). To be awarded to a student enrolled in a program in Economics who, in the judgment of the Department of Economics, has attained notable standing. Preference to be given to a student pursuing studies on a part-time basis.  
**Value:** \$800 (40073 360)

**THE WEISZ FAMILY FOUNDATION SCHOLARSHIP**

Established in 1982. To be awarded to the student who has completed Level I and an additional 60 - 75 units of the Honours Commerce program and who attains the highest Sessional Average (at least 9.5).  
**Value:** \$1,500 (30152 184)

**THE HOWARD P. WHIDDEN SCHOLARSHIP**

Established in 1941 by the Honourable Jacob Nicol (Class of '00) of Sherbrooke, Quebec, in honour of Chancellor Howard P. Whidden, with a view to fostering relations of friendship and understanding between French-speaking and English-speaking Canadians. To be awarded to a student who has completed six units of French and who shows ability and promise in the use of the French language. The recipient will spend some weeks of residence and study in a French-Canadian home during the summer vacation.  
**Value:** \$800 (30176)

Travel Scholarship applications are due February 15th.

**THE WHIDDEN HALL RESIDENCE SCHOLARSHIP**

Awarded to the student who resides in the residence with the highest Sessional Average (at least 9.5) in an undergraduate program, with the exception of those in their graduating session.  
**Value:** \$750 (30159)

**THE R.M. WILES MEMORIAL BOOK PRIZE\***

Established in 1975 in memory of Professor Roy McKeen Wiles by his friends and colleagues. To be awarded to the student who, in the judgment of the Department of English and Cultural Studies, has written the best essay on a topic relating to English literature of the period 1660-1800.  
**Value:** \$250 for books (40044)

**THE T. RUSSELL WILKINS MEMORIAL SCHOLARSHIPS**

Established in 1963 by bequest of Mrs. T. Russell Wilkins (B.A. '18 Brandon, M.A. '32), daughter of former Chancellor Howard P. Whidden, in memory of her husband, Dr. T. Russell Wilkins (Class of '11). Two scholarships to be awarded to students entering the penultimate level of an Honours program in Arts and Science, Health Sciences or Science who have demonstrated outstanding academic achievement. In addition, the students should demonstrate a lively interest in the humanities and in the human and social implications of scientific developments. The purpose of the scholarship is to enable the winners to spend the summer before the final Fall/Winter session in travel and study outside Canada.  
**Value:** \$4,600 each (30178)

Travel Scholarship applications are due February 15th.

**THE MARJORIE AND CHARLES WILKINSON SCHOLARSHIP**

Established in 1991 by the family in honour of Marjorie Wilkinson, author of many books and addresses on religion, and co-founder of the Hamilton Lay School of Theology at McMaster in 1966, and Charles Wilkinson, religion editor and writer for the Hamilton Spectator from 1963-1985. To be awarded to the student who has completed at least 30 units beyond Level I of an Honours program in Religious Studies and who, in the judgment of the Department of Religious Studies, has attained notable academic standing in courses in Christian thought.  
**Value:** \$450 (30191 272)

**THE THOMAS E. WILLEY SCHOLARSHIP**

Established in memory of Dr. Thomas E. Willey in 1996 by his family, colleagues and friends. To be awarded to an undergraduate student who, in the judgment of the History and the Linguistics and Languages departments, has demonstrated excellence in German studies.  
**Value:** \$375 (40082 772)

**THE EMANUEL WILLIAMS SCHOLARSHIP IN PHYSICS**

Established in 1948 by Arabel M. Williams of Port Colborne as a memorial to her brother. To be awarded to the student who has completed Level I and an additional 30 - 45 units of an Honours program in Physics with the highest Sessional Average.  
**Value:** \$1,200 (30049)

**THE WILSON FOUNDATION LEADERSHIP AWARDS**

Established in 2001 by The Wilson Foundation. Two scholarships to be awarded to students entering Level III of any program (Level IV for Engineering students registered in a five-year program) who, in the judgment of a Selection Committee, rank highest in scholarship, leadership and influence. These scholarships are tenable for up to two years provided the recipients maintain a Sessional Average of 9.5.  
**Value:** \$15,000 each (\$7,500 per year for two years) (30280 1546)

Students should submit an application to the Office of Student Financial Aid & Scholarships by April 15th.

**THE DAVID WINCH MEMORIAL SCHOLARSHIP**

Established in 2003 in memory of Professor David Winch by his family, friends and colleagues. To be awarded to a part-time student in the Faculty of Social Sciences who has completed at least Level II and who, in the judgment of the Faculty, has demonstrated notable academic achievement.  
**Value:** \$425 (60012)

## 370 UNDERGRADUATE AWARDS — AWARDS AND ACADEMIC GRANTS BY FACULTY

### THE WOMEN'S ART ASSOCIATION SCHOLARSHIPS

Established in 1969. Two scholarships to be awarded: (a) one to a student entering Level II and (b) one to a student who has completed Level I and an additional 30 - 45 units of a program in Honours Art or Honours Art History with the highest Sessional Average. The recipients must be from the Hamilton-Wentworth Region.

Value: \$750 each (30153 185)

### THE WOODSTOCK HALL RESIDENCE SCHOLARSHIP

Awarded to the student who resides in the residence with the highest Sessional Average (at least 9.5) in an undergraduate program, with the exception of those in their graduating session.

Value: \$750 (30160)

### THE IVOR WYNNE MEMORIAL PRIZE

Established in 1971 in memory of Ivor Wynne, Dean of Students. To be awarded to a student who has completed Level III of the Kinesiology program and who attained the highest Cumulative Average.

Value: \$250 (30075 189)

### THE MARGUERITE Z. YATES SCHOLARSHIP

Established in 1960 by bequest of Mrs. W.H. Yates of Hamilton.

Value: \$225 (30167)

### THE YATES SCHOLARSHIPS

Established in 1963 by bequest of William Henry Yates of Hamilton.

Value: \$800 each (30171)

### THE GLADYS A. YOUNG SCHOLARSHIP

Established in 1991 by T.G. Harvey in honour of his wife, Gladys (B.Sc. '37, M.Sc. '38), one of a group of researchers who commenced radio

astronomy research with the National Research Council of Canada. To be awarded to the student who has completed Level I and an additional 30 - 65 units of an Honours program in Mathematics or Physics with the highest Sessional Average. The recipient must not hold another scholarship of equal or greater value.

Value: \$1,600 (30206 303)

### THE LILLIAN AND MANUEL ZACK SCHOLARSHIP

Established in 1984 by Lillian and Manuel Zack (Class of '40) of Hamilton. To be awarded to a student who has completed Level I and an additional 70 - 85 units of a program in Nursing and who, in the judgment of the School of Nursing, has demonstrated achievement, initiative, and commitment to gerontological nursing through clinical practice, term papers, research interest, or community activities and who pursues these interests in Level IV.

Value: \$1,800 (30101 190)

## ACADEMIC GRANTS FOR FULL-TIME, IN-COURSE STUDENTS

### THE MARGARET ELIZABETH BURKE MEMORIAL ACADEMIC GRANT

Established in 2005 by Dr. Dennis Burke in memory of his wife, Margaret. To be awarded to a student who has completed Level I in the B.Sc.N. program and who, in the judgment of the School of Nursing, has attained the highest grade in the required Level I Anatomy/Physiology courses, and demonstrates financial need.

Value: \$2,900 (85004)

## UNDERGRADUATE AWARDS AND ACADEMIC GRANTS BY FACULTY

### Legend

#### AWARD AND GRANT CATEGORY

- B In-Course (Full-time) Awards
- C Part-time Awards
- D Specific Achievement Awards
- E Graduatand Awards
- F Second Degree Awards
- G Academic Grants

#### AWARD TYPE

- J Judgmentally Awarded
- M Mathematically Awarded

Please look at the listings in relevant Faculties if you are in a combined program.

Faculty/Program/ Department	Award Type	Application Required	Award Category	Value	Name of Scholarship
ARTS AND SCIENCE	J	Yes	B	\$1,000	The Arts and Science Program Experiential Learning Travel Scholarship
	J	No	D	\$75	The Arts and Science Program Book Award
	J	No	B	\$500	The Charon Burke McCain Memorial Scholarship
	J	No	B	\$1,500	The Class of 1953 50th Anniversary Scholarship
	J	No	E	\$200	The Laura Dodson Prize
	M	No	B	\$1,000	The Federation of Chinese Canadian Professionals Education Foundation Scholarships
	J	No	E	\$500	The Barbara M. Ferrier Scholarship in Arts and Science
	J	No	B	\$400	The Barbara Francis Scholarship
	J	No	B	\$325	The George P. Gilmour Memorial Scholarship
	J	No	D	\$150	The Herbert M. Jenkins Prize
	J	Yes	E	\$700	The John R. McCarthy Scholarship
	BUSINESS Commerce	J	Yes	B	\$850
J		No	E	Gold Medal	The E.H. Ambrose Gold Medal
J		No	B	\$200	The Scott Bartlett Memorial Prize
J		No	E	\$1,000 and Medal	The Basu Medal
M		No	B	\$1,400	The M. Banker Bates Scholarship
J		No	E	\$150	The CGA Ont. Award For Excellence
M		No	B	\$775	The City of Hamilton Economic Development Department Scholarships
J		No	B	\$2,000	The John Deere Limited Scholarship
J		No	B	\$800	The DeGroote School of Business Alumni Undergraduate Scholarships
J		No	B	\$1,500	The Deloitte & Touche Scholarship
J		No	E	\$500	The Bruce M. Hamilton Award
J		No	B	\$1,275	The Hamilton Port Authority Scholarship

**UNDERGRADUATE AWARDS — AWARDS AND ACADEMIC GRANTS BY FACULTY 371**

Faculty/Program/ Department	Award Type	Application Required	Award Category	Value	Name of Scholarship
	J	No	B	\$400	The Donald Hart Scholarship
	J	No	B	\$2,500	The Hawkrigg Family Scholarship in Business
	M	No	D	\$250 for books	The Paul Hypher Prize
	J	No	E	\$200	The Burton R. James Memorial Prize
	J	No	B	\$475	The Robert Alan Kennedy Scholarship
	J	No	B	\$350	The KPMG Scholarship
	M	No	B	\$625	The Claude C. Lister Scholarship
	J	No	B	\$2,500	The PricewaterhouseCoopers Scholarships
	M	No	B	\$500	The Society of Management Accountants of Ontario Scholarship
	M	No	B	\$450	The Dr. Andrew Szendrovits Memorial Scholarship
	M	No	B	\$1,500	The Weisz Family Foundation Scholarship
<b>ENGINEERING</b>					
Faculty Wide	J	<b>Yes</b>	B	\$850	The Accenture Inc. Scholarship
	M	No	B	\$2,000	The Audcomp Computer Systems Scholarship
	J	No	B	\$2,500	The Atomic Energy of Canada Limited Scholarship
	M	No	B	\$300	The Canadian Federation of University Women (Hamilton) Past President's Prize
	M	No	D	\$120	The Neil Forsyth Prize
	M	No	D	\$125	The John F. Moore Prize
	M	No	E	Gold Medal	The Ontario Professional Engineers Foundation for Education Gold Medal
	M	No	B	\$1,000	The Ontario Professional Engineers Foundation for Education In-Course Scholarships
	J	No	B	\$1,000	The Ontario Professional Engineers Foundation for Education Undergraduate Scholarships
	J	No	B	\$2,000	The Herbert A. Ricker Scholarship
Chemical Engineering	J	No	B	\$1,000	The Air Liquide Canada Inc. Scholarship
	M	No	B	\$50, Medal and Certificate	The Canadian Society for Chemical Engineering Prize
	M	No	B	\$500	The Canadian Society for Chemical Engineering (CSCHe) Scholarship
	J	No	B	\$150	The Chemical Institute of Canada (Hamilton Section) Prize
	J	No	B	\$1,000	The John Mayberry Scholarships
	M	No	E	Plaque	The Society of Chemical Industry Merit Awards
Civil Engineering	J	No	B	\$300	The ACI (Ontario Chapter) Scholarship
	M	No	B	\$200	The A.H. Atkinson Prize
	J	No	D	\$2,000	The Canadian Institute of Steel Construction (CISC) Award
	J	No	B	Plaque	The Canadian Society of Civil Engineers (Hamilton Section) Prize
	J	No	B	\$500	The Hamilton and District Heavy Construction Association Scholarships
	J	No	B	\$1,000	The Ronald E. Materick Scholarships
	J	No	B	\$650	The Simon McNally Scholarship
	M	No	D	\$250	The Dr. F.A. Mirza Scholarship
	J	No	B	\$1,500	The F.W. Paulin Scholarship
Civil Engineeringt and Management	J	No	B	\$1,500	The F.W. Paulin Scholarship
Computer Engineering	J	No	B	\$1,900	The Dr. Rudolf de Buda Scholarship
	M	No	B	\$225	The Ruth and Jack Hall Prize
	J	No	B	\$1,000	The Nortel Networks Scholarships in Information Technology
Electrical Engineering	J	No	B	\$1,900	The Dr. Rudolf de Buda Scholarship
	M	No	B	\$1,000	The Group Eight Engineering Limited L.F. Eull Prize
	J	No	B	\$1,000	The Nortel Networks Scholarships in Information Technology
Engineering and Management	J	No	B	\$800 and Certificate	The A.I. Johnson Scholarship
	M	No	B	\$275	The Ray Lawson Scholarships
	J	No	E	\$300	The Shell Canada Prizes in Engineering and Management
	J	No	B	\$1,100	The Shell Canada Scholarships in Engineering and Management
Engineering and Society	M	No	B	\$1,100	The Molson Scholarship in Environmental Studies
Engineering Physics	J	No	B	\$1,000	The Nortel Networks Scholarships in Information Technology
Materials Engineering	M	No	B	\$1,000	The ASM International (Ontario Chapter) Scholarship
	M	No	B	\$1,700	The Crispin Calvo Scholarship
	J	No	B	\$1,900	The Inco Scholarship in Materials Engineering
	J	No	E	\$100	The National Association of Corrosion Engineers Prize
	M	No	D	\$50	The MMG-Neosid Canada Limited Ceramic Engineering Prize
	J	No	B	\$1,800	The Mark John Stojic Scholarships

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Faculty/Program/Department	Award Type	Application Required	Award Category	Value	Name of Scholarship	
Materials Science and Engineering	J	No	B	\$1,000	The Air Liquide Canada Inc. Scholarship	
	M	No	B	\$1,000	The ASM International (Ontario Chapter) Scholarships	
	J	No	E	\$275	The Denton Coates Memorial Scholarship	
	J	No	B	\$125	The Ronald K. Ham Memorial Prize	
	J	No	B	\$1,900	The Inco Scholarship in Materials Engineering	
	J	No	B	\$1,000	The John Mayberry Scholarships	
Mechanical Engineering	J	No	B	\$1,000	The Air Liquide Canada Inc. Scholarship	
	J	No	B	\$1,500	The Grace Dorothy and William P. Carpenter Award	
	M	No	B	\$1,000	The Federation of Chinese Canadian Professionals Education Foundation Scholarships	
	J	No	B	\$600	The Intermetco Limited Scholarship	
	J	No	E	Trophy	The Iroquois Trophy	
	J	No	B	\$1,000	The John Mayberry Scholarships	
	J	No	D	\$500	The Robert Sowerby Memorial Scholarship	
	J	No	B	\$2,800	The Tinnerman Walnut Engineered Products Scholarship in Mechanical Engineering	
Software Engineering	J	No	B	\$3,400	The CAE Scholarships in Computing and Software Engineering	
	J	No	B	\$800	The Motorola Software Engineering Scholarship	
	J	No	B	\$1,000	The Nortel Networks Scholarships in Information Technology	
<b>HEALTH SCIENCES</b>						
Faculty Wide	J	No	B	\$500	The IODE Memorial Scholarship	
	J	<b>Yes</b>	B	\$4,600	The T. Russell Wilkins Memorial Scholarship	
Anatomy	J	No	C	\$1,000 and Medal	The Anatomy Prize	
Midwifery	J	No	E	\$5,000	The Murray and Eleanor Enkin Midwifery Award	
	J	No	F	\$1,000	The Sakarkhanu K. Lila Memorial Scholarship	
Nursing	J	No	B	\$3,150	The Henrietta Alderson Scholarship	
	J	No	G	\$2,900	The Margaret Elizabeth Burke Memorial Academic Grant	
	J	No	B	\$1,000	The Clara I. Elman Scholarships	
	J	No	B	\$2,400	The Dr. Shigeaki Hinohara Scholarship	
	J	No	D	\$600	The Janet McKnight Award	
	J	No	E	\$300	The McMaster Nursing Alumni Memorial Prize	
	J	No	D	\$250	The Medical-Surgical Excellence in Clinical Nursing Award	
	M	No	B	\$1,100	The Niemeier Scholarship	
	J	No	E	\$150	The Pioneer Group Inc. Prizes in Nursing	
	M	No	D	\$250	The Grace Senra-Fontes Memorial Prize	
	J	No	B	\$150	The Clarence L. Starr Prize	
HUMANITIES	J	No	D	\$250	The Corelene Helen Tostevin Scholarships	
	J	No	B	\$1,800	The Lillian and Manuel Zack Scholarship	
	<b>HUMANITIES</b>					
	Faculty Wide	J	No	E	\$5,300 and Medal	The Dean's Medal for Excellence in the Humanities
		J	No	E	\$3,300 and Medal	
		J	No	E	\$2,300 and Medal	
	Art	J	No	E	Medal	The Humanities Medals for Special Achievement
		J	<b>Yes</b>	E	\$700	The John R. McCarthy Scholarship
		J	No	B	\$250	The McMaster Humanities Society Scholarships
		J	No	B	\$450	The Peter McPhater Memorial Scholarship
		J	No	B	\$525	The Leona Albertson Ryan and Gordon Henry Stevens Memorial Scholarship
Art History	M	No	B	\$750	The Juanita LeBarre Symington Scholarship	
	M	No	B	\$750	The Women's Art Association Scholarships	
	J	No	D	\$175	The Eleanor Dornbush Marples Prize in Art History	
Classics	J	No	B	\$450	The Peter McPhater Memorial Scholarship	
	M	No	B	\$750	The Women's Art Association Scholarships	
	M	No	B	\$500	The Brian Blakey Memorial Scholarship	
	J	No	B	\$100	The Classics Prize	
	M	No	D	\$250	The Greek Community of Burlington and District Scholarship	
	J	No	B	\$1,000	The Hellenic Prize	
	J	No	D	\$150	The Latin Prize	
	J	No	E	\$100	The A.G. McKay Prize in Classical Studies	
	J	No	B	\$350	The Alexander Gordon McKay Scholarship	
	J	No	B	\$50	The Gladys Ballantyne Parker Prize	
	M	No	D	\$50	The John Toth Memorial Prize	
Comparative Literature	J	No	B	\$275	The Varey Scholarship	
	J	No	D	\$250	The Comparative Literature Prize	
	J	No	D	\$250		
English	M	No	D	\$425	The Maqbool Aziz Memorial Scholarship	
	J	No	B	\$500	The Laura Baldwin Scholarship	

**UNDERGRADUATE AWARDS — AWARDS AND ACADEMIC GRANTS BY FACULTY 373**

Faculty/Program/ Department	Award Type	Application Required	Award Category	Value	Name of Scholarship
	M	No	B	\$500	The Brian Blakey Memorial Scholarship
	J	No	D	\$200	The Canadian Federation of University Women (Hamilton) Ruby Brown Book Prize
	M	No	D	\$175	The Cranston Prizes
	M	No	C	\$100 for Books	The Audrey Diemert Memorial Book Prize
	M	No	B	\$2,000	The Margery E. Dixon Memorial Scholarship
	J	No	B	\$975	The Daphne Etherington Graham Memorial Scholarship in English
	J	No	B	\$200	The Kit Memorial Scholarship
	J	No	E	\$200	The Agnes and John MacNeill Memorial Prize
	M	No	E	\$250	The Walter Scott McLay Prize
	J	No	D	\$250	The Rand Memorial Prize of Class '98
	J	No	B	\$1,000	The Ella Julia Reynolds Scholarships
	J	No	B	\$2,000	The Gladys Richards Scholarship
	M	No	C	\$125	The Morris and Sarah Rosenhead Memorial Prize
	M	No	B	\$475	The Sheila Scott Scholarship in English
	M	No	B	\$375	The Patricia L. Smye Memorial Prizes
	J	No	D	\$250 for Books	The R.M. Wiles Memorial Book Prize
English and History	M	No	B	\$525	The McGregor-Smith-Burr Memorial Scholarship
	J	No	B	\$1,000	The Ella Julia Reynolds Scholarships
	J	No	B	\$2,000	The Gladys Richards Scholarship
French	M	No	B	\$500	The Brian Blakey Memorial Scholarship
	M	No	B	\$175	The Rosemary Douglas-Mercer Memorial Prize
	J	No	B	\$1,000	The Harold and Gertrude Freeman Scholarship in French
	J	No	D	Book Prize	The French Government Book Prizes
	J	No	E	\$475	The W. Norman Jeeves Scholarship
	J	No	B	\$2,200	The E. Doris Lawrence Scholarship
	J	No	D	\$250	The Elaine Nardocchio Memorial Scholarship Fund
	J	No	B	\$500	The Brian Pocknell Memorial Scholarship
	J	No	B	\$450	The Marie L. Stock Scholarship
	J	No	D	Book Prize	The Swiss Minister to Canada Book Prizes
History	J	No	E	\$150	The William and Lida Barns Memorial Prize in History
	J	No	E	\$85 for Books	The Marion Bates Book Prize
	J	No	E	Medal	The Ezio Cappadocia Medal
	J	No	D	\$425	The James Robertson Carruthers Memorial Prize
	J	No	E	\$100	The European History Prize
	J	No	B	\$425 for Books	The Samuel Geller Memorial Book Prize
	J	No	B	\$1,000	The Daphne Etherington Graham Memorial Scholarship in History
	M	No	B	\$1,500	The Jury Prize
	J	No	D	\$100	The H.W. McCreedy Prize in British History
	M	No	D	\$150	The Municipal Chapter of Hamilton, IODE, Muriel E. Skelton Award
	J	No	B	\$575	The Robert Nixon Scholarship
	M	No	B	\$700	The Dr. John A. Pylypiuk Scholarship
	J	No	B	\$175 for Books	The E. Togo Salmon Prize in History
	J	No	D	\$150 for Books	The Noel Sandusky Memorial Prize
	J	No	D	\$275	The Larry Sayers Prize in East Asian History
	J	No	E	\$250	The John H. Trueman Prize
	J	No	D	\$250	The John H. Trueman Scholarship
	J	No	D	\$375	The Thomas E. Willey Scholarship
Linguistics and Languages	J	No	E	Book Prize	The Ambassador of Spain Book Prize
	M	No	B	\$500	The Brian Blakey Memorial Scholarship
	J	No	D	\$125	The Beatrice Corrigan Memorial Book Prize
	M	No	D	\$150	The Consul General of Italy Book Prize in Italian
	J	Yes	B	\$900	The Gabriele Erasmi Travel Scholarship to Italy
	J	No	D	Book Prize	The German Embassy Book Prize
	J	No	D	Book Prize	The Inter Nationes (Bonn) Book Prize
	J	No	B	\$125	The ITCA Community Involvement Prize
	J	No	D	\$150	The James B. Lawson Scholarship
	J	No	D	\$250	The Linguistics Prize
	J	No	B	\$300	The Anne Murray Scholarship
	J	No	B	\$750	The Fedor Schneider Scholarship in Italian
	J	No	B	\$375	The Louis J. Shein Scholarship
	J	No	B	\$500	The Sons of Italy of Ontario Scholarship
	J	No	C	Book Prize	The Swiss Minister to Canada Book Prizes
	M	No	C	\$50 for Books	The Michael Thomson Memorial Book Prizes
	J	No	D	\$375	The Thomas E. Willey Scholarship
Multimedia	J	No	B	\$1,000	The Bank of Montreal Humanities Multimedia Scholarships

374 UNDERGRADUATE AWARDS — AWARDS AND ACADEMIC GRANTS BY FACULTY

Faculty/Program/ Department	Award Type	Application Required	Award Category	Value	Name of Scholarship	
Music	J	No	B	\$450	The Louise E. Bettger Scholarships in Music	
	J	No	B	\$1,050	The Hilda Dorothy Borman Scholarship	
	J	No	B	\$1,500	The Joan Francis Bowling Scholarships	
	J	No	B	\$200	The Ella Halstead Campbell Prize	
	J	No	B	\$150	The Norman N. Caskey Memorial Prize	
	J	No	B	\$450	The Merrill Francis Gage Scholarships	
	J	No	B	\$100 for Books	The H.B. Greening Book Prize	
	J	No	D	\$200	The Hughes Scholarship	
	J	No	B	\$125	The Ivey Scholarship	
	J	No	D	\$1,000	The Allan Ludbrook Memorial Scholarship	
	J	No	B	\$1,000	The Merriam School of Music Scholarship	
	J	No	B	\$675	The Irene Pearce Scholarship	
	J	No	B	\$425	The Sharon Reeves Scholarship	
	J	No	B	\$525	The Leona Albertson Ryan and Gordon Henry Stevens Memorial Scholarship	
J	No	B	\$950	The School of the Arts Scholarship in Music		
Peace Studies	J	No	D	\$300	The Alan G. Newcombe Prize in Peace Studies	
Philosophy	J	No	B	\$475	The Brien Scholarship in Philosophy	
	J	No	B	\$1,000	The Ten Broeke-Bensen Memorial Scholarship	
	J	No	B	\$200	The Horace A. Dulmage Prize in Philosophy	
	M	No	D	\$225	The Abraham Rosenberg Memorial Prize	
	J	No	B	\$500	The Graham Ronald Toop Scholarship	
	J	No	B	\$750	The F.W. Waters Scholarship in Philosophy	
	J	No	C	\$250	The F.W. Waters Scholarship in Philosophy for Part-Time Students	
Theatre & Film Studies	M	No	B	\$500	The Brian Blakey Memorial Scholarship	
	J	No	B	\$950	The Class of '43 Golden Anniversary Scholarship	
	J	No	E	Gold Medal	The Amelia Hall Gold Medal	
	M	No	D	\$125	The Eleanor Dombush Marples Prize in Theatre & Film Studies	
Women's Studies	M	No	D	Book Prize	The Theatre & Film Studies Book Prize	
	J	No	E	\$175	The Canadian Federation of University Women (Hamilton) Memorial Prize	
<b>SCIENCE</b>						
Faculty Wide	J	<b>Yes</b>	B	\$850	The Accenture Inc. Scholarship	
	J	No	E	Ring	The Burke Memorial Ring	
	J	No	E	\$1,000	The Class of '92 Science Legacy Award	
	M	No	B	\$325	The J.L.W. Gill Prizes	
	J	No	D	\$150	The James B. Lawson Scholarship	
	J	<b>Yes</b>	E	\$700	The John R. McCarthy Scholarship	
	J	No	B	\$2,000	The Herbert A. Ricker Scholarships	
	J	No	B	\$1,000	The Dr. Sina Sazgar Memorial Scholarship	
	J	No	B	\$500	The Science Alumni Scholarships	
	M	No	B	\$1,575	The Valley City Manufacturing Co. Ltd. Scholarships	
	Biochemistry	M	No	B	\$350	The Beauty Counselors of Canada Scholarship
		J	No	B	Medal and Certificate	The Canadian Society for Chemistry Prizes
		J	No	B	\$1,000	The Dubeck Biochemistry Award
Biochemistry and Chemistry	J	No	B	\$800	The Ernest Robert MacKenzie Kay Scholarships	
	M	No	E	Plaque	The Society of Chemical Industry Merit Awards	
	M	No	B	\$350	The Beauty Counselors of Canada Scholarship	
Biology	J	No	B	Medal and Plaque	The Canadian Society for Chemistry Prizes	
	J	No	D	Book	The Biology Achievement Award	
	J	No	D	\$575	The D.M. Davies Prize	
	J	No	B	\$800	The Ernest Robert MacKenzie Kay Scholarships	
	M	No	E	\$300	The Esther McCandless Memorial Prize	
	J	No	B	\$575	The J.J. Miller Prize	
	J	No	B	\$200	The Shenstone Prize	
Biology and Pharmacology Co-op	J	No	E	Medal	The Jensen Medal	
	J	No	E	Medal	The Jensen Medal	
Chemistry	M	No	B	\$350	The Beauty Counselors of Canada Scholarship	
	M	No	B	\$1,700	The Crispin Calvo Scholarships	
	M	No	B	Medal and Certificate	The Canadian Society for Chemistry Prizes	
	J	No	B	\$150	The Chemical Institute of Canada (Hamilton Section) Prize	
	J	No	B	\$1,000	The Dubeck Chemistry Award	
	M	No	B	\$1,000	The Federation of Chinese Canadian Professionals Education Foundation Scholarships	
	M	No	B	\$350	The Klaus Fritze Memorial Prize	
	M	No	E	\$1,000	The Robert S. Haines Memorial Scholarship	
	M	No	E	\$1,000	The Robert S. Haines Memorial Scholarship	

**UNDERGRADUATE AWARDS — AWARDS AND ACADEMIC GRANTS BY FACULTY 375**

Faculty/Program/ Department	Award Type	Application Required	Award Category	Value	Name of Scholarship
	M	No	B	\$140	The Hamilton Chemical Association Prize
	J	No	B	\$800	The Ernest Robert MacKenzie Kay Scholarships
	J	No	B	\$925	The Donald G. McNabb Scholarship
	J	No	B	\$175 for Books	The Michael J. Morton Memorial Book Prize
	J	No	B	\$150 for Books	The Fredric P. Oisen Book Prize
	J	No	B	\$200	The Shenstone Prize
	M	No	B	\$450	The Gerald and Verna Simpson Memorial Scholarship
	M	No	E	Plaque	The Society of Chemical Industry Merit Awards
Computer Science	M	No	E	\$350 and Medal	The Binkley Medal
	M	No	B	\$225	The Ruth and Jack Hall Prize
	M	No	E	Medal	The Gerald L. Keech Medal
	J	No	B	\$500	The George P. and Leatha M. Keys Scholarships
	J	No	B	\$1,000	The Nortel Networks Scholarships in Information Technology
	M	No	B	\$300	The Dr. R.A. Thompson Prize in Mathematics
Computer Science and Mathematics	M	No	B	\$300	The Dr. R.A. Thompson Prize in Mathematics
Computer Science and Statistics	M	No	B	\$300	The Dr. R.A. Thompson Prize in Mathematics
Geography and Earth Sciences	J	No	E	\$220 for Books	The Cameron D. Allen Book Prize
	M	No	D	\$300	The Alumni Canadian Geography Prize
	J	No	B	\$75	The Herbert S. Armstrong Memorial Fund
	M	No	B	\$1,500	The Murray Ball Scholarships in Geology
	J	Yes	B	\$2,000	The J.P. Bickell Foundation Mining Scholarships
	J	No	E	\$100 for Books	The Leone Betty Blackwell Memorial Book Prize
	J	No	B	\$1,650	The Helen Emery Scholarships in Environmental Science
	M	No	D	\$100	The Environmental Issues Prize
	J	No	D	\$550	The R. Louis Gentilcore Prize
	J	No	B	\$2,000	The Inco Scholarship in Environmental Science
	J	No	B	\$75	The Stanford N. Katambala Earth Sciences Prize
	M	No	D	\$150	The Moffat Kinoshita Architects Inc. Prizes
	M	No	B	\$1,100	The Molson Scholarship in Environmental Studies
	M	No	E	\$100	The Lloyd Reeds Prizes
	J	No	B	\$325	The Rosart Properties Inc. Scholarship
	J	No	B	\$2,000	The South Ontario Economic Development Council Scholarships
	M	No	B	\$250	The Hugh R. Thompson Memorial Prize
Geoscience	M	No	E	\$100	The Lloyd Reeds Prizes
Life Science	J	No	E	\$200	The Abe Black Memorial Prizes
	M	No	E	\$100	The P.L. Newbigging Prizes
Materials Science	M	No	B	\$1,000	The ASM International (Ontario Chapter) Scholarship
	M	No	D	\$120	The Neil Forsyth Prize
Mathematical Science	M	No	B	\$600/year	The Dr. and Mrs. F.R. Britton Scholarship in Mathematics
Mathematics and Statistics	M	No	B	\$1,100	The W.K. Allan Memorial Scholarship
	M	No	B	\$375	The J. Douglas Bankier Memorial Scholarship
	J	No	D	\$425	The H.L. Jackson Memorial Scholarship
	J	No	B	\$500	The George P. and Leatha M. Keys Scholarships
	J	No	B	\$425	The S.L. Squire Scholarships
	M	No	B	\$300	The Dr. R.A. Thompson Prize in Mathematics
	M	No	B	\$1,600	The Gladys A. Young Scholarship
Medical and Health Physics	M	No	B	\$500	The Bill Prestwich Scholarship in Medical and Health Physics
Physics	M	No	B	\$1,100	The W.K. Allan Memorial Scholarship
	M	No	B	\$1,000	The Federation of Chinese Canadian Professionals Education Foundation Scholarships
	J	No	B	\$500	The A.B. McLay Scholarship in Physics
	J	No	B	\$575	The Boyd McLay Scholarship in Physics
	J	No	B	\$200	The Shenstone Prize
	M	No	B	\$450	The Gerald and Verna Simpson Memorial Scholarship
	M	No	E	Plaque	The Society of Chemical Industry Merit Awards
	M	No	B	\$500	The Jim Waddington Prize in Physics and Astronomy
	M	No	B	\$1,200	The Emanuel Williams Scholarship in Physics
	M	No	B	\$1,600	The Gladys A. Young Scholarship
Psychology	J	No	C	\$600	The Abe Black Memorial Prize
	J	No	E	\$500	The George P. and Leatha M. Keys Scholarships
	M	No	B	\$100	The P.L. Newbigging Prizes
	M	No	D	\$375	The P.L. Newbigging Scholarship
	M	No	B	\$70	The Psychology Society Prizes
	M	No	B	\$375	The Patricia L. Smye Memorial Prizes

376 UNDERGRADUATE AWARDS — AWARDS AND ACADEMIC GRANTS BY FACULTY

Faculty/Program/ Department	Award Type	Application Required	Award Category	Value	Name of Scholarship
<b>SOCIAL SCIENCES</b>					
Faculty Wide	M	No	B	\$1,950	The Hugh Clark Scholarship
	J	No	E	Medal	The J.E.L. Graham Medal
	M	No	C	\$500	The Faculty of Social Sciences Inquiry Award
	J	Yes	E	\$700	The John R. McCarthy Scholarship
	J	No	E	Medal	The R.C. McIvor Medal
Anthropology	J	No	C	\$425	The David Winch Memorial Scholarship
	J	No	E	\$100	The Anthropology Prize
	J	No	E	\$100	The Ruth Landes Prize
Economics	J	No	E	\$100	The Richard Slobodin Prize
	J	No	B	\$700	The Class of '50 Scholarship in Honours Economics
	M	No	B	\$300	The Dr. Thomas Hopley Prize
	M	No	D	\$500	The William D.G. Hunter Prize
	J	No	E	Medal	The Hurd Medal
	J	No	D	\$175	The Sam Lawrence Prize
	J	No	D	\$475	The MacGibbon Scholarship
	J	No	D	\$425	The William MacKenzie Memorial Prize
	J	No	B	\$600	The Pevensing Scholarship
	J	No	D	\$100	The Kenneth W. Taylor Book Prize
Geography and Earth Sciences	J	No	D	\$800	The Ralph Weekes Scholarship
	J	No	E	\$220 for Books	The Cameron D. Allen Book Prize
	M	No	D	\$300	The Alumni Canadian Geography Prize
	J	No	B	\$75	The Herbert S. Armstrong Memorial Fund
	M	No	B	\$1,500	The Murray Ball Scholarships in Geology
	M	No	E	\$100 for Books	The Leone Betty Blackwell Memorial Book Prize
	J	No	B	\$1,650	The Helen Emery Scholarships in Environmental Science
	M	No	D	\$75	The Environmental Issues Prize
	J	No	D	\$550	The R. Louis Gentilcore Prize
	J	Yes	B	\$2,000	The J.P. Bickell Foundation Mining Scholarships
	J	No	B	\$75	The Stanford N. Katambala Earth Sciences Prize
	M	No	D	\$150	The Moffat Kinoshita Architects Inc. Prizes
	M	No	B	\$1,100	The Molson Scholarship in Environmental Studies
	J	No	E	\$225	The E.S. Moore Prize
	J	No	E	\$100	The Lloyd Reeds Prizes
	J	No	B	\$325	The Rosart Properties Inc. Scholarship
	J	No	B	\$2,000	The South Ontario Economic Development Council Scholarships
Gerontology	M	No	B	\$250	The Hugh R. Thompson Memorial Prize
	J	Yes	D	\$450	The Barbara and Ronald Bayne Gerontology Internship Award
	J	No	E	\$100	The Gerontology Prizes
	J	No	F	\$50	The Karl Kinanen Alumni Prize in Gerontology
	M	No	C	\$250 for Books	The McMaster University Retirees Association Prize
	M	No	B	\$1,000	The McMaster University Retirees Association Scholarship
	J	No	E	\$1,200	The Audrey Evelyn Mephram Award in Gerontology
	J	No	E	\$45	The Pioneer Group Inc. Gerontology Prize
	J	No	D	\$400	The Pioneer Group Inc. Prize
	J	No	B	\$350	The Pioneer Group Inc. Scholarship
Kinesiology	M	No	C	\$200	The Retired Teachers of Ontario Hamilton/Haldimand District Prize in Gerontology
	J	No	D, F	\$400	The Ellen Bouchard Ryan Scholarship
	J	No	B	\$1,500/year	The Betty Taylor Campbell Scholarship
	J	No	B	\$400	The Nancy Car Memorial Scholarship in Kinesiology
	J	No	E	Medal and Certificate	The CSEP/SCPE Undergraduate Student Award
	J	No	B	\$2,500	The Hawkrigg Family Scholarships in Kinesiology
	J	No	E	\$1,200	The Rose Hill Scholarship
	J	No	B	\$100	The Kinesiology Prize
	J	No	D	\$100	The Kinesiology Prizes
	J	No	B	\$700	The Megan Lawrence Scholarship
	J	Yes	D	\$500	The Sport Coaching Prize
	J	No	B	\$250	The Ivor Wynne Memorial Prize
	Labour Studies	J	No	D	\$500
J		No	E	\$50 for Books	The Harry Waisglass Book Prize
J		No	D	\$175	The Melinda Wapshaw Achievement Award
Political Science	J	No	D	\$300	The Canadian Institute of International Affairs Prize
	M	No	B	\$300	The Dr. Thomas Hopley Prize
	M	No	D	\$275 for Books	The Human Rights Award
	J	No	E	\$750	The Feliks Litkowski Memorial Prize in Political Science
J	No	D	\$650	The Derry Novak Scholarship	



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Faculty/Program/ Department	Award Type	Application Required	Award Category	Value	Name of Scholarship
Psychology	J	No	E	\$200	The Political Science Prize
	J	No	E	\$100	The Political Science Honours Essay Prize
	J	No	D	\$75	The Thomas Truman Memorial Prize
	M	No	E	\$200	The Abe Black Memorial Prizes
	M	No	E	\$100	The P.L. Newbigging Prizes
	M	No	D	\$375	The P.L. Newbigging Scholarship
	M	No	B	\$70	The Psychology Society Prizes
Religious Studies	M	No	B	\$375	The Patricia L. Smye Memorial Prizes
	M	No	D	\$125	The Gilmour Memorial Prize
	M	No	B	\$175	The Lawrence and Kathleen Mary Johnston Memorial Prize
	M	No	E	\$100	The Religious Studies Prizes
	J	No	E	\$100	The Religious Studies Honours Essay Prize
Social Work	J	No	B	\$450	The Marjorie and Charles Wilkinson Scholarship
	J	No	D	\$500	The Citizen Action Group Prize
	M	No	E	\$800	The Dr. Jean Jones Memorial Scholarship
	M	No	E, F	\$125	The Ontario Association of Social Workers Prize
	M	No	E	\$100	The Harry L. Penny Prize
	M	No	D	\$100	The Social Work Prize
	M	No	C, D	\$125	The Anne Stein Memorial Prize
Sociology	M	No	E	\$100	The Frank E. Jones Prize
	J	No	B	\$150	The Betty MacMillan Prize
	J	No	B	\$800	The Lianne Marks Scholarship
	M	No	C	\$400	The Jack Richardson Memorial Scholarship
	M	No	E	\$100	The Sociology Prizes
<b>TRAVEL SCHOLARSHIPS</b>					
University Wide	J	Yes	B	\$2,200	The Beale-Lincoln-Hall Travel Scholarship
	J	Yes	B	\$1,500	The John P. Evans Travel Scholarship
	J	Yes	B	\$800	The Howard P. Whidden Scholarship
Arts and Science	J	Yes	B	\$1,300	The Class of '37 Travel Scholarship in Arts and Science
	J	Yes	B	\$4,600	The T. Russell Wilkins Memorial Scholarship
Business	J	Yes	B	\$1,000	The Maria Chan Scholarships for International Studies in Business
Humanities	J	Yes	B	\$5,500	The A.G. Alexander Scholarships
	J	Yes	B	\$3,675	The Joan Jackson Dunbar Travel Scholarship
	J	Yes	B	\$900	The Gabriele Erasmi Travel Scholarship to Italy
	J	Yes	B	\$925	The Modern Languages Travel Scholarship
	J	Yes	B	\$2,000	The E.T. Salmon Scholarship
	J	Yes	B	\$725	The Albert Shalom Travel Scholarship
Science	J	Yes	B	\$4,600	The T. Russell Wilkins Memorial Scholarships
<b>UNIVERSITY WIDE SCHOLARSHIPS</b>					
University Wide	J	Yes	D	\$800	The Achievement Awards of Excellence
	M	No	C	\$375	The Alumni Association Scholarship
	M	No	B	\$200 for books	The Edgar R. Ashall Scholarship
	M	No	B	\$750	The Bates Residence Scholarship
	M	No	B	\$1,500	The Bentall Scholarships
	J	No	B	\$1,500	The Joan Francis Bowling Scholarships
	J	Yes	B	\$300	The Josephine Staples Brien Scholarship
	M	No	B	\$1,500	The Canadian Federation of University Women (Hamilton) Scholarship
	J	No	B	Medal	The Chancellor's Gold Medal
	M	No	B	\$1,500	The Class of '44 Scholarship
	M	No	B	\$800	The Edwin Marwin Dalley Memorial Scholarships
	M	No	B	\$750	The Edwards Hall Residence Scholarship
	J	No	E	Medal	The Governor General's Academic Medal
	J	Yes	B	\$1,500	The Gwen George Award
	J	Yes	C	\$400 and Medal	The Gwen George Medal
	M	No	B	\$1,500	The Gupta Family International Scholarships
	M	No	B	\$800	The Hamilton Industrial Scholarships
	J	No	B	\$1,000	The Hamilton Utilities Corporation Energy Conservation and Alternative Energy Undergraduate Scholarship
	M	No	B	\$750	The Hedden Hall Residence Scholarship
	M	No	B	\$1,500	The Dr. Harry Lyman Hooker Scholarships
	M	No	B	\$1,550	The Anna Marie Hibbard Scholarship
	M	No	B	\$250	The Bertram Osmer Hooper Scholarship
	M	No	B	\$500	The Nina Louise Hooper Scholarship
	J	Yes	B	\$400	The Inter-Residence Council Scholarship
	J	Yes	B	\$2,500	The Dr. Ronald V. Joyce "Amazing" Grace Awards
	J	Yes	D	\$2,500	The Dr. Ronald V. Joyce Awards for Athletes

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Faculty/Program/ Department	Award Type	Application Required	Award Category	Value	Name of Scholarship
University Wide	M	No	B	\$750	The Mary E. Keyes Residence Scholarship
	J	Yes	B	\$1,375/year	The Gary Lautens Memorial Scholarship
	J	Yes	D	\$500 and Medal	The MAPS Centennial Award
	M	No	E	Medal	The MAPS Gold Medal
	J	Yes	E	\$750	The Bert MacKinnon Memorial Scholarship
	J	Yes	E	\$175	The Catherine MacNeill Prize
	M	No	B	\$750	The Matthews Hall Residence Scholarship
	M	No	C	\$250	The William J. McCallion Scholarships
	M	No	B	\$750	The McKay Hall Residence Scholarship
	J	Yes	E	\$1,000	The McMaster University Futures Fund Award
	J	Yes	B	\$1,800	The McMaster University Futures Fund in-Course Awards
	J	Yes	D	\$400	The John D. McNie Achievement Award of Excellence
	J	Yes	B	\$1,500	The Elizabeth Mosgrove Scholarship
	M	No	B	\$1,000	The Moulton College Scholarships
	M	No	B	\$750	The Moulton Hall Residence Scholarship
	J	Yes	C	\$425	The Connie O'Shaughnessy Memorial Prize
	M	No	B	\$425	The Tony Pickard Memorial Scholarship
	M	No	A	Medal	The Provost's Honour Roll Medal
	M	No	C	\$125	The Morris and Sarah Rosenhead Memorial Prize
	M	No	B	\$575	The Rotary Club of Hamilton Scholarship
	M	No	B	\$500	The Hilda Savage Memorial Scholarship
	M	No	B	\$750	The Sheila Scott Scholarship for Brandon Hall
	M	No	B	\$750	The Sheila Scott Scholarship for Wallingford Hall
	J	No	D	\$120 for Books	The Margaret A. Service Book Prize
	M	No	B	\$800	The Somerville Scholarships
	M	Yes	B	\$1,150	The Marnie Spears Scholarship
	J	Yes	B	\$425 for Books	The Mabel Stoakley Scholarship
	M	No	B	\$325	The Stobo Scholarship
	J	No	D	\$150	The University Prizes for Special Achievement
	M	No	C	\$250	The University Scholarships
M	No	B	\$800	The University (Senate) Scholarships	
M	No	B	\$750	The Whidden Hall Residence Scholarship	
J	Yes	B	\$7,500/year	The Wilson Foundation Leadership Awards	
M	No	B	\$750	The Woodstock Hall Residence Scholarship	
M	No	B	\$225	The Marguerite Yates Scholarship	
M	No	B	\$800	The Yates Scholarship	
M	No	B	\$1,600	The Gladys A. Young Scholarship	

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# McMaster University Campus Map

[registrar.mcmaster.ca/virtual/](http://registrar.mcmaster.ca/virtual/)

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## LEGEND

- ① Bldg. Number
- ◆ Campus Entrances
- ⊙ Parking
- ⊙ GO Transit Stop
- ⊙ HSR (Local Hamilton Transit) Stop



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# NOTES

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# NOTES

A large, empty rectangular box with a black border, intended for writing notes.