



Brock University

Undergraduate Calendar 1991-1992

The Undergraduate calendar 1991-1992

The undergraduate calendar contains the current, authorized list of academic programs and courses along with regulations regarding admissions, examinations and promotions.

The University Senate and Board of Trustees reserve the right to make changes without prior notice.

Inquiries and applications should be addressed to:

The Office of the Registrar
Brock University
St. Catharines, Ontario
L2S 3A1.



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Undergraduate schedule of dates

An academic timetable giving times and locations for all courses to be offered in any one session (spring, summer or fall/winter) is available at the Office of the Registrar prior to the beginning of that session.

Please refer to *In-Service Education* for information pertaining to dates for this program and to the *Graduate Calendar* for information pertaining to the MA, MSc and MED programs.

Winter Session 1991 - Note: All dates refer to undergraduate studies unless otherwise specified.

Friday	March 1	Last day for withdrawal without the assignment of a grade and last day to change from credit to audit status for all duration 1 and duration 3 courses. Last day for receipt of application to graduate at Spring Convocation.
Saturday through Sunday	March 9 March 17	Spring break, Faculty of Education, pre-service program.
Friday	March 29	Good Friday. University closed; library open.
Monday	April 8	Last day of classes, winter term.
Tuesday and Wednesday	April 9 April 10	Reading period.
Thursday through Wednesday	April 11 April 24	Final examinations.
Friday	May 3	Last day of classes, pre-service education program.

Spring Session 1991

Monday and Tuesday	April 29 April 30	Confirmation of registration and first day of classes. Registrants pick up class timetables and ID cards in accordance with the schedule published in the registration procedures booklet.
Wednesday through Monday	May 1 May 6	Late registration with payment of \$35.00 late registration fee.
Monday	May 6	Last day for duration 1 and duration 2 course changes with permission of the instructor.
Monday	May 13	Last day for withdrawal without the assignment of a grade and last day to change from credit to audit status for all duration 2 courses.
Monday	May 20	Victoria Day. University closed; library open. Classes will be held.
Friday and Saturday	May 31 June 1	Progress examinations in duration 1 courses and final examinations for duration 2 courses.

Monday	June 3	First day of classes for duration 3 courses.
Wednesday	June 5	Spring convocation.
Thursday	June 6	Spring convocation.
Friday	June 7	Spring convocation.
Monday	June 10	Last day for duration 3 course changes with permission of the instructor.
Monday	June 17	Last day for withdrawal without the assignment of a grade and last day to change from credit to audit status for all duration 1 and duration 3 courses.
Monday	July 1	Canada Day. University closed; library open. Classes will be held.
Thursday	July 4	Last day of classes.
Friday and Saturday	July 5 July 6	Final examinations for duration 1 and duration 3 courses.

Summer Session 1991

Tuesday	July 2	Last day for receipt of applications for admission for fall/winter session from international applicants.
Monday	July 8	Confirmation of registration and first day of classes. Registrants pick up class timetables and ID cards in accordance with the schedule published in the registration procedures booklet.
Tuesday through Monday	July 9 July 15	Late registration with payment of \$35.00 late registration fee.
Monday	July 15	Last day for duration 1 and duration 2 course changes with permission of the instructor.
Wednesday	July 17	Last day for withdrawal without the assignment of a grade and last day to change from credit to audit status for duration 2 courses.
Friday and Saturday	July 26 July 27	Progress examinations in duration 1 courses and final examinations for duration 2 courses.
Monday	July 29	First day of classes for duration 3 courses.
Thursday	August 1	Last day for receipt of applications to graduate at Fall convocation.
Monday	August 5	Civic holiday. University closed; library open. Classes will be held.
Tuesday	August 6	Last day for duration 3 course changes with permission of the instructor. Last day for withdrawal without the assignment of a grade and last day to change from credit to audit status for duration 1 courses.

Tuesday	August 6	Last day for receipt of applications for admission to full- or part-time studies in fall/winter session in order to ensure processing prior to the normal registration period.
Wednesday	August 7	Last day for withdrawal without the assignment of a grade and last day to change from credit to audit status for duration 3 courses.
Friday	August 16	Last day of classes.
Friday and Saturday	August 16 August 17	Final examinations for duration 1 and duration 3 courses.

Fall Session 1991

Monday	September 2	Labor Day. University closed; library closed.
Tuesday through Friday	September 3 September 6	Orientation week for pre-service education students.
Wednesday through Friday	September 4 September 6	Confirmation of registration. Registrants pick up class timetables and ID cards in accordance with the schedule published in the registration procedures booklet for fall/winter full- and part-time studies.
Monday	September 9	First day of fall term classes, day and evening sections, undergraduate studies, and pre-service education program.
Tuesday through Friday	September 10 September 20	Late registration with payment of \$35.00 late registration fee for duration 1 and duration 2 courses.
Friday	September 20	Last day for duration 1 and duration 2 course changes without penalty. Last day for consideration of entrance and in-course scholarships.
Monday	October 14	Thanksgiving Day. University closed; library closed.
Friday	October 25	Fall convocation.
Friday	November 15	Last day for withdrawal without the assignment of a grade and last day for change from credit to audit status for duration 2 courses.
*Monday	December 2	Last day of classes, fall term.
Tuesday and Wednesday	December 3 December 4	Reading period.
Thursday through	December 5	Progress examinations in duration 1 courses and final examinations for duration 2 courses.

* The extra day in Fall Term will be used to replace Thanksgiving day classes. The schedule will be that of a Monday.

Tuesday	December 17	
Wednesday through Sunday	December 18 January 5, 1992	Christmas recess.
Wednesday	December 18	Last day of classes, fall term, pre-service education program.
Tuesday through Wednesday	December 24 (noon) January 1, 1992	Christmas and New Year holiday; University closed.

Winter Session 1992

Monday	January 6	First day of winter term classes undergraduate and pre-service education.
Tuesday through Friday	January 7 January 17	Late registration with payment of \$35.00 late registration fee for duration 3 courses.
Friday	January 17	Last day for duration 3 course changes with permission of the instructor.
Saturday	January 18	Literacy assessment for part-time students with 2 or more credits and those year 1 full-time students who did not write the assessment in September.
Friday	January 31	Last day for receipt of applications for OSAP (Ontario Student Assistance Program) for fall/winter session.
Saturday through Sunday	February 15 February 23	Winter reading week. No classes will be held in undergraduate programs.
Friday	February 21	Administrative offices closed; library open.
Friday	February 28	Last day for withdrawal without the assignment of a grade and last day to change from credit to audit status for all duration 1 and duration 3 courses.
Monday	March 2	Last day for receipt of applications to graduate at Spring convocation.
Saturday through Sunday	March 7 March 15	Spring break, pre-service education program.
Friday	April 3	Last day of classes, winter term.
*Monday through Wednesday	April 6 April 8	Reading period.

* The extra day in the winter term will be used to cover classes missed because of adverse weather (if needed). Otherwise it will be a reading day. The missed day will determine the schedule of courses.

Friday	April 17	Good Friday. University closed; library open.
Thursday through Thursday	April 9 April 23	Final examinations. No examination are scheduled for Good Friday, April 17.
Monday and Tuesday	April 27 April 28	Confirmation of registration and first day of classes, spring session. Registrants pick up class timetables and ID cards in accordance with the schedule published in the registration procedures booklet.
Friday	May 1	Last day of classes, pre-service education.

See page 24 for definition of duration 1, 2 and 3.

Note: The above dates are subject to change. Please check the academic timetable published before each session. For information regarding graduate studies registration, consult the *Graduate Calendar* or the Office of the Registrar.

General Information

For twenty-five years Brock has welcomed and encouraged students in their pursuit of further knowledge. Over the years, challenge and enthusiasm are words that have been used many times in discussing the founders, faculty and staff, and students.

Scholarship is both encouraged and acknowledged. The University takes pride in commending those students who have been named to the Deans' Honors lists and those who have been given other scholastic awards. Their names appear in the section of this calendar devoted to scholarships, awards and financial assistance (page 257).

While not all students can appear on the special honors lists, they can all benefit from the opportunity for intellectual and personal growth. Starting in year 1 emphasis is placed on individual participation by means of small group meetings in a seminar, laboratory or tutorial setting in addition to the more formal lectures.

Location

Brock University is located on the Merrittville Highway at St. David's Road (atop the Niagara escarpment) at the southern city limits of St. Catharines. Regional, city and University maps are printed at the back of this book.

The Office of the Registrar is in Room 301 of the Schmon Tower and is open from 9:00 a.m. to 7:00 p.m. Monday to Thursday during fall/winter and spring sessions (September through June) and from 9:00 a.m. to 4:30 p.m. at other times.

Affiliated college

Concordia Lutheran Theological Seminary, an affiliated college of the University, prepares students for the Master of Divinity (four-year program) and Master of Theological Studies (two-year program) degrees. All degrees are granted by the University. The seminary is operated by The Lutheran Church - Canada and is an Associate Member of the Association of Theological Schools in the United States and Canada.

The calendar

The Brock Undergraduate Calendar contains information about the University facilities and academic structure.

The following summary might be useful to prospective students.

In order to attend classes, one must apply for admission either through the Ontario University Application Centre for enrolment in 3.5 or more credits during a fall/winter session, or directly to Brock for fewer than 3.5 credits. Early application is encouraged so that admission can be granted prior to registration; there is an additional fee for late registration. Application procedures and assessments are outlined on page 17.

Certain rules apply to all students and to all programs. These are shown in the section called Academic Programs and Regulations, page 27. See the Glossary on page 24 for an explanation of the terminology used at Brock.

In addition to the general rules, there are departmental regulations which pertain to their single or combined major programs. Details are given in the various departmental segments of

the Calendar which are arranged alphabetically starting on page 36.

A General Studies or Integrated Studies program can be developed in consultation with the appropriate dean if a single or combined major cannot include all of a student's anticipated courses (see page 150).

Descriptions are given for all of the courses in the Brock course bank. The selection of courses to be offered in any session will be listed in the class timetable which is published prior to registration.

Information about fees and financial assistance (including scholarships) can be found on pages 22 and 257 respectively.

Team spirit

Extracurricular activities should be included in the university experience. Brock has facilities for sports (individual and team) as well as special interest clubs that allow students to be participants not merely spectators. Sir Isaac Brock, our namesake, provided active leadership for his troops in the War of 1812. The University could do no less for its students today. His motto, *Surgite* (push on), is ours.

Campus tours

Campus tours are available weekdays throughout the academic year at 10:30 a.m. and 2:30 p.m., or at other times by arrangement. During the summer months, tours are available at 10:00 a.m. and 2:00 p.m.

Prospective students are encouraged to make arrangements ahead of time so that appointments can be made for them to speak with professors in their areas of interest or, perhaps, to sit in on a class.

Life at Brock

To arrange a tour, call the
Office of External Relations
Brock University,
St. Catharines, Ontario
L2S 3A1
(416) 688-5550, ext. 3245

Smoking policy

Smoking is permitted only in designated areas of Brock University.

Life at Brock

Student organizations

Brock University Students' Union

All registered students are members of the Brock University Students' Union (BUSU). Each spring, union members elect a president to preside over BUSU and the students' administrative council (BUSAC), comprised of student representatives from each department in the University, the Faculty of Education, Concordia Lutheran Seminary, and the residences.

BUSAC acts as a political lobby and a social organizer, and it is responsible for managing the affairs of the union and implementing policies for the students of the University.

Through student fees, BUSU sponsors and supports such programs as orientation week, the General Brock store, the photocopying service, the video game service, *Press* (the student newspaper), the book exchange, the student handbook, the student telephone directory, and more than 40 special interest clubs which all students are free to join.

Students also participate in University policy-making by electing four representatives to sit on Senate, and three to sit on the Board of Trustees. Election of these representatives coincides with the presidential election in the spring of each year, or as required by vacancy.

The BUSU office is located in room 828 in the Thistle corridor (Thistle West); telephone (416) 688-5550, ext. 3568.

The Ombudsman

There may be occasions which cause students to feel victims of unfair treatment. For guidance in both academic and personal matters, students can contact the ombudsman.

For assistance in getting through red tape, injustice, conflict and harassment, help and support are available. Although not a lawyer, the ombudsman has access to expert legal advice, should it be necessary. It is important that all students become familiar with their academic rights and responsibilities. Read the regulations found later in this calendar.

Election for the office of the ombudsman coincides with BUSU presidential elections in the spring of each year. The ombudsman is located in the BUSU office.

The Brock University Students Centre

This year marks the first full year of operation for the student centre. This building was funded and is operated by students. It contains a general store, the BUSU offices, a pub, a cafeteria, meeting rooms, a women's resource centre and a photocopying service.

This building is a milestone in Brock's history. It was built by and maintained by students.

Ontario Public Interest Research Group (OPIRG) - Brock

OPIRG is a body funded by student fees that provides an outlet for Brock students to actively work on a variety of environmental and social justice issues. Through research, education, and action, students will gain insight into the interrelationships between different social issues, while improving their skills and providing valuable information in the community.

All students are invited to participate in the activities of OPIRG. Students who do not wish to support the work of OPIRG are encouraged to get a refund of their student fees from the OPIRG office, located in Thistle 101 (location subject to change).

Alumni association

With your graduation comes a new relationship with the University. You will have joined the more than 20,000 members of Brock's Alumni Association. Full membership privileges (including special membership prices at the Physical Education Complex and borrowing privileges from The Library) are available to anyone who holds a degree or certificate from the University.

The mission of the Brock University Alumni Association is to foster a spirit of loyalty to the University among the alumni; to support the University by promoting its welfare and advancing its interest and influence; to maintain and promote unity and a spirit of friendship among graduates; to raise funds on behalf of the University; and to maintain a fund or funds to apply the interests from this for charitable purposes including making awards to individuals or organizations within the University to assist in the promotion of education, arts and recreation.

Members of the Association are kept informed of University affairs and of graduates' activities through *Surge!*, published four-times a year. Regional chapters have been established in such diverse areas as Ottawa and Malaysia. The Association also provides support for the Brock Student Ambassadors, who provide programs such as exam-time survival kits to help put alumni in touch with the current student body--their future members.

Each year, the Association presents a number of awards. The \$500 Alumni Award is given to a third- or fourth-year student who has contributed to the extra-curricular life of the University while maintaining a satisfactory grade average. The Jim Gayman Bursary, established in 1981, is awarded to a residence student, and the Alumni Award for Excellence in Teaching is presented to an outstanding faculty member.

For information about the Alumni Association or any of its programs, contact the Alumni Office, The 263, (416) 688-5550, ext. 3251.

Development office

John F. Bird, Director
Thistle east 263

The development office co-ordinates all fund-raising programs and projects undertaken by the University. All donations are eligible for an income tax credit, and an official receipt will be issued promptly. The development office maintains a list of companies which will match your donation.

You can perpetuate your interest in the University through a bequest that will benefit future generations of students. A bequest is expressed through your will by simply stating that Brock University is to receive a certain sum of money, a specified piece of property (art, books, life insurance, real estate), a stated percentage of your estate, or residual interest in your estate after other responsibilities have been met.

In these times of dwindling tax monies, the contributions of individuals have never been more necessary. Enormous increases in registrations have placed great pressure on every facility and program in the University, and the need for additional support is a necessary part of meeting operating cost. There is a serious need for modernization, expansion, and updating of many of the University's facilities and equipment.

The development office welcomes the opportunity to consult with you on how you can help us through a contribution. Through the University's Donor Recognition policy, your contribution will be suitably recognized.

For further information, please call or write:

Development Office, Brock University
St. Catharines, Ontario L2S 3A1.

Telephone (416) 688-5550 ext. 3591

Charitable Registration Number
0053413-20-16

Facilities and Services

University library

The University Library is housed on six floors of the Schmon Tower, the focal point of the campus. Its collections, numbering 850,000 items, have been selected to support the teaching and research programs of the University. All students have access to the collections. Individual study and specialized seating is available for 750 readers. The library is open, including evenings and weekends, for 91 hours each week; hours are extended during exam periods.

The library maintains a number of separate collections. The Reserve Collection contains heavy-demand books and articles which are required course reading and is located at the circulation desk. The Documents Collection contains official publications of all levels of government and of international organizations. The Niagara Regional Collection contains materials published about or in the Niagara Region. The listening room, equipped with record and compact disc players and tape decks, contains 8,000 recordings of music, plays, documentaries and lectures.

Access to the collections is available through CD ROM (SearchMe) and online (GEAC) catalogues with computer terminals on each floor of the Library. These catalogues provide detailed information on the books, journals, documents, atlases and recordings held in the University Library and Map Library and the material located in the Instructional Resource Centre (see below).

The online circulation system provides a speedy control process and an efficient recall procedure for books requested by individual borrowers. In order to borrow materials, students must register with the library and must

present a valid University ID card.

Items not available in the library collections may be requested from other libraries through the Interlibrary Loan Service. Brock students may borrow in person, through a reciprocal agreement, from the libraries at Guelph, Waterloo, Western, Wilfrid Laurier and York universities.

Experienced librarians are available to assist in the use of the collections at a central reference and information desk. They also provide a computer search service, a quick and efficient method of searching indexes and abstracts in over 300 data bases. Free access to a growing number of data bases on compact discs is available. Individual and group orientation tours are provided; individual term paper research assistance, bibliographic instruction and subject-related seminars are scheduled on request.

The library is wheelchair accessible. A private study room and specialized equipment are provided for the use of the disabled. The library can also provide access to talking book material. Further information is available from the Reference department.

Debit card and coin operated photocopy machines are located throughout the library. Equipment is available for reading, and for making paper copies from, microforms.

More detailed information on library collections, services and hours can be found in a series of printed guides available in the library.

University map library

The Map Library, administered by the University Library, is located in the Mackenzie Chown Complex, Room C306. It contains 50,000 map sheets, including a complete set of Canadian federal topographic maps and numerous special-purpose maps, 700 atlases and 15,000 aerial photographs of the

Niagara Region dating from 1921 on. The Map Library is equipped with terminals for accessing the online and CD ROM catalogue, a light table, stereoscopes and a photocopier with enlargement and reduction features.

The Map Library resources and facilities are available to the general public for reference purposes.

Instructional resource centre

Located in the Faculty of Education, this centre contains selected print and audio-visual materials related to educational studies. There is a work area for the production of classroom audio-visual aids. Although geared to the specialized needs of education students, the materials and facilities are available to all students.

Computing services

The University's Computing Centre, which services both the academic and administrative needs of the University, is located in section F of the Mackenzie Chown complex. It houses a UNISYS B7900 which is accessed via terminals located in various laboratories throughout the University.

The computing facilities are available to faculty, staff and students. Students requiring the use of the B7900 for their courses are supplied with a usercode by their instructor.

The system supports all the major programming languages such as ALGOL, FORTRAN IV (and FORTRAN 77), BASIC, COBOL (and COBOL 74), APL and SIMULA together with a number of application packages which include SPSS*, IMSL, and BMDP.

Brock's VAX-11/780 computer is housed in section F of the Mackenzie Chown complex. Currently this device supports PASCAL, FORTRAN,

COBOL, MACRO, MODULA-2, and SIMSCRIPT programming languages.

The University supports three micro labs for general purpose academic use. The facilities are located in Rooms A203, A204 and F316. One lab has thirty MACINTOSH SE devices installed in room A204 and connected via MACJANET another networking software. Another lab in room A203 supports the MS-DOS operating system on forty-five UNISYS (IBM-compatible) micro computers networked with NOVELL software. Room F316 contains 24 Macintosh 512 micros that can be used as stand-alone devices or as terminals to access the vax 11/780.

Athletics and campus recreation

Programs and facilities are designed to involve as many members of the University community as possible--as participants and as fans. Recreational, instructional, intramural, and intercollegiate activities revolve around the physical education centre. Facilities include two gymnasias, combatives room, fencing/dancing studio, weight and training rooms, five squash courts, one handball/racquetball court and a 50-metre eight-lane swimming pool. Classrooms, *Badger Shop* (clothing store), snack concession, and offices are also included.

Four outdoor all-weather tennis courts and numerous fields compliment the indoor facilities.

As the largest assembly area on campus, the centre is also used for social events, examinations, and convocation.

Campus recreation

The campus recreation program offers a wide range of recreational and competitive activities for all levels of ability. The aim of the program is to

provide an opportunity for physical activity through competitive leagues, recreational leagues, clubs and instructional programs that can enrich campus life.

Recreation: For those who prefer not to participate in structured programs, squash, racquetball and tennis courts may be booked in advance; other facilities are available as posted. Recreational programs are designed for fun with minimal focus on competition. The following clubs offer activities, instruction and competition: badminton, tai chi, skating, karate, kung fu, wilderness and field lacrosse. New clubs will be organized according to demand.

Competition: Team and individual physical activities are offered on a scheduled basis, with officials, league standings, and play-offs. Men's, women's, and co-ed programs are offered. Leagues include slowpitch, flag football, ball hockey, ice hockey, basketball, volleyball, and badminton.

Instruction: If you want to be introduced to a new activity, or want to improve existing skills, join one of the instructional programs. Lessons are offered in jazz dance, ballroom dance, fitness, squash, weight training, tennis and women's self-defence. Certification programs including CPR, first aid, fitness leadership, sports injury care and national coaching certification are available.

Intercollegiate athletics

As a member of the Ontario Women's Intercollegiate Athletic Association (OWIAA), Brock teams compete with other universities in basketball, fencing, rowing, volleyball, cross-country running, tennis, soccer and swimming.

As a member of the Ontario Universities Athletic Association (OUAA), the men's teams compete in basketball, cross-country running, curling, fenc-

ing, hockey, rowing, rugby, soccer, golf, tennis, volleyball, swimming and wrestling.

Bookstore

Thistle South, 219

The Brock Bookstore is the primary source of required and recommended reading materials. It also stocks stationery, magazines, a wide range of other reading material, computing supplies, clothing and memorabilia. Bookstore hours: fall/winter session: Monday - Thursday 9 a.m. to 7 p.m., Friday to 4:30 p.m.; July and August: Monday - Friday 10 a.m. to 4:30 p.m.

Student Services

Office of the Dean, Student Affairs
David L. Jordan, Dean
Decew Residence, 214

The Dean of Student Affairs works to make your life as a student better. He develops and promotes policies and programs to address these concerns, to improve the quality of student life at Brock, and to increase students' appreciation of the academic experience. No matter what you have to say, the Dean of Student Affairs wants to listen.

The dean chairs the Vice-President Academic's Advisory Committee on Student Affairs, a joint committee of students, staff and faculty. Students who are interested in the work of the committee may volunteer through the Office of the Dean of Student Affairs.

The dean is available to assist both individuals and groups of students with whatever concerns they may have. Students may bring their ideas and problems to the dean. If it is not possible to see the dean immediately, the secretary will arrange an appointment.

Counselling centre

Cathie Closs, Co-Director
Joan McCurdy-Myers, Co-Director
Schmon Tower, ST411

The counselling centre provides a variety of psychological and educational services designed to help students take full advantage of their university experiences.

The Counselling Centre is comprised of:

- Career/Placement Services
- Learning Skills
- Personal Counselling
- Special Needs

Career/placement services

Cindy Nogradi, Co-ordinator
Schmon Tower, ST411

The Counselling Centre offers a variety of career services to help you with your career planning and job search. Attend an information session on how to prepare a cover letter or résumé. Have your résumé critiqued or use the career resource library. Most services are free. Take advantage of our career drop-in service by bringing your questions to a career assistant anytime between 8:30 a.m. and 4:30 p.m.

When you're looking for a part-time job to help you through the school year, or if you're ready to launch your career after graduation, the Student Placement Office is the first office you should approach. Career/placement service keeps up-to-date listings of all jobs available on a permanent, part-time or summer basis. Graduating students should ask about the on-campus recruiting and job referral programs. Our career/placement staff can help you get started on the ladder to success.

Learning skills programs

Schmon Tower, ST409

Learning skills instructors/consultants can help you learn how to cope with academic challenges. They offer individual consultations and workshops such as study skills; essay writing; reading comprehension, efficiency and vocabulary; critical reading; seminar and presentation skills; relaxation skills; and language power. Most of these programs are available at a nominal charge.

Personal counselling

Schmon Tower, ST411

Many students seek help with specific concerns related to peer relationships, self-confidence, loneliness, stress, sexuality, or academic difficulties. Others bring less clearly defined problems such as low motivation or a feeling that things just are not right. Through individual and/or group counselling, many students resolve their immediate concerns and learn useful skills for dealing with future issues as well.

If something is bothering you and it is interfering with your studies, there is someone who can help. Counsellor/therapists offer professional counselling, in complete confidence, and at no cost to you. Just call or drop in to set up an appointment.

Special needs

Susan Wheeler, Co-ordinator
Schmon Tower, ST409

Brock University encourages and supports the educational aspirations and participation of students with physical and learning disabilities.

Students are encouraged to contact Brock's Special Needs Co-ordinator, Susan Wheeler, in Room ST409 or call ext. 3242 to discuss and develop the most appropriate support services to accommodate their specific needs.

Most facilities at the University are wheelchair accessible, however, an initial orientation outlining specific access routes to buildings, classrooms and parking is advisable. There are six wheelchair accessible housing units on campus in the Village area.

Student Services

The Special Needs resource area in Room ST409 offers assistance and individualized training to use both regular and more specialized computers and technical aids to assist a variety of impairments. Services such as notetakers, tutors and alternate examination considerations are co-ordinated by Ms. Wheeler.

A reference librarian has been appointed to assist disabled students with their acquisitions as well as to obtain brailled for talking books when requested.

For further information:
Susan Wheeler
(416) 688-5550, ext. 3242.

Financial aid

Ann Stavina, Administrator
Thistle North, TH260

For OSAP inquiries or advice about financial problems or concerns, the people in the Financial Aid Office can help. They can guide you through the paperwork, and let you know how you can qualify for Ontario Student Grants, Canada Student Loans, Ontario Student Loans, Ontario Special Bursary Plans, Ontario Work/Study Plans and Ontario Graduate Scholarships.

Applications and information about assistance for full- and part-time students are available from the Financial Aid Office which is open Monday through Friday 10:00 a.m. to 4:00 p.m. (Tuesdays 10:00 a.m. to 7:00 p.m.)

Campus ministries

DeCew Residence, 201 and 202

Rev. George Tattrie (Protestant Ecumenical Chaplain)

Sister Joan Quinn, CSC (Roman Catholic Ecumenical Chaplaincy)
Leny Holierhoek, Co-ordinator, Justice and Peace Programs (R.C.)
Rev. Nick Overduin (Christian Reformed Ecumenical Chaplain)

Campus Ministries believes that spiritual development is an integral part of the university experience, and provides people oriented ecumenical worship, spiritual direction, pastoral counselling, workshops, seminars, study groups and public lectures.

The chaplains are appointed by several religious denominations and are available to discuss any topic with you, particularly concerning spiritual and ethical aspects of your life.

Anyone who wants to be a part of a faith community, to share concerns and experiences or to speak in confidence about any matter is welcome to contact any of the on-campus chaplains.

Residences

James R. Fleming, Director of Residences and Conference Services
DeCew Residence, 205

The Housing Office is in charge of Brock's three residences: DeCew, a traditional style on-campus residence with all-male, all-female and co-ed accommodations and self-contained cafeteria; Queenston, an off-campus traditional style residence, with alternate male and female floors and a meal plan; or the Village, that combines the independence of townhouse living with the convenience of an on-campus location.

All residence rooms provide the basic necessities and all residences provide opportunities for residents' input through the Residence Action Committee or the Residence Life Staff.

Students who indicate an interest in

residence on their OUAC form will be sent an application for residence along with the University's offer of admission.

In addition, the housing office staff can help you find outside accommodations, with listings of available rooms, apartments and houses, and a package that contains everything you need to make the search a little easier, from a list of average rents to a guide to the Landlord/Tenant Act.

International services

John Kaethler, Co-ordinator
DeCew Residence, Basement 211

"Every student is an international student", according to John Kaethler, Co-ordinator of International Services.

International Student Advising:
International students may find it helpful to discuss academic or personal problems with the co-ordinator. He can offer assistance with such things as immigration, health, banking, accommodation, and the completion of various forms, as well as providing liaison with instructors, the University administration, and the community at large. It would be useful to see him when you arrive at Brock.

Host Family Program:
The co-ordinator of International Services, in conjunction with the St. Catharines University Women's Club, offers international students as Host Family Program. This is not an accommodation service, but an opportunity for international students to meet informally with Canadian families.

International Study, Employment and Development:
The Co-ordinator also assists Canadian students interested in studying or working in other countries. He co-ordinates an exchange program to the United States and to Great Britain. He is also responsible for international

Student Services

development activities on campus.

Health services

Melodie Shick-Porter, Nurse
Thistle East, TH261

Don't feel you have to wait for a problem to arise to visit the Health Services.

A team of nurses and physicians provide comprehensive medical/clinical services as well as health education and counselling. We can help you with a medical problem, provide treatment or a referral, discuss nutritional or weight concerns, give allergy injections or update your immunization. We can provide health education and counselling with regards to issues such as contraception, sexually transmitted diseases, stress or lifestyle issues.

Your visit and treatment is strictly confidential. The health fee you paid with registration covers all health services and a special student insurance plan to help cover prescription medication and accident expenses such as dental injuries. Physician visits are covered by OHIP.

If you have any questions or require any additional information a health issue or specific health concern, feel free to drop in - our hours are 8:00 a.m. - 4:00 p.m. Monday through Friday, September to May.

Day care centre

Jane Cripps, Supervisor
Faculty of Education, Room 9

The Rosalind Blauer Centre for Child Care offers two learning programs for children. They are a full-day program

which includes a hot lunch, and a half-day program which can be scheduled for mornings or afternoons. Both programs are open to the children of the community in addition to openings for the children of the students, faculty and staff of the University. A regional subsidy is available to eligible parents.

The centre, located in the Faculty of Education, is a co-operative corporation. The staff is qualified and experienced, assisted by volunteer parents and students.

Call (416) 688-5550, ext. 3515.

Sexual harassment adviser

Ann Bown, Adviser
Decew Residence, 213

Brock University endeavors at all times to provide a working and learning environment that is supportive of scholarship and research and the fair treatment of all employees and students at the University. The basis for interaction is mutual respect, co-operation, and understanding. The university does not condone sexual harassment because it violates personal dignity and integrity.

By working together, we can ensure an atmosphere free from sexual harassment.

The adviser's office is open weekdays. For more information drop in or call (416) 688-5550, ext. 4019.

Admissions

All prospective students are encouraged to apply, and will be considered on the basis of evidence of probable success in their chosen program. Enrolment has been limited in order that our students may continue to benefit from the University's traditions of personal contact and individual attention. Applicants must be formally admitted to the University before they can register in degree credit courses.

Application deadline

Application for admission should be made as early as possible. Application forms and necessary documentation for full time and part time enrolment must be received by the Office of the Registrar no later than Friday, August 2, 1991 (July 1, for international applicants) to ensure consideration for normal September registration. Students applying after this date, who are subsequently admitted, may be required to register late and pay the late registration fee.

How to apply

Ontario students currently in grade 12 or OAC (grade 13)

Note: Ontario Academic Courses (OAC) replace all references to grade 13.

OUAC 101 application forms are available at your high school guidance office. The completed form and interim grades are to be sent to the Ontario Universities' Application Centre. Applicants who wish to be considered on final marks should forward a copy of their final grades directly to Brock University.

All other full-time applicants
OUAC 105 application forms are available through the Office of the

Registrar for previous high school matriculants, mature applicants, transfer, out-of-province and international students. The application form and appropriate fee should be forwarded to the Ontario Universities' Application Centre, Box 1328, Guelph, Ontario, N1H 7P4.

Part-time degree and certificate applicants

Part-time degree applicants, as well as those seeking admission to certificate programs in public administration or urban and environmental studies, should contact the Office of the Registrar to obtain the proper application form and to discuss their admission and program objectives.

It is the responsibility of all applicants to ensure that:

- i) all pertinent academic documentation is forwarded directly to the Office of the Registrar from institutions previously attended, such as secondary schools, colleges and universities;
- ii) proof of change of name (i.e., marriage certificate, notarized statement or other legal document) is provided if academic documents show a name other than that under which application is made;
- iii) evidence of proficiency in English is provided if English is the applicant's second language (see page 19).

Applicants withholding, misrepresenting or failing to provide information regarding previous university or college records are liable to have their registrations cancelled.

It should be noted that there is a \$15 fee for assessment of previous university or college transcripts for full-time applicants to undergraduate studies.

Application for Residence.

Students interested in residence

should indicate this on the OUAC application form. Applications for residence will be included with offers of admission.

Admission to undergraduate degree studies

Ontario Academic Courses (OAC)

Ontario secondary school students must present the Ontario Secondary School Diploma (OSSD). An overall average of 60 percent on six Ontario Academic Courses is the minimum required for consideration but a higher average will be required for most programs since the number of qualified applicants normally exceeds the spaces available.

High school students are encouraged to achieve as much breadth of preparation as possible in the course of their studies leading to the OSSD while also meeting the stated admission requirements of the University program to which they intend to apply.

Academic standing accepted as equivalent to OAC

Alberta, British Columbia, Manitoba, New Brunswick, Newfoundland, Nova Scotia, Prince Edward Island, Saskatchewan

Grade 12 senior matriculation with high standing.

Quebec

CEGEP General 1, or grade 12 with high standing.

United Kingdom, West Indies, East and West Africa, Hong Kong

The General Certificate of Education with passes in five subjects, of which at least two must be from distinct areas at the advanced level; or passes in four subjects, of which at least three must be from distinct areas at the advanced level. (Please note proficiency in English requirements, page 19).

International Baccalaureate system

Applicants who have been granted the

Admissions

IB diploma and accumulate a grade total of 28 may be considered for admission and may receive up to three transfer credits on the basis of higher level subjects completed with a grade of 5 or better.

United States

Grade 12 diploma with exceptionally high grades, SAT scores of V600, M550 or T1150, or two Advanced Placement courses with scores of 3 or better will be considered for admission to year 1.

Other students applying for admission to year 1 from the U.S.A. must have completed a minimum of 30 semester credits (45 quarter credits) in academic subjects with a minimum average of B at an accredited post-secondary institution.

Other countries

Applicants from areas other than those noted above will be evaluated on an individual basis. Original or certified true copies of transcripts are required including official English translations (where required). (Please note proficiency in English requirements, page 19.)

Transfer from other universities

Canadian universities

Applicants wishing to transfer to Brock from degree programs at other Canadian universities must normally offer the equivalent of an overall average of 65 percent as a minimum with a higher average being required where enrolments are limited. Applicants must also be eligible to re-register at their home institution. Normally transfer credit will be granted only for courses passed which are appropriate to the chosen program. Course attempts and transfer averages at the previous university will be recorded on the transfer students' records to place those students on an equal basis with those who take their entire undergraduate program at Brock.

No transfer credits will be granted for any courses completed at another university in fulfillment of the basic requirements for University admission.

Credit may be allowed for any additional courses completed concurrently. The grades from other universities whose grading schemes differ from that of Brock University will be translated into equivalent Brock grades and admissibility and transfer credit assessed in these terms. Evaluation of all possible transfer credits available at the time of admission must be completed within one year of the date of admission to the University. (Please see page 31 for a description of the University attempt system.)

Ryerson and Colleges of Applied Arts and Technology

Students who achieve an overall standing of C or better in a degree program at Ryerson Polytechnical Institute are eligible for admission. Courses being considered for credit must have a minimum grade of C (60 percent) or equivalent.

Applicants must have a cumulative average of B (75 percent) or better in a three-year diploma program at Ryerson or an Ontario College of Applied Arts and Technology (CAAT) to be considered for admission and possible transfer of up to five credits. Advance standing is based primarily upon:

- i) appropriateness of previous program to Brock program
- ii) course content
- iii) grades achieved in courses.

Applicants must have a cumulative average of B (75 percent) or better in a two-year program at Ryerson or a CAAT to be considered for admission and possible transfer of up to three credits.

Applicants who achieve a cumulative average of A (80 percent) in a one-year diploma program at Ryerson or a CAAT may be considered for admission. No transfer credit will be awarded.

CAAT applicants who do not meet these requirements will be considered on an individual basis.

CGA, CA, CMA

Individuals with CGA, CA, CMA

designations may be granted up to five transferred credits, provided a minimum grade of 70 percent is achieved.

Bible colleges

Applicants who have completed a degree program at a bible college accredited by the American Association of Bible Colleges will be considered for admission and may receive transfer of up to five credits.

Admission of mature students

Applicants who are not eligible for admission in any of the categories listed above, who have been out of school for at least two years and who are at least 21 years old, may be considered for admission on a mature student basis.

Mature applicants interested in either full-time or part-time studies are encouraged to apply. Before being permitted to enrol in full-time studies, mature applicants should complete two credits with at least a C average.

In support of their full-time application, students must submit official copies of all pertinent academic documentation and a letter outlining:

- i) career ambitions
- ii) work experiences
- iii) why they may be successful at university.

An interview may also be required. Please note that our mature student regulations are only applicable to Canadian citizens and permanent residents.

Admission of senior citizens

Senior citizens (60 years of age or older) are encouraged to apply for admission to full-time or part-time studies as either credit or auditing students. Tuition fees for such students are waived.

Concurrent secondary school/university enrolment.

Students enrolled in less than a full-time load of Ontario Academic Courses

(six), may be permitted to register concurrently for one credit, subject to the following provisions.

a) They must be registered in a sufficient number of OAC to complete requirements for an Ontario Secondary School Diploma (OSSD) which meets normal university requirements.

b) They must have a least a B standing in the previous high school year in an advanced level program, be recommended by their school and be approved by the Brock department concerned.

c) Credit will be granted upon successful completion of the course and fulfillment of Brock's admission requirements.

Re-admission of students who were required to withdraw

Application for re-admission is to take the form of a letter addressed to the Associate Registrar.

January entry

A student may begin first-year studies on a part-time basis in the winter term beginning in January. It should be noted, however, that the number and types of courses available then are limited.

Non-degree admission to undergraduate studies

A non-degree student is one not proceeding towards a Brock University degree. Typical non-degree students are:

- (a) persons already holding a degree who wish to take courses for interest or upgrading purposes;
- (b) students from other universities taking courses on letters of permission.

Non-degree students who successfully

complete a minimum of two credits, with an average of 60 percent or better, may apply for admission as degree or certificate candidates. Such applications will be considered on an individual basis and credit may be given for work already done.

Special admission

A special student is one whose course load has been restricted because of the student's academic standing. Such students would normally be permitted to register in a maximum of 2 credits per academic session.

Admission to other programs

Faculty of Education

For information on admission requirements and procedures for the various programs of the Faculty of Education, see page 105.

Graduate studies

For information on the admission requirements for graduate degree programs, see the Graduate Studies calendar. An undergraduate degree acceptable to Brock University, normally an honors degree in the appropriate field, is the minimum requirement.

Proof of proficiency in English

All student visa applicants whose first language is not English must provide results of TOEFL. Other students whose first language is not one of the official languages of Canada may be required to provide TOEFL results. Normally only those with scores of 550 or greater will be considered for admission. Such students are required, as a condition of registration, to write an English language test. The test results determine the number of

courses a student may take.

International student immigration requirements

Students entering Canada from other countries are required to comply with Canadian immigration requirements. Student visas are issued abroad by Canadian diplomatic, consular or immigration officers. Where there is no Canadian representative, prospective students may apply to representatives of the British government. An original letter of acceptance from Brock University must be presented at that time.

Registration in co-operative programs is available only to students eligible for employment in Canada in their chosen field.

A pamphlet outlining immigration requirements is available from Canadian immigration officers, Canadian embassies, consulates, high commissioners' offices, British consular offices, or directly from the Immigration division, Manpower and Immigration department, Ottawa, Ontario, Canada.

Policy statement

Brock University has had, and will continue to have, a racially non-discriminatory policy and therefore does not discriminate against applicants and students on the basis of race, color, or national or ethnic origin. Such a non-discriminatory policy applies to staff and extends to non-discrimination on grounds of creed or sex.

Admissions

Specific requirements and recommendations for various programs (see also "Ontario Academic Courses" - page 17.)

Program	Required OAC Subjects	Strongly Recommended OAC Subjects	Comments
Accounting (BAcc)	English OAC 1 Two mathematics averaging 75%.		Normally a minimum average of 70% on 6 credits for consideration; co-op accounting normally 80% average on 6 credits for consideration.*
Business administration (BBA)	English OAC 1 Two mathematics averaging 65%.		Normally a minimum average of 70% on 6 credits for consideration.
Arts (BA)	English OAC 1		
Biological Sciences (BSc)	Biology, chemistry and either mathematics or physics.	English OAC 1	
Business Economics (BBE)	English OAC 1	Mathematics	Normally a minimum average of 65% on 6 credits for consideration.
Child Studies (Concurrent BA/BEd)	English OAC 1		Normally a minimum average of 80% on 6 credits for consideration.
Chemistry (BSc)	Chemistry, physics, and two mathematics.	A third mathematics and English OAC 1.	
Computer Science (BSc)	One mathematics (minimum of 65% required)	English OAC 1	Normally a minimum of 70% on 6 credits for consideration.
Concurrent BSc/BEd science program	Minimum average of 80% in two sciences, one mathematics and English OAC 1.		For teaching at the Junior/Intermediate level (Grades 4 - 10).
mathematics program	Minimum average of 80% in two mathematics, one science and English OAC 1.		
Environmental Science (BSc)		Biology, chemistry, mathematics and English OAC 1.	
Geological Sciences (BSc)	Any two of biology, physics, geology or chemistry.	Mathematics and English OAC 1.	

* In accordance with the regulations of Employment and Immigration Canada, admission to the BAcc Co-op option is limited to students eligible for employment in Canada

Admissions

Program	Required OAC Subjects	Strongly Recommended OAC Subjects	Comments
Health Studies (BA)	English OAC 1, mathematics, two sciences (biology and chemistry preferred).		Normally a minimum average of 75% on 6 credits for consideration.
Mathematics (BSc)	Two mathematics	A third mathematics and English OAC 1.	
Music (BA)	English OAC 1		Theory placement test (at approximately Royal Conservatory Grade II level) and aural skills test must be passed.
Physics (BSc)	Chemistry, physics, and two mathematics.	A third mathematics and English OAC 1.	
Physical Education (BPhEd)	English OAC 1		
Physical Geography (BSc)	One science	Physical geography, mathematics and English OAC 1.	
Recreation and Leisure Studies (BRLS)	English OAC 1		
Theatre (BA)	English OAC 1		A successful audition or interview is required.
Visual Arts (BA)	English OAC 1		A satisfactory portfolio submission and interview are required.

Fees

(Subject to change)

Academic fees for both full-time and part-time students are charged on a per credit basis (see schedule below). These include fees for registration, tuition, library and examinations.

Fee per credit 1991-92 *undergraduate and Faculty of Education--regular	\$385.50
*undergraduate--visa	\$1366.00
Challenge for credit (per credit)	\$205.00
Co-op accounting administrative fee	\$450.00
Late registration fee	\$35.00
Replacement of lost service card	\$5.00
Transcript of record (\$2 for each additional copy on the same order)	\$3.00
Duplicate tax certificate --per copy (previous years' replacement only)	\$10.00
Returned cheques**	\$20.00
Off-campus examination fee	\$50.00
Replacement of diploma	\$25.00
Another university transcript assessment	\$15.00
Letter of permission application fee	\$25.00
Verification of registration or other status	\$15.00

*Students who are not Canadian citizens, landed immigrants, international students sponsored by CIDA, or who do not have diplomatic privileges, will pay the visa student fee. Please consult the Finance Office for full details.

**Students whose cheques are returned NSF at registration will be charged the

\$20 returned cheque fee as well as the late registration fee of \$35.

The charge for auditing a course is 50 percent of the normal course fee, or the withdrawal charge at time of change to audit status, whichever is the greater.

In addition to the academic fee, any Canadian citizen or landed immigrant taking three and one-half or more credits in the fall/winter session will be required to pay a non-refundable health fee of \$27. Students increasing their load to three and one-half or more credits will be assessed the health fee. Students paying the international (visa) student fee will pay a \$27 non-refundable health fee.

Included in the tuition fee is \$10 per credit which is collected on behalf of the Brock University Students' Administrative Council (BUSAC) by the Board of Trustees, and a \$7 per credit athletic, intramural and recreational program and facilities fee. Also included is a fee of \$10 per credit collected on behalf of BUSAC for the construction of a Student Centre; \$2.50 per credit on behalf of BUSAC for the Capital Fund; \$1.50 per credit on behalf of OPIRG and \$.50 per credit on behalf of OFS. This portion of the fee is non-refundable.

Payment of fees

All fees are due and payable at confirmation of registration at which time students must have sufficient funds to pay at least the first instalment of tuition and residence fees. Students taking three or more full courses (six or more half courses) may pay in two instalments. The first instalment is due at registration, the second is due by January 20, 1992 without further notice from the University. Instalment payments are subject to carrying charges. See the following section for details.

Carrying charges

Carrying charges on unpaid students' accounts (including tuition fees, residence fees, meal plan, incidental fees and any other outstanding fees and charges) will be assessed. See the

following schedule for specific dates.

Students receiving government grants will still be subject to carrying charges on their outstanding balance. This carrying charge has been included in the computation of OSAP assistance.

Last date for payment without carrying charges	Rate for each \$100 or part owing	Date charges assessed
Nov. 11, 1991	\$3	Nov. 12, 1991
Jan. 20, 1992	3	Jan. 21, 1992
Feb. 10, 1992	1	Feb. 11, 1992
Mar. 2, 1992	1	Mar. 3, 1992
Apr. 6, 1992	2	Apr. 7, 1992
May 4, 1992	2	May 5, 1992
June 1, 1992	1	June 2, 1992
July 6, 1992	1	July 7, 1992
Aug. 4, 1992	1	Aug. 5, 1992
Aug. 31, 1992	1	Sept. 1, 1992

First instalment (regular) SEPTEMBER, 1991

5.0 credits	\$1,375
4.5 credits	\$1,250
4.0 credits	\$1,100
3.5 credits	\$975
3.0 credits	\$825

First instalment (visa students) SEPTEMBER, 1991

5.0 credits	\$4,800
4.5 credits	\$4,325
4.0 credits	\$3,850
3.5 credits	\$3,375
3.0 credits	\$2,875

Senior citizens (aged 60 at time of regular registration) will be permitted to enrol in a course, or courses, on a regular or audit basis without payment of the regular tuition fee. Application for admission must be made in the normal manner.

Students expecting to receive assistance through the Ontario Student Assistance Program must file their application with the Financial Aid Office no later than June 30. Students who apply after this date and who have not received

written confirmation that their applications have been processed must pay the required fees at registration.

Students whose cheques presented at registration are returned by the bank (NSF or for any other reason) will have to pay the \$20 returned cheque charge. A certified cheque is required to clear outstanding accounts.

No student having an outstanding account with the University will receive a degree or a statement of final grades, or have any such statements furnished to parties outside the University until the debts have been cleared to the University's satisfaction. Final grades may be released by the Office of the Registrar only.

Residence fees

In 1990-1991 the residence rates for room and board averaged about \$4000 depending on the type of accommodation and meal plan. An increase is expected for 1991-1992.

No refunds will be made on duration 1 courses after January 20, on duration 2 courses after October 15, or on duration 3 courses after February 10.

Students should note the dates for withdrawal without academic penalty shown in the *Schedule of dates* section.

Inquiries concerning fees should be addressed to the Finance Office, Schmon Tower, 12th floor, telephone (416) 688-5550, ext. 3286, ext. 3761 or ext. 3283

Withdrawal charges

From September 9 through September 20 no charges are levied for dropping, adding or withdrawing. After September 20, a withdrawal charge will be levied based on the table below.

Tuition fees at withdrawal

Withdrawal notification in writing must be received by the Office of the Registrar by the dates noted below for the 1991-92 fall/winter session. Discontinuing attendance at classes or notification to instructors does not constitute official withdrawal - **must be in writing to the Office of the Registrar**. Tuition fees charged per course to the withdrawal dates are listed below.

Date	Duration 1	Duration 2	Duration 3
Sep. 20	0%	0%	
Sep. 30	25%	40%	
Oct. 07	30%	50%	
Oct. 15	35%	60%	
no refunds after Oct. 15			
Oct. 21	40%		
Oct. 28	45%		
Nov. 04	50%		
Nov. 11	55%		
Nov. 18	60%		
Nov. 25	65%		
Dec. 02	70%		
Jan. 13	75%		0%
Jan. 20	80%		0%
no refund after Jan. 20			
Jan. 27			40%
Feb. 03			50%
Feb. 10			60%
no refund after Feb. 10			

Withdrawal charges are calculated from the first day of classes, examples below:

i.e. if you withdraw between -

Date	Duration 1	Duration 2	Duration 3
Sep. 09 - 20	0%	0%	
Sep. 21 - 30	25%	40%	
Oct. 01 - 07	30%	50%	
Oct. 08 - 15	35%	60%	
Oct. 16 - 21	40%	After Oct. 15 - 100%	
Oct. 22 - 28	45%		
Oct. 29 - Nov. 04	50%		
Nov. 05 - 11	55%		
Nov. 12 - 18	60%		
Nov. 19 - 25	65%		
Nov. 26 - Dec. 2	70%		
Dec. 3 - Jan. 13	75%		Jan. 6-17 0%
Jan. 14 - 20	80%		Jan. 18-27 40%
After Jan. 20	100%		Jan. 28-Feb. 3 - 50%
			Feb. 4-Feb.10 - 60%
			After Feb. 10 - 100%

Glossary of terms

Academic year

The academic year runs from the commencement of the spring session until the end of the fall/winter session.

Anti-requisite or exclusion

A course which cannot be taken before, after or at the same time as the course with which it is listed.

Attempt

Any course for which a final grade has been assigned, whether it is passed or failed. Repeated courses and any from which a student has not officially withdrawn are considered attempts. Limits on the number of attempts are imposed. See page 31.

Auditor

Auditors attend lectures as listeners only; they do not submit assignments, write examinations or receive grades.

BIRT

The computerized Brock Information and Registration by Telephone system which allows students to complete their course registration by touch-tone telephone. A registration guide is available prior to each session.

Context elective

A course chosen from the lists of courses in the humanities, sciences and social sciences which satisfy the context requirements. See page 29.

Co-requisite

A course which is to be taken concurrently with another course.

Course numbering

See page 26.

Course level requirements

Students are normally required to complete five credits at the year 1 level before proceeding to courses at a higher level. It is generally expected that they will successfully complete at least three credits at the year 2 level before proceeding to third-year courses

and a further three credits at the year 3 level before undertaking fourth-year courses.

Credit

Credit is assigned to a course when a passing grade is awarded. The value of the credit is determined by the alpha character in the course number. See page 26.

Cross-listed course

A course which is listed under two or more departments. It may be taken for credit in only one of the departments.

Department

The faculty group responsible for teaching a particular subject or subjects.

Duration 1, 2 or 3

Courses taught over two terms of any session are identified as duration 1, those taught entirely in the first term as duration 2 and those entirely in the second term as duration 3.

Elective

Any credit course other than the named requirements for a degree program.

Exemption

When exemption from a course (normally a required one) is granted, no credit is given for that course. It must be replaced with a course of equal credit in the degree program.

Faculty

A grouping of departments headed by a dean. (See page 27).

Full-time student

One who is registered in more than three credits during the regular academic year.

Honors degree

A 20 credit honors degree is awarded upon the successful completion of an approved program with first-or second-class honors standing. See page 32.

Humanities language requirement

All students in a humanities major must complete a credit in a second

language within year 1 or year 2.

Acceptable courses are listed along with other departmental requirements in the humanities departmental sections of the calendar.

Letter of permission

A formal document which allows a Brock student to take courses at another university for credit towards a Brock University degree. See page 33.

Major or Combined major

A specific concentration of credits within a degree program as required by the major department(s).

Minor

Those credits taken toward a degree which are not specified as major courses.

Part-time student

One who is registered in three credits or fewer during the regular academic year.

Pass degree

A 15 credit pass degree is awarded upon the successful completion of an approved program with a minimum overall cumulative average of 60 percent. A pass degree with distinction is awarded when the overall cumulative average, is 75 percent or better.

Prerequisite

A specific requirement to be fulfilled before registration in a course, usually the successful completion of another course or permission of the instructor.

Registered student

Registration consists of registering for courses, confirmation of registration and making payment of fees.

Session

The fall/winter session extends from September to April and consists of 2 terms of 12 weeks each; spring session consists of 10 weeks from the end of April to the beginning of July, and summer session is 6 weeks from the beginning of July to the middle of August. See pages 4 - 8 for the actual dates.

Term

A term is a specific period of classes:
fall term, September to December;
winter term, January to April; spring/
summer term, May to August.

Transcript

A cumulative printed record, of the
results for all courses in which a
student was officially registered at the
end of the course change period. See
page 30.

Course numbering system

Course Identifier

Subject	Number
BIOL	2F03
	departmental code
	credit value
	D -- 1.5 credit (Pre-Service Education only)
	F -- 1.0 credit
	M -- 1.0 credit, variable (multiple) topic
	N -- 0.0 credit
	P,Q-- 0.5 credit
	V -- 0.5 credit, variable topic
	Y -- 0.25 credit
	year of course
	1--year 1 5--graduate studies
	2--year 2 8--pre-service education
	3--year 3 9--in-service education
	4--year 4

Notes:

1. Courses numbered 2(alpha*)90 or higher may count for credit as second-or third-year courses.
2. Courses numbered 3(alpha*)90 or higher may count for credit as third-or fourth-year courses.
3. Courses taken prior to 1987-88 will be listed on transcripts and statements of standing using the original course number.

*alpha stands for any alphabetic letter in the credit value field.

Examples:

THEA 2F99	-year 2 one credit course in Theatre--may count as a second-or third-year course.
CLAS 2P10	-year 2 half credit course in Classics
POLI 3V70-3V79	-year 3 half credit course in Politics, where the topic varies from year to year. Each separate topic will be assigned a unique number in the 70-79 range.
SOCI 3M80-3M89	-year 3 one credit course in Sociology, where the topic varies from year to year. Each separate topic will be assigned a unique number in the 80-89 range.
EDUC 8Y25	-pre-service education one-quarter credit course.
EDUC 9F42	-in-service education one credit course.
POLI 5V30-5V39	-graduate studies half credit course, variable topic.

It should be noted that not all courses are offered each year. The class timetable publication should be consulted for offerings in each session.

Academic Programs and Regulations

Faculty structure

The academic units at Brock University are grouped into six faculties. These are:

Faculty of Humanities

Applied Language Studies (includes Teaching English as a Second Language)
Canadian and European Community Studies
Canadian Studies
Classics (Greek, Latin)
English Language and Literature
Extrdepartmental Studies
Film Studies, Dramatic and Visual Arts (includes Drama, Film, Contemporary Cultural Studies, Theatre, Visual Arts)
French, Italian and Spanish
Germanic and Slavic Studies (German, Russian)
History
Liberal Studies
Music
Philosophy

Note: see page 28 for humanities language requirement.

Faculty of Social Sciences

Applied Linguistics
Asian Studies
Business Economics
Child Studies
Communications Studies
Economics
Environmental Science
Health Studies
Labor Studies
Geography
Politics
Psychology
Sociology
Urban and Environmental Studies
Women's Studies

Faculty of Mathematics and Science

Biochemistry
Biological Sciences
Biotechnology
Chemistry
Computer Science and Information Processing
Geological Sciences
Mathematics
Neuroscience
Physics
Pre-Professional Studies for the Health Sciences
Science

Faculty of Business

Accounting and Finance
Management and Marketing
Business Economics

Faculty of Physical Education and Recreation

Physical Education
Recreation and Leisure Studies

Faculty of Education

Pre-service Education
Continuing Studies (In-service Education)

Degree requirements

Students may complete a program of studies under the regulations of the calendar under which they first registered, or of a more recent calendar if it is to their advantage to do so.

A student transferring from another university may earn a Brock 15 or 20 credit degree with a minimum of five Brock credits or a Brock BEd Route II with a minimum of four Brock credits.

It is the responsibility of each student to ensure that the courses selected meet the academic requirements for the degree being pursued.

A 15 credit pass degree is awarded on the successful completion of an approved program with an overall cumulative grade average of 60 per cent. A 20 credit honors degree is

awarded on the successful completion of an approved program with first or second-class honors standing. See page 31 for honors standing terminology.

Note: Only 20 credit honors degrees are available in Business and Accounting. Business Economics, Teaching English as a Second Language, Italian and Russian offer pass degrees only.

In all pass degree programs, at least seven credits must be numbered 2(alpha)00 or above, three of which must be numbered 2(alpha)90 or above. In all honors degree programs, at least twelve credits must be numbered 2(alpha)00 or above, six of which must be numbered 2(alpha)90 or above, and of these, three must be numbered 3(alpha)90 or above.

Among the first five credits, students must have completed:

- 1.) courses from at least four departments;
- 2.) at least one of the required three context credits (see page 29).

Among the first ten credits, students must have completed all three of the required context credits (see page 29).

Students in four-year honors professional programs must complete the context requirements by the end of the third year of the program.

A maximum of five credits toward a pass BA or BSc, and seven credits toward an honors BA or BSc degree, may be taken from any combination of Business, or designated Education, Physical Education and Recreation and Leisure Studies courses.

Note: please refer to the Education, Physical Education, and Recreation and Leisure Studies sections of this calendar for listings of courses which may be used for BA or BSc credit.

Year 1 in all programs provides a student with a broad choice of options. In year 2, students select a major field

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of study and program pattern. This may be either a single major, a combined major, or an Integrated or General Studies program.

A single major pass degree program generally requires seven credits in one department. Ten credits are normally required for a single major honors degree.

Combined major degree programs permit a student to concentrate in two subject areas (excluding Education, Physical Education and Recreation and Leisure Studies). A minimum of ten credits (five from each discipline) is required for a combined major pass degree and a minimum of fourteen credits (seven from each) is required for a combined major honors degree. Specific course requirements for major programs are described in the individual department's section of the calendar. If a desired combined major program is not outlined in the calendar, students should consult the chairs of those particular departments.

General or Integrated Studies programs permit a student to pursue a pattern of studies which does not coincide with either a single or combined major arts or science program. A credit in Mathematics or Computer Science is required of students who choose a concentration of courses in the natural or social sciences; a credit in a language other than English is required of students who choose a concentration of courses in the humanities (see page 150).

In General Studies, although there are no specific course requirements, a student must include a minimum of five credits in one subject and three in another for a pass degree; for an honors degree, seven credits in one subject and five in another. All such programs must be approved by the appropriate dean or designate.

Integrated Studies programs are specifically constructed programs at the pass or honors level which span two or more departments and are designed for

students whose unique interests cannot be satisfied by a single or combined major. A clear and predetermined plan of interdisciplinary study must be approved by the appropriate dean.

Combined major and General or Integrated Studies program students will receive a BA degree if the majority of their credits is in arts, or a BSc if the majority of their credits is in sciences.

Major requirements

A minimum of 60 percent in the introductory course(s) of the desired major(s) is necessary in order to continue in that program (see individual departmental requirements). Additionally, students in all programs are required to maintain a minimum overall major average of 60 percent in order to continue in that major. Only courses taken at Brock will be used in determining a student's major average. All credits from the areas of concentration and for some programs, required courses from other departments will be designated as major credits. In a General or Integrated Studies program, all credits from the areas of concentration will be designated as major credits. The major average is calculated by dividing the sum of the numeric grades assigned to the major credits by the number of major credits.

Students in a single or combined major program who do not attain a grade average of 60 percent in their major credits should select another program of study.

Language requirement for students in the humanities

Students enrolling in a humanities single major, combined major with one or both majors in the humanities, or a General or Integrated Studies program with a major concentration in the humanities are required to complete one credit in a language other than English. The choice of the language is left to the student unless specifically designated by the program. Under special circumstances ENGL 3F92 (*Old English*) may be used to satisfy

the language requirement. Other languages currently offered by the University are: Cayuga, Dutch, French, German, Greek, Hebrew, Italian, Japanese, Latin, Mandarin Chinese, Mohawk, Polish, Sanskrit, Spanish and Russian.

Admission to language courses beyond the 1F00 level is dependent upon completing the prerequisite(s) for the course. Students who have acquired high school credit in the chosen language will be excluded from certain lower level courses depending upon their level of proficiency in the language. Questions should be referred to the language department concerned.

Students whose secondary school program was taught either entirely or to a significant extent in a language other than English and who would, therefore, qualify to enrol in a 2(*alpha*)00 level course or higher are exempt from the language requirement. For example, such an exemption will be granted to Ontario OAC graduates of Français and French immersion programs. Other students seeking this exemption require the approval of the Dean of Humanities when the language of instruction is not one of the above group.

Year 1 literacy test requirement

Prior to registration in September a literacy test is to be written by

- 1) incoming full-time first-year students who have not been granted transfer of credit;
- 2) part-time students with a 91 student number or higher who will have completed two Brock credits prior to September 1989.

Failure to write the test will result in an incomplete registration. The results of the test will be confidential and will not be entered on University records. However, students are asked to allow the University to use the results of

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the University to use the results of these tests as anonymous data for ongoing research into the relationship between reading and writing skills and university marks.

By the end of September students will be advised if their assessment indicates a need to improve their skills. A writing workshop and several reading programs are offered by the Brock Counselling Centre, Room 411 in the Schmon Tower.

Core and context

The core and context requirement is designed to permit a student to view the "core" of a particular major in a more general learning "context". All students must include the equivalent of one credit from each of the three groupings during their first ten credits (see degree requirements, page 27).

Normally at least one of the context credits must be completed as part of the first five credits.

Humanities context courses

Canadian Studies 1F91
Classics 1P91, 1P92, 1P93, 1P95, 1P97
Drama 1F93 (see Film Studies, Dramatic and Visual Arts)
English 1F91, 1F99; English 1P97, 1P98 (for BAcc only)
Film 1F94
French 1F90
German 1F90, 1F96, 1P93, 1P94
Greek 1F90
*History 1F95, 1P92, 1P93**
Italian 1F90, 1F95
Latin 1F90
***Liberal Studies 1F90
Music 1F10, 1F50, 1P11, 1P12
Philosophy 1F90, 1F91, 1F93, 1F94
Russian 1F90, 1F95
Spanish 1F90, 1F95, 1F96
Visual arts 1F90

Social Sciences context courses

Applied Linguistics 1F91
Economics 1P91, 1P92
*Geography 1F90
*History 1F95, 1P92, 1P93**

Politics 1F90
Psychology 1F90
Sociology 1F90
Urban and Environmental Studies 1F90
Women's Studies 1F90

Sciences context courses

Astronomy 1F00 (see Physics department)
Biology 1F25, 1F90
Chemistry 1P80, 1P81, 1P90, 1P91
*Geography 1F91
Geology 1F90, 1F95
Physics 1F20, 1F90
Science 1F20, 1F30

*In cases where subjects are listed under two categories, only one of the requirements may be satisfied by that course (e.g., if GEOG 1F90 is taken to fulfil the requirement for the social sciences option, GEOG 1F91 may not be taken to fulfil the sciences requirement).

**History majors may not use a history course to satisfy the social science context requirement.

***Enrolment may be limited.

Course load

Students who are enrolled in three and one-half or more credits during the fall/winter session are considered to be full-time; however, the normal course load for a full-time student is five credits. In the spring or summer sessions, the normal load is one credit. Permission to take extra credits may be granted by the appropriate academic dean or designate or by the registrar. Such permission will normally be given only if a student has completed five credits with at least second class (70 percent) standing.

A student may not attempt five or more credits in any one department in a single session without the approval of the appropriate dean or designate.

Students required to take English as a second language courses (ESLX) may

be required to take a reduced course load.

Mature entry students must complete two credits with an average of 60 percent in order to be considered for full-time studies.

Anyone admitted as a special student will normally be permitted to enrol in one credit per session.

Non-degree students are students taking Brock courses but not proceeding towards a Brock degree. Students on letters of permission, upgrading students and exchange students fall into this category.

Limited enrolment courses/programs

Some courses/programs are subject to enrolment limitations. Consult departmental entries in the Calendar and the undergraduate registration guide for details.

Registration and withdrawal

Students are officially registered for courses only by completing registration according to procedures outlined in registration guides published by the Office of the Registrar and by the payment of the appropriate fees. Students whose cheques are returned NSF (not sufficient funds) will be deregistered without further notice. (See page 22.)

A student will register in one lecture section of each course and will select one tutorial, seminar and/or lab section per course as appropriate. Students are expected to attend all lectures, labs, tutorials and seminars of the sections in which they are registered.

A student may withdraw in good standing from a course within the period established each term (refer to pages 4 - 8). Withdrawals are effective as of the date that the Office of the

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Registrar receives notification in writing of the student's intention to withdraw. Withdrawals received after the last date for withdrawal without academic penalty will not be processed. While it is a courtesy to inform the instructor of withdrawal from a course, this does not constitute official withdrawal from either a course or the University. It should be noted that failing or withdrawing from a first term course may necessitate withdrawal from the subsequent term course. **This is the student's responsibility and is not done automatically;** if in doubt, consult the Office of the Registrar.

Grades will be recorded on students' transcripts for all courses in which they have officially registered and from which they have not officially withdrawn.

Evaluation

To receive credit for a course, students must complete all the term work and the progress and/or final examination where the latter is required.

Final grades are based on examinations, tests, seminars, reports, essays, lab work, etc. The final grade must be computed from at least three pieces of work; no single piece of work may account for more than 50 percent of the final grade in a one credit course and no more than 60 percent of the final grade in a half credit course. At least two methods of evaluation (different in kind) must be used in arriving at the final grade. Students will be advised in writing of the proposed method of evaluation in each course by the last date for course changes. This will include the nature and due dates of assignments, penalties for late submission of assignments and the relationship of attendance to grades. Rounding of the final grade to comply with the University's 0, 2, 5, 8 marking scheme (see Grades, below) is at the instructor's discretion and need not necessarily be to the closer of those numbers.

Grades

The following grades are awarded for undergraduate courses:

A 80, 82, 85, 88, 90, 92, 95, 98, 100

An A grade is awarded for excellent, comprehensive, accurate work which demonstrates an exceptional flair for the subject.

B 70, 72, 75, 78

A B grade indicates competent work that shows a sound grasp of the course goals without being distinguished.

C 60, 62, 65, 68

A C grade represents work of adequate quality which suffers from incompleteness or inaccuracy.

D 50, 52, 55, 58

A grade of D is given where the minimum requirements of a course are barely satisfied.

F 45 or lower

A grade of F means that minimum requirements have not been met and no credit has been given for the course.

AG Aegrotat Standing: (a passing grade assigned to students, who for documented reasons were not able to write a final or a subsequently scheduled special examination and whose term work has been of at least a passing grade)

SP Special examination (see page 31)

SA Satisfactory: used for work terms and non-credit PHED/RECL courses

UN Unsatisfactory: used for work terms and non-credit PHED/RECL courses

WD Withdrawn

IN Incomplete: a temporary grade granted only in exceptional circumstances to a student who has been unable to complete some part of the term work in a course. A final grade must be submitted within 56 days of the last day of the examination period.

IP In Progress: used only for fourth-year thesis and project courses or graduate courses (the list of acceptable courses is available in the Office of the Registrar). An IP for undergraduate courses must be cleared within twelve months of the initial registration, otherwise the student must reregister in that course and pay the appropriate course fee.

NR Not reported.

CH/F Grade awarded to indicate a successful/unsuccessful challenge for a credit course.

Grades applicable to In-service and Pre-service Faculty of Education courses only:

P1 82, 85, 88, 92, 95, 98, 100
 P2 72, 75, 78
 P3 60, 62, 65, 68
 F 58 or lower
 P/F EDUC 8F08 only
 WD Withdrawn
 IN (as above)
 NR (as above)

Grades are mailed to students about four weeks after the end of the examination period. Final grades may be released only by the Office of the Registrar.

Transcripts

Requests for official transcripts of a student's academic record must be made in writing, to the Office of the

Registrar. The fee is \$3 for the first copy and \$2 for each additional copy on the same order. It normally takes five working days to process each order.

Examinations

Progress and final examinations are compulsory in all courses numbered 1(alpha)00 - 1(alpha)99. Final or progress examinations in courses numbered 2(alpha)00 or above may or may not be held, at the discretion of the instructor.

In courses requiring a final examination, failure to write the examination will normally result in a failing grade (00F). In case of illness, a medical certificate must be submitted to the Office of the Registrar **within seven days of the examination**. If, for religious reasons, a student is unable to write a final examination at the time scheduled, application for a special examination must be made to the Office of the Registrar at least **two weeks prior to the examination period**. Supportive evidence may be required.

Special examinations may be granted to students who for valid reasons have missed final examinations. These are normally held no later than the spring examination period for fall term duration 2 courses; no later than the summer examination period for duration 1 and duration 3 fall/winter courses; no later than the fall term duration 2 final examination period for spring and summer sessions.

It is the students' responsibility to contact the course instructor to make arrangements for a special examination.

Class tests and examinations may only be written during a regularly scheduled class or during a formal examination period. Students cannot be required to write an examination or test in a time period which conflicts with any of their scheduled classes.

Lab tests (worth no more than 20 percent of the final grade) may be scheduled in the lab period of the last week of term. No other test or examination worth more than 5 percent is allowed in the last two weeks of term.

In some cases it may be necessary for students registered in evening courses to write examinations during the day, or vice versa. Examination timetables are posted prior to registration. It is the students' responsibility to ensure that courses in which they are registering do not have conflicting examinations.

Academic standing

Students' grades are reviewed at the end of each session and they are informed of their academic standing.

The cumulative grade average which is used to determine academic standing is computed by dividing the sum of the numeric grades assigned to credits by the total number of credits. Failures are not included in average calculations.

Number of Attempts

Each student will be allowed a maximum of 20 credit attempts to achieve the 15 credit pass degree or a maximum of 23 credit attempts to achieve the 20 credit honors degree. A passed course, a failed course, a replaced course, a repeated course or a course from which a student does not officially withdraw will all be considered as attempts.

A student whose attempted credits exceed the credits by more than five credits will not be permitted to reregister in the University for at least one academic year. After that time, the student may apply for readmission.

To proceed to an honors degree, a student's attempted credits must not exceed the credits by more than three. A student in fourth-year who exceeds the maximum number of attempts may

graduate with a pass degree, provided that the requirements for a pass degree have been met.

Attempts allowed for second degree
Students are allowed two attempts in addition to the number of credits required for the second degree.

Extra courses

Students wishing to augment a regular degree program by taking extra courses because of personal interest may enrol in such courses and designate them as extra courses, not to be included in the list of attempted courses nor used for credit towards that degree if the maximum number of attempts has been exceeded.

Replacement of grades

Prior to graduation a student may repeat a credit or replace it with a departmentally approved substitute but it is not possible to replace a credit once a degree has been conferred. It is the student's responsibility to inform the Office of the Registrar of the replacement course and the credit which it replaces.

Repeated courses

A student may repeat no more than two credits and may repeat any course only once. In all cases, the grade awarded for a repeated course will supersede the grade from the first attempt regardless of whether it is higher or lower, and will be used in computing the student's cumulative grade average if it is a passing grade.

However, without prior permission of the dean, 1(alpha)00 to 1(alpha)99 courses, or other courses listed as prerequisites, may not be repeated if credit has been received for higher level courses in the same subject.

Degree categories

Honors standing terminology

First-class: A minimum grade average of 80 percent in all major credits, and

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70 percent in the remaining credits.

Second-class: A minimum grade average of 70 percent in all major credits, and 60 percent in the remaining credits.

Third-class: A minimum grade average of 65 percent in all major credits, and 60 percent in the remaining credits.

To proceed to year 4 (as an honors degree candidate), a student must have obtained at least second-class honors standing in 15 credits and must have departmental approval. Applications are available in the Office of the Registrar and should be submitted by July 1.

Standing for graduation

Four classes of Bachelor's degrees are awarded.

First-class honors degrees are granted to students who have completed a 20 credit program with first-class honors standing. A transfer student must have a minimum of five Brock credits, including all the departmental year 4 honors requirements, with a cumulative overall average of 75 percent or better, and a cumulative major average (based on Brock courses only) of 80 percent or better.

Second-class honors degrees are granted to students who have completed a 20 credit program with second-class honors standing. A transfer student must have a minimum of five Brock courses, including all the departmental year 4 honors requirements, with a cumulative overall average of 65 percent or better, and a cumulative major average (based on Brock courses only) of 70 percent or better.

An honors degree student who does not achieve second-class honors standing upon the completion of 20 credits may graduate with a pass degree, provided that the requirements for a pass degree have been met.

Pass degrees with distinction are granted to students who have completed a 15 credit program with a minimum overall average of 75 percent. Transfer students require an overall average of 75 percent in all Brock courses (see degree requirements, page 27).

Pass degrees are granted to students who have completed a 15 credit program with a cumulative grade average of 60 percent or better.

Withholding of degree or grades

Final grades may be released only by the Office of the Registrar. No student owing the University fees or fines will receive a degree or certificate or a statement of final grades, or have any such statements communicated to parties outside the University, until such time as the debts have been cleared to the satisfaction of the University.

Application for graduation

Application for graduation at fall convocation must be received in the Office of the Registrar by August 1. Application for graduation at spring convocation must be received in the Office of the Registrar by March 1. These are fixed dates. If these dates fall on a Saturday or Sunday, the closing is 4:30 p.m. the next working day.

Holding of two degrees

Note: An individual may hold only one BA or BSc (*at the pass level*), BEd; BPhEd or BRLS; BAcc or BBA degree and may not hold two degrees which contain an area of concentration in common (e.g., it is not possible to hold both a BBE and a BA in Economics).

A student who wishes to hold different undergraduate degrees (e.g. BA and BPhed) must:

- i) fulfil all the course requirements for each degree; and
- ii) have taken at least the number of courses indicated below.

For a pass BA, BBE, BPhEd, BRLS or BSc and a different pass degree, 20 credits.

For a pass BA, BBE, BPhEd, BRLS or BSc and a different honors degree, 25 credits (see note above).

For a pass BSc in Computer Science in addition to a BBA (Computer Science option), three additional COSC credits must be included in the additional five credits required.

For an honors BA, BAcc, BBA, BPhEd, BRLS or BSc and an honors degree with a different major, 30 credits.

Note: it is not possible to hold both a BAcc and a BBA degree.

Certificate programs

For persons wishing to acquire specialized knowledge without proceeding immediately to a degree, the University has established certificate programs in Public Administration and Urban and Environmental Studies. Since the programs are composed of degree credit courses, admission requirements are the same as for degree programs. A certificate is awarded on the successful completion of an approved program with a cumulative grade average of 70 percent over the number of credits required for the certificate program. Details appear in the relevant departmental entries of the Calendar.

Holding of a degree and a certificate

To hold both a degree and a certificate, a student must:

- i) fulfil the course requirements for both the degree and the certificate; and
- ii) have completed 18 credits for a pass degree and certificate or 23 credits for an honors degree and certificate; and
- iii) not have exceeded 21 attempts for a pass degree and certificate or 24 attempts for an honors degree and certificate.

Academic program advising

Academic advising for both full-time and part-time students is available in the Office of the Registrar as well as in academic departments and from the deans.

Applicants for admission who have questions regarding their programs, admission procedures or current admission status should consult the Associate Registrar, Admissions, or the Admissions officer.

Students currently enrolled at Brock who have questions regarding courses, programs, or academic regulations should consult the Supervisor, Student Academic Services. Evening appointments can be arranged for part-time students.

Students with questions regarding registration, withdrawal, examinations or graduation and their regulations should consult the Associate Registrar, Services.

The Associate Registrar, Services, the Associate Registrar, Admissions, the Admissions officer and the Supervisor, Student Academic Services can be contacted in the Office of the Registrar, ST 300.

Auditor status

Persons wishing to attend classes for

interest only may be permitted to do so as auditors (listeners) upon payment of the required fee at the time of registration. It is not necessary for auditors to have the normal qualifications for admission to the University, but they must make application and be formally admitted prior to registration. **Not all courses are available to auditors;** the instructor's approval is required prior to registration. No credits will be granted for audited courses. **A request to change from audit status to degree credit status must be received by the Office of the Registrar prior to the last day for course changes.** For approval, the student would need to already hold the appropriate academic qualification as shown by documentation on file in the Office of the Registrar. **Degree credit students may drop to audit status prior to the final date for withdrawal without academic penalty for the course.**

Letters of permission

To take a course at another university for credit towards a Brock degree, a student must apply for, and be granted, a letter of permission from the Brock University Office of the Registrar before registering at the other university. Application for the letter of permission must include a calendar description of the course(s) to be taken and a the letter of permission application fee. If the request is approved, the Office of the Registrar will send a letter of permission to the host university and a copy to the student.

It is the student's responsibility to send to the Brock Office of the Registrar an official transcript of grade(s) from the host university at the earliest possible date. Upon receipt of the transcript, the final grade (rounded to comply with Brock University's 0, 2, 5, 8 marking scheme) will be entered on the student's record at Brock. Such credits will be included in averages and will be counted as course attempts. Failure to provide an official transcript

will result in a grade of OOF being assigned to the course. A student who does not complete registration or who withdraws from a course for which a letter of permission has been issued must notify the Brock Office of the Registrar by submitting verification from the host university.

Except with the permission of the Committee on Petitions and Appeals, a letter of permission is not issued for a student to take more than two of the last five courses elsewhere.

Students completing their last credit(s) on letters of permission in fall/winter sessions may apply to graduate at the following FALL convocation, and students completing their last credit(s) on letters of permission in spring or summer sessions may apply to graduate at the following SPRING convocation (see page 32).

Challenge for credit

Challenge for credit is designed to provide credit at the undergraduate level for skills acquired through learning and experience outside the University. It is not designed to give credit for skills or knowledge gained through high school, college or previous university instruction, nor is it expected that time would be required to upgrade or review the material prior to the examining process. Credit can only be granted for those courses listed in the current Brock calendar. Not all courses in all disciplines are available for challenge. A list is available at the Office of the Registrar. It is the responsibility of the department concerned to evaluate the student who challenges for credit and to determine the types of work to be submitted.

The following general regulations apply:

- (a) Challenge for credit is available only to students formally admitted to, and

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- registered in, a program leading to a degree or certificate. Special students are not eligible to challenge for credit.
- (b) A maximum of five credits towards a Brock undergraduate degree may be acquired by challenge at Brock or elsewhere. A maximum of two credits may be obtained toward a certificate. **Challenges may not be included in the minimum number of Brock credits required for a Brock degree (see page 27).**
- (c) A challenge credit may not be used as a substitute for grade raising or special examinations, or to replace a failed course.
- (d) A student may not challenge a course in which he/she is or has been previously registered or which he/she has already challenged.
- (e) The passing grade for a challenge will appear on the transcript as CH. Challenge grades therefore are not computed in averages and are not used in evaluating honor or scholarship standing, but are counted as course attempts. Failures (F) will be noted on the transcript.
- (f) A student may not withdraw the challenge once registration for a challenge course is completed.
- (g) The grade for the challenge must be received in the Office of the Registrar within 60 days of acceptance of the challenge by the department.

How to challenge for credit:

A student must fill out a challenge application form available in the Office of the Registrar. (The student may wish to discuss the challenge informally with the department prior to this step.) The Office of the Registrar forwards the application to the appropriate department which must decide whether to accept the challenge. The department may require documentary material from the student or an interview before

making its decision. If the department accepts the challenge, the student is eligible to register for it at the Office of the Registrar and is required to pay the applicable fee.

A student may not withdraw the challenge after this step; failure to sit for a challenge subsequent to registration represents a failed course. It is the student's responsibility to be fully informed, prior to registration, of the time and nature of the evaluation. This may include one or more of the following: a written exam paper or papers, an essay or essays, the submission of a substantial body of work or a portfolio, an oral examination, or a laboratory test.

Petitions and appeals

A **petition** is a request that a regulation be waived on compassionate grounds or because of extenuating circumstances.

An **appeal** is a request that an academic decision (e.g. a grade or standing in a program) be changed, based on evidence supplied by the student.

Students who have a question regarding final grades should first discuss it with the instructor (they are entitled to inspect their final examination papers); departments are required to keep final examination papers for a period of six months following the date of the examinations. In the event of a severe disagreement between a student and an instructor, representation should be made to the chair of the department and, if necessary, to the Committee on Petitions and Appeals, c/o Office of the Registrar.

Formal petitions and appeals must be submitted to the Committee in writing. Specific and reasonable grounds must be provided. Failure in itself is not a valid reason for an appeal. An appeal must be accompanied by a \$10 fee, which will be refunded if it is granted. The appeal and fee must reach the

Office of the Registrar not later than 30 days after the issuing of grades. For petitions, no fee is required.

Plagiarism

Definition

Plagiarism means presenting work done (in whole or in part) by someone else as if it were one's own. Associated dishonest practices include faking or falsification of data, cheating, or the uttering of false statements by a student in order to obtain unjustified concessions.

Plagiarism is deliberate dishonesty and includes, but is not limited to, the following forms:

Exams and tests

- (a) Impersonation of a candidate in an exam or test.
- (b) Copying from another student, or making information available to other students knowing that this is to be submitted as the borrower's own work.
- (c) Use of unauthorized material.
- (d) Submission of a take-home exam written by someone else.

Laboratories

- (a) Copying a laboratory report, or allowing someone else to copy one's report.
- (b) Using another student's data unless specifically allowed by the instructor.
- (c) Allowing someone else to do the laboratory work.
- (d) Using direct quotations or large sections of paraphrased material in a lab report without acknowledgement.
- (e) Faking laboratory data.

Essays and assignments

- (a) Submission of an essay written in whole or in part by someone else as one's own.
- (b) Preparing an essay or assignment for submission by another student.

- (c) Copying an essay or assignment, or allowing one's essay or assignment to be copied by someone else.
- (d) Using direct quotations or large sections of paraphrased material without acknowledgement.
- (e) Buying or selling of term papers or assignments.
- (f) Submission of the same piece of work in more than one course without the permission of the instructor.
- (g) Submitting whole or part of a computer program with or without minor modifications as one's own.

Individual instructors of departments will point out areas of specific concern not covered above. Students are encouraged to consult instructors in case of doubt.

Plagiarism should be distinguished from co-operation and collaboration. Often students may be permitted or expected to work on assignments collectively and to present the results either collectively or separately. This is not a problem so long as it is clearly understood whose work is being presented, for example, by way of a formal acknowledgement by footnoting.

Instructors should inform students what constitutes acceptable workmanship, proper form of citation and use of sources.

Procedures

Students shall not be penalized for suspected plagiarism. It is the responsibility of the instructor to demonstrate the accuracy of the charge.

If the instructor can document a case of plagiarism, the department chair and the registrar shall be informed. Any application for withdrawal from the course will not be processed pending the outcome of the investigation of the case. The instructor and the chair

together will interview the student and attempt to discover the precise circumstances. The case will then be referred to the dean of the appropriate faculty along with any necessary observations and/or recommendations from the department. The student may choose to be accompanied to any interviews by one of the departmental student representatives.

If the dean is satisfied that a case of plagiarism has been proven, the registrar will be informed of the details. In the case of first offenders, a note will be inserted in the student's file. The transgression will be noted on the student's transcript in the case of second offenders. The notation will be removed from the transcript when the student graduates, or in three years after the last registration.

Penalties

The penalty for plagiarism or cheating on a test, exam, final exam or other assignment shall normally be zero for the piece of work. In some circumstances cheating or plagiarism could result in zero for the course. A student who allows his work to be copied will be subject to the same penalties.

Expulsion or suspension from the University are the recommended penalties for plagiarism which involves buying or borrowing a piece of academic work or another student's work. A student who lends or sells his work to another, knowing it is to be used as plagiarism, shall also normally be suspended or expelled.

Second offenders shall normally be expelled from the University.

Appeals

All appeals relating to the charge of plagiarism, penalties assigned, or notations on transcripts will be heard by the Senate Committee on Standing, Examinations and Promotions, whose judgment will be final. Appeals should be submitted in writing to the Committee, c/o the Office of the Registrar.

Part-time programs

The University provides an opportunity for formal education to be continued, or resumed, through part-time studies.

Part-time students must satisfy the regular admission requirements of the University. They may take courses during the fall/winter, spring and summer sessions.

The courses given in the evening or in the summer are equivalent to their counterparts in the regular day session. Where more than one section of a course is offered, all students will write equivalent final examinations. (See examinations, page 31.)

Accounting and Finance

Officers of instruction

Chair

Harvey Mann

Professors

John A. Edds
J. Robert Hanrahan
Harvey Mann
Udayan P. Rege
A. William Richardson

Associate professors

Thomas H. Barnes
Raafat R. Roubi
Robert Welch

Assistant professors

Ian Adamson
James A. Butko
Louis Culumovic
Maureen E. Donnelly
Frank M. Engert
Sandra M. Felton
Gerard M. Grand

Lecturer

Vincent Sementelli

Instructor

Allister W. Young

Adjunct professor

H. Donald Brown

Accounting Co-operative Program

Director

Allister W. Young

Associate Director

H. Donald Brown

General information

Taro Building 228

The Faculty of Business offers honors programs in Accounting and Business Administration.

The program in Accounting is designed for students pursuing careers in the accounting profession. The program is professionally oriented and combines a high degree of specialization in accounting along with studies in business, the social sciences, humanities, mathematics and sciences.

The program in Business Administration is designed for students pursuing careers in business and government. The program is professionally oriented, and includes studies in the social sciences, humanities, mathematics and sciences.

Honors programs

BAcc

The minimum grade requirement for admission to the Accounting program is a 70 percent average on 6 OAC (or equivalent) including an average of 75 percent on 2 OAC in mathematics. The curriculum in Accounting is offered only as an honors (four-year) program. On successful completion of the program, the degree Bachelor of Accounting (BAcc) is awarded.

The requirement for graduation is a minimum grade average of 70 percent in all ACTG, FNCE, MGMT, MKTG credits and all other required major credits, and a grade average of 60 percent in the remaining credits. In accordance with academic regulations, each student will be allowed a maximum of 23 credit attempts to achieve the 20 credit honors degree.

The BAcc program is offered as a regular four-year program and on a co-operative work, study basis. The Co-op program is fully accredited by the Institute of Chartered Accountants of Ontario. Students work in a wide variety of locations throughout Ontario. The program scheduling combines academic and work terms over a four and one-half year period. Students must register with the Institute of Chartered Accountants of Ontario on a conditional basis at the beginning of the first work period and accumulate a

minimum of three-years' work experience, one year of which must follow the completion of the BAcc degree.

Admission to the Co-op program is on the basis of marks and personal interviews which are usually conducted in May and early June. The basic requirement is an average of 80 percent or more on 6 OAC (or equivalent) including 2 OAC in mathematics with an average of 75 percent. Promising students with lower grades may be accepted. For additional information, prospective students should contact the director. Students should take courses in the order prescribed below. In addition to the current fees for courses in academic study terms, Co-operative Accounting students are assessed an annual administrative fee (see the Schedule of Fees).

Both the regular four-year program and Co-operative Work Study program will be offered on a limited enrolment basis.

BBA

The minimum grade requirement for admission to the Business Administration program is a 70 percent average on 6 OAC (or equivalent) including 2 OAC in mathematics with an average of 65 percent. The curriculum in Business is offered only as an honors (four-year) program. On successful completion of the program, the degree of Bachelor of Business Administration (BBA) is awarded.

The requirement for graduation is a minimum grade average of 70 percent in all ACTG, FNCE, MGMT, MKTG credits and all other required major credits, and a grade average of 60 percent in the remaining credits. In accordance with academic regulations, each student will be allowed a maximum of 23 credit attempts to achieve the 20 credit honors degree.

The program requirements are:

Bachelor of Accounting

Year 1

ACTG 1P11, 1P12
ACTG 1P71
ECON 1P91, 1P92

ENGL 1P97, 1P98
MGMT 1P95
MATH 1P97, 1P98

Year 2

ACTG 2P21
ACTG 2P31, 2P32
ECON 2P23
FNCE 3P92, 3P93
POLI 2P62
MATH 2P60
Science context elective

Year 3

ACTG 3P11
ACTG 3P22, 3P23
ACTG 3P33
MGMT 3P39
MGMT 3P49
MKTG 3P29
PHIL 2P82
POLI 3P50
One-half credit elective

Year 4

ACTG 4P11
ACTG 4P12
ACTG 4P34
ACTG 4P41, 4P42
One elective credit

Plus: for Program A*
ACTG 4P61, 4P62
MGMT 4P89

For Program B*

ACTG 4P63
MGMT 4P85, 4P86

*Note: In year 4 of the program there are two streams. Program A requirements are designed for students pursuing the CA designation after graduation. Program B requirements are designed for students pursuing the CMA designation after graduation. Students interested in the CGA designation should consult the chair of the Accounting and Finance department.

Bachelor of Business Administration

All BBA students are required to take a number of core courses. All students should take the courses in the order prescribed below. In year 3, students select one of the optional areas. No

student may take more than two of ACTG 4V90-4V95, FNCE 4V90-4V95, MGMT 4V90-4V99, MKTG 4V90-4V95. Please consult the chair of the appropriate department for details.

Year 1

ECON 1P91, 1P92
MGMT 1P91, 1P92
MATH 1P60, 1P97
POLI 1F90
one science or humanities context credit.

*Note. Students having two or more OAC mathematics credits with an average mark of at least 75 percent may be exempted from MATH 1P60. Students should consult the department of Mathematics. ECON 2P90, MATH 2P60 or any other ACTG, FNCE, MGMT, MKTG half credit course in proper sequence must be substituted for MATH 1P60.

Year 2

ACTG 2P11, 2P12
ECON 2P23
MGMT 1P94, 1P95
MGMT 2P40
MATH 1P98
MATH 2P60 or ECON 2P90
one science or humanities context credit (whichever was not taken in Year 1).

Note:

In the Business Administration program, MGMT 1P91, 1P92 are prerequisites for all BBA courses except MGMT 1P94, 1P95, 2P40 and 2P82. MGMT 1P95 is a required course for BBA and BAcc programs. ACTG 2P11 is a prerequisite for ACTG 2P12 and all other courses in Business Administration numbered 2(alpha)90 or above. Students planning to take upper level ECON courses should consult the department of Economics before selecting elective courses.

In year 3 of their studies, students in Business Administration may concentrate their courses in various disciplines or functional areas of business. These are listed below as 'options'.

Accounting

Year 3

FNCE 3P92, 3P93
MGMT 3P30, 3P50
MGMT 3P41, 3P42
MKTG 3P22, 3P24
One elective credit numbered 2(alpha)00 or higher

Year 4

ACTG 2P21
ACTG 2P31, 2P32
ACTG 3P11
ACTG 3P22
ACTG 4P41
MGMT 4P85, 4P86
*One elective credit numbered 3(alpha)90 or higher.

Note: Students will not be able to fulfil all of the prerequisites for professional designations within this program.

Students enrolled in the BBA program prior to 1989, pursuing or intending to pursue the accounting option should take the courses listed below.

ACTG (3P53, 3P54) or 4P54
ACTG 3P60, 4P60
ACTG 4P52
ACTG 4P55, 4P56
MGMT 4P85, 4P86
*One or two half credits, depending on choice of ACTG 3P53, 3P54 or 4P54.

*NOTE: Students planning to pursue the CA designations should take ACTG 3P53, 3P54 and 4P53. Students planning to pursue the CMA designation should take ACTG 4P54, MGMT 4P12 and one-half credit in ACTG, FNCE, MGMT, MKTG. Students interested in the CGA should consult the chair of the department of Accounting and Finance.

Computer Science

Students interested in the computer science option should note that year 2 of that option differs from all other programs.

Year 2

ACTG 2P11, 2P12; COSC 1P01, 1P04;
ECON 2P23; MATH 1P66, 1P67,

Accounting/Finance

1P98; one science or humanities context credit (whichever was not taken in year 1).

Year 3

COSC 2P03, one-half credit from
COSC 2Y04, 2Y05, 2Y06, 2Y07
FNCE 3P92, 3P93
MGMT 2P40
MGMT 3P41, 3P42
MKTG 3P22, 3P24
MATH 2P60

Year 4

COSC 3F00
COSC 3P32
MGMT 3P30, 3P31
MGMT 3P58, 4P58 or
MGMT 3P59, 4P59
MGMT 4P12
MGMT 4P85, 4P86

Finance

Year 3

FNCE 3P92, 3P93
MGMT 3P30, 3P50
MGMT 3P41, 3P42
MKTG 3P22, 3P24
One elective credit numbered 2(*alpha*)00 or higher

Year 4

FNCE 4P02, 4P06
One and one-half credits in FNCE at
the 4(*alpha*)00 level
MGMT 4P85, 4P86
One-half credit in ACTG, FNCE,
MGMT, MKTG
One elective credit numbered 2(*alpha*)00 or higher

General Management

Year 3

FNCE 3P92, 3P93
MGMT 3P30, 3P50
MGMT 3P41, 3P42
MKTG 3P22, 3P24
One elective credit numbered 2(*alpha*)00 or higher

Year 4

MGMT 4P85, 4P86
Three credits in ACTG, FNCE,
MGMT, MKTG
One elective credit numbered 2(*alpha*)00 or higher

Human Resource Management

See the department of Management and Marketing

Marketing

See the department of Management and Marketing

Public Administration

Year 3

FNCE 3P92, 3P93
MGMT 3P41, 3P42
MGMT 3P50, POLI 3P65 or MGMT
3F51
MKTG 3P22, 3P24
One elective credit numbered 2(*alpha*)00 or higher

Year 4

MGMT 3P30
MGMT 4P40
MGMT 4P52, 4P54
POLI 4P50
Two of POLI 3P52, 4P01, 4P11, 4P14,
4P15, 4P51, 4P53, 4P65, 4P81, 4V10-
4V19;
One credit in ACTG, FNCE, MGMT,
MKTG
One-half credit elective

Quantitative Analysis

Students interested in the quantitative analysis option should take MATH 2P60 rather than ECON 2P90.

Year 3

FNCE 3P92, 3P93
MGMT 3P30, 3P50
MGMT 3P41, 3P42
MGMT 3P58, 4P58 or
MGMT 3P59, 4P59
MKTG 3P22, 3P24

Year 4

MGMT 3P58, 4P58 or
MGMT 3P59, 4P59
MGMT 4P85, 4P86
One and one-half credits in ACTG,
FNCE, MGMT, MKTG
One-half credit elective chosen in
consultation with the dean of the
Faculty
One elective credit numbered 2(*alpha*)00 or higher.

Bachelor of Business Administration for students holding other degrees

Students holding a university degree where the major area of concentration is other than Business, and with a minimum overall average of 70 percent will normally receive ten unspecified credits towards the BBA degree at Brock. These students will be required to complete the following program.

ECON 1P91, 1P92

MGMT 1P95

MATH 1P98

ACTG 2P11, 2P12

FNCE 3P92, 3P93

MGMT 3P30

MGMT 3P41, 3P42

MGMT 4P85, 4P86

MKTG 3P22, 3P24

Two and one-half credits in ACTG,
FNCE, MGMT, MKTG

Students who are granted credit in any of the above courses must complete a program consisting of at least ten credits that includes the core courses above, and substitute courses approved by the Faculty.

For graduation a minimum overall grade average of 70 percent is required in the approved program courses.

Combined honors programs

Combined honors programs leading to an honors Bachelor of Arts degree are available in Business Administration and Economics and Business Administration and Politics. These programs are described below.

Business Administration and Economics

Year 1

ECON 1P91, 1P92; MGMT 1P91,
1P92; MATH 1P60, 1P97; POLI 1F90;
one science or humanities context
credit.

Year 2

ACTG 2P11, 2P12; ECON 2P21 or 2P23 (with permission of the department); ECON 2P22, 2P90; MGMT 1P94, 3P50; MATH 1P98; one science or humanities context credit (whichever was not taken in year 1).

Year 3

ECON 2P31, 2P32; one ECON credit; FNCE 3P92, 3P93; MGMT 3P41, 3P42; MKTG 3P22, 3P24.

Year 4

ECON 3P90, 3P91, 4P13, 4P14; MGMT 2P40, 3P30; one credit in ACTG, FNCE, MGMT, MKTG; one elective credit.

Business Administration and Politics

Together with Politics, the Faculty offers a special program leading to an honors BA in Business Administration and Politics. The general requirements for this program are the same as for other combined honors programs, but course selection is concentrated in the areas of public administration and law. This program is designed for anyone with an interest in public administration, administrative careers in governments, courts, and related organizations.

Year 1

MGMT 1P91, 1P92; ECON 1P91, 1P92; POLI 1F90; one science and one humanities context credit (FREN 1F90 recommended for those with necessary prerequisites).

Year 2

ACTG 2P11, 2P12; MGMT 2P40; POLI 2P80 (or 2P81) or MGMT 1P94; MATH 1P98; POLI 2F12; one additional credit in POLI, usually POLI 2F90 (2P01 and one of 3P04, 3P05, 4P01, 4P02 and 4P03 may be taken in place of 2F90); one-half credit elective (ECON 2P21 recommended).

Year 3

MGMT 3F51, 3P41, 3P42; MKTG 3P22; one and one-half credits in POLI chosen from 3P11, 3P15, 3P16, 3P18, 3P26, 3P27, 3P33, 3P52, 3P65 and 3P66; one elective credit (ECON 3P14,

3P15 recommended).

Year 4

FNCE 3P92, 3P93; MGMT 3P30, 4P54 and one of MGMT 4P40, 4P52, 4P61, 4P62, 4P63, 4P66, 4P67, 4P68, 4P69, 4P72; POLI 3P91 (or 3P81); POLI 4P50; one credit chosen from POLI 4P01, 4P11, 4P14, 4P15, 4P51, 4P53, 4P65 and 4V10-4V19; one-half elective credit.

Bachelor of Business Economics

See separate calendar entry under Business Economics.

Description of courses

Please note that not all courses are offered in every session. Refer to the applicable term timetable for details.

ACTG 1P11**Introduction to accounting I**

The nature and role of accounting information for planning, decision making, control and external reporting by businesses and other economic organizations.

Prerequisite: open only to BAcc students.

Not open to students with credit in ACTG 2P11.

Lectures, discussion, 3 hours per week.

ACTG 1P12**Introduction to accounting II**

A continuation of ACTG 1P11 with emphasis on the application of various accounting concepts to generate information for a variety of purposes.

Prerequisite: ACTG 1P11.

Lectures, discussion, 3 hours per week.

ACTG 1P71**The legal environment of business**

The Canadian legal system as it affects the modern business environment, in particular the accounting professional.

Topics include: financial disclosure and audit requirements, corporate finance and securities, corporate capacity and agency, and professional

liability for negligence and other business torts.

Prerequisite: open only to BAcc students.

Not open to students with credit in MGMT 2P40 or ADMI 240hc.

Lectures, seminar, 3 hours per week.

ACTG 2P11**Introduction to financial accounting (formerly ACTG 2P53)**

The fundamental concepts of financial accounting as related to the balance sheet, income statement, and statement of changes in financial position. A study of the problems of income determination, asset and equity measurements, and analysis of financial statements.

Not open to students with credit in ACTG 2P53, ADMI 253hc, or ACTG 1P11.

Lectures, 3 hours per week.

ACTG 2P12**Introduction to management accounting (formerly ACTG 2P54)**

Accounting for managerial decision-making, including relevant data, various cost accounting systems, and break-even analysis.

Prerequisite: ACTG 2P11.

Not open to students with credit in ACTG 2P54, ADMI 254hc or ACTG 1P12.

Lectures, 3 hours per week.

ACTG 2P21**Accounting for planning and control I**

Internal recording systems devised to implement and guide management planning and control with particular emphasis on cost finding, product costing, cost behavior and cost allocations.

Prerequisite: ACTG 1P12 or 2P12.

This course is intended for BAcc and BBA accounting majors.

Not open to students with credit in ACTG 3P55 or 3P60.

Lectures, discussion, 3 hours per week.

ACTG 2P31**Accounting for external reporting I**

The theory and practice of financial statement preparation including the

Accounting/Finance

measurement, reporting and disclosure of assets, liabilities, equity, revenue and expenses with specific reference to generally accepted accounting principles.

Prerequisite: ACTG 1P12 or 2P12.

This course is intended for BAcc and BBA accounting majors.

Not open to students with credit in ACTG 3P56.

Lectures, discussion, 3 hours per week.

ACTG 2P32

Accounting for external reporting II

A continuation of ACTG 2P31; the theory and practice of financial statement preparation in accordance with generally accepted accounting principles.

Prerequisite: ACTG 2P31.

Lectures, discussion, 3 hours per week.

ACTG 3P11

Auditing concepts

The underlying concepts of auditing including the nature of verification, audit evidence, testing, the elements of effective control structures, the use of statistical sampling and evolution of external, internal and comprehensive auditing.

Prerequisite: ACTG 3P22 or permission of the instructor.

Not open to students with credit in ACTG 3P53.

Lectures, discussion, 3 hours per week.

ACTG 3P22

Accounting for planning and control II

The role of accounting information systems within the context of a management information system with emphasis on the design and implementation of systems and controls.

Prerequisite: ACTG 2P21 or permission of the instructor.

Not open to students with credit in MGMT 4P12.

Lectures, discussion, 3 hours per week.

ACTG 3P23

Accounting for planning and control III

Topics in accounting for planning and control such as performance evaluation, divisional performance measurement, transfer pricing, behavioral

implications of accounting information and current issues.

Prerequisite: ACTG 3P22.

Not open to students with credit in ACTG 3P55 or 4P60.

Lectures, discussion, 3 hours per week.

ACTG 3P33

Accounting for external reporting III

A continuation of ACTG 2P32; the theory and practice of financial statement preparation in accordance with generally accepted accounting principles.

Prerequisite: ACTG 2P32.

Lectures, discussion, 3 hours per week.

ACTG 3P53

External auditing I

(not offered after 1991-92)

The role of external auditing (public accounting); professional and legal responsibilities of public accountants; audit evidence; principles and evaluation of external control; interim and financial statement audits.

Prerequisite: ACTG 1P12, or 2P12 or permission of the instructor.

Not open to students with credit in ADMI 353hc.

Lectures, seminar, 3 hours per week.

ACTG 3P54

External auditing II

(not offered after 1991-92)

Audit reports (including reservations); audit testing and statistical sampling; auditing in an environment of EDP; development of audit programs; review engagements.

Prerequisite: ACTG 3P53.

Not open to students with credit in ADMI 354hc.

Lectures, seminar, 3 hours per week.

ACTG 3P56

Intermediate financial accounting I

(not offered after 1991-92)

The objectives of financial statements, including the theoretical measurement of income as well as the accounting measurement and disclosure of assets.

Prerequisite: ACTG 1P11, 1P12 or 2P11, 2P12.

Not open to students with credit in ADMI 350 or 356hc.

Lectures, 3 hours per week.

ACTG 3P57

Intermediate financial accounting II

(not offered after 1991-92)

Measurement and reporting problems relating to liabilities and equities and an examination of alternative accounting models.

Prerequisite: ACTG 3P56.

Not open to students with credit in ADMI 350 or 357hc.

Lectures, 3 hours per week.

ACTG 3P60

Cost and managerial accounting

Systems devised to implement management planning and control with emphasis on cost accounting, product costing, allocation, and cost behavior patterns.

Prerequisite: ACTG 1P12, or 2P12.

Not open to students with credit in ACTG 3P55, ADMI 351hc or ACTG 2P21.

Lectures, 3 hours per week.

ACTG 4F90

Research topic

Directed intensive study and research under the supervision of a faculty member in an area in which the student has shown particular competence. To be chosen in consultation with the supervising faculty member.

Prerequisite: restricted to year 4 students; consent of the chair and supervising faculty member.

Not open to students with credit in ADMI 490hc, 491hc.

ACTG 4P11

Accounting theory

An enquiry into the mathematical, economics and behavioral foundations of accounting theory including the need for and development of standards, a conceptual framework, alternatives to present accounting models and current issues.

Prerequisite: ACTG 4P34.

Not open to students with credit in ACTG 4P53.

Lectures, discussion, 3 hours per week.

ACTG 4P12

Integration and problem solving

Problem solving integrating the sub-disciplines of accounting in the context of a wider view of organizations

through the examination of a variety of applied and theoretical issues.

Prerequisite: ACTG 3P23, 4P34 (may be taken concurrently).

Not open to students with credit in ACTG 4P65.

Lectures, discussion, 3 hours per week.

ACTG 4P34

Accounting for external reporting IV

A continuation of ACTG 3P33; the theory and practice of financial statement preparation in accordance with generally accepted accounting principles with emphasis on accounting for complex business organizations and not-for-profit organizations.

Prerequisite: ACTG 3P33.

Lectures, discussion, 3 hours per week.

ACTG 4P41

Taxation I

The principles underlying federal income tax in Canada through an analysis of the Income Tax Act, R.S.C., as amended, including the computation of net income for tax purposes, taxable income and tax payable by an individual.

Prerequisite: ACTG 1P12 or 2P12.

Not open to students with credit in ACTG 4P55.

Lectures, discussion, 3 hours per week.

ACTG 4P42

Taxation II

A continuation of ACTG 4P41 including the determination of federal income taxes payable by a corporation and the tax implications of changes in corporate structures, corporate distributions and rollovers, and shareholder, owner remuneration.

Prerequisite: ACTG 4P41.

Not open to students with credit in ACTG 4P56.

Lectures, discussion, 3 hours per week.

ACTG 4P52

Advanced accounting problems

Inter-corporate investments, preparation of consolidated financial statements, foreign currency translation, estate and trust accounting, bankruptcy, liquidation, receivership and municipal accounting.

Prerequisite: ACTG 3P56, 3P57.

Not open to students with credit in ADMI 452hc.

Lectures, 3 hours per week.

ACTG 4P53

Advanced accounting theory I

The objectives and uses of financial accounting information, and the environment in which financial accounting operates. Topics may include: accounting theory construction, objectives of external reporting, setting accounting standards, GAAP, current value accounting, the implications of efficient capital markets for accounting, the impact of accounting regulations and the positive theory of accounting.

Prerequisite: ACTG 3P56, 3P57, FNCE 3P92, 3P93.

Not open to students with credit in ADMI 453hc.

Seminar, 3 hours per week.

ACTG 4P54

Management auditing (not offered after 1991-92)

This course is directed to students who do not plan to become chartered accountants but seek instruction in the basic nature and purpose of 'operational' or 'management' auditing as practised by internal auditors in industry and government. Topics include: auditing standards, audit evidence, internal control principles and evaluation, reporting, auditing in an environment of EDP, statistical sampling, auditing typical enterprise functions.

Prerequisite: ACTG 1P12 or 2P12, MGMT 1P94, 3P41 and MKTG 3P22.

Lectures, discussions, 3 hours per week.

ACTG 4P55

Canadian income tax I

The principles underlying federal income taxation are examined through an analysis of the Income Tax Act, R.S.C. as amended. Topics include administration, liability for income tax, tax conventions, corporate and personal income tax computation.

Prerequisite: ACTG 3P56.

Not open to students with credit in ACTG 451hc.

Lectures, 3 hours per week.

ACTG 4P56

Canadian income tax II

This course is of special interest to students majoring in accounting. It will provide students with an opportunity to examine in detail specialized areas of income tax.

Prerequisite: ACTG 4P55.

Lectures, 3 hours per week.

ACTG 4P60

Advanced managerial accounting

The identification, measurement and communication of accounting information. Topics include managerial decision making for control, planning and performance evaluation.

Prerequisite: ACTG 3P60.

Not open to students with credit in ACTG 3P55 or ADMI 351hc.

Lectures, discussion, case studies, 3 hours per week.

ACTG 4P61

External auditing I

The role and nature of the financial statement audit including the professional and legal responsibilities of the auditor, generally accepted auditing standards, risk, materiality, and the planning and execution of the audit.

Prerequisite: ACTG 3P11.

Lectures, discussion, 3 hours per week.

ACTG 4P62

External auditing II

A continuation of ACTG 4P61 with emphasis on the completion of the audit, evaluation of results, audit reports, review engagements and current topics.

Prerequisite: ACTG 4P61.

Lectures, discussion, 3 hours per week.

ACTG 4P63

Management auditing

The role of internal auditors in industry and government with emphasis on the establishment and appraisal of administrative and operational controls, and the evaluation of the effectiveness and efficiency of various enterprise functions.

Prerequisite: ACTG 3P11.

Not open to students with credit in ACTG 4P54.

Lectures, discussion, 3 hours per week.

Accounting/Finance

ACTG 4P65

Problem solving, integration and application

Applied and theoretical issues in the various accounting subdisciplines such as financial and management accounting, auditing and taxation in the context of a wider view of the organization.

Prerequisite: ACTG 3P57.

Lectures, discussion, case studies, term projects, 3 hours per week.

ACTG 4P91

Research topic

Directed intensive study or research under the supervision of a faculty member in an area in which the student has shown particular competence. To be chosen in consultation with the supervising faculty member.

Prerequisite: restricted to year 4 students; consent of the chair and supervising faculty member.

Not open to students with credit in ADMI 490hc, 491hc.

ACTG 4V90-4V95

Topics in accounting

A course structured by a faculty member having specialized interest in an area within the discipline. This course is normally offered on an experimental basis.

Prerequisite: restricted to year 4 students; consent of the chair and supervising faculty member.

Lectures, seminar, discussion, 3 hours per week.

FNCE 2P92

Introduction to finance I

The finance function in the business environment is introduced. Criteria used in making investment decisions; risk concepts, and the valuation of assets. Specific topics include: financial analysis, forecasting, and leverage; the theory of interest; valuation and capital budgeting.

Prerequisite: ECON 1P91, 1P92, MATH 1P98, ACTG 2P11.

Not open to BBA or BAcc majors.

Not open to students with credit in ADMI 392hc or FNCE 3P92.

Lectures, seminar, 3 hours per week.

FNCE 2P93

Introduction to finance II

Criteria used in financing decisions. Specific topics include: the cost of various sources of capital, hybrid securities, capital structure, dividends and leasing.

Prerequisite: FNCE 2P92 or FNCE 3P92.

Not open to BBA or BAcc majors.

Not open to students with credit in ADMI 393hc or FNCE 3P93.

Lectures, seminar, 3 hours per week.

FNCE 3P92

Corporate finance I

Introduction to the role of the finance function in the private and public sectors. Techniques of financial analysis. Investment in current assets. Capital budgeting, valuation, risk and return.

Prerequisite: ACTG 1P11 or 2P11, ECON 1P91, 1P92, MATH 1P98.

Not open to students with credit in ADMI 392hc or FNCE 2P92.

Lectures, seminar, 3 hours per week.

FNCE 3P93

Corporate finance II

Cost of capital, capital structure and dividend policy. Analysis of long and short term financing decisions. Introduction to options and futures. Mergers and acquisitions.

Prerequisite: FNCE 3P92.

Not open to students with credit in ADMI 393hc or FNCE 2P93.

Lectures, seminar, 3 hours per week.

FNCE 4F90

Research topic

Directed intensive study and research under the supervision of a faculty member in an area in which the student has shown particular competence. To be chosen in consultation with the supervising faculty member.

Prerequisite: restricted to year 4 students; consent of the chair and supervising faculty member.

Not open to students with credit in ADMI 490hc, 491hc.

FNCE 4P02

Corporate financial policy

This case course builds on FNCE 3P92, 3P93. Students are provided with an

opportunity to develop further and apply their understanding of the material in FNCE 3P92, 3P93 to situations encountered in a variety of business decision settings.

Prerequisite: FNCE 3P93.

Not open to students with credit in ADMI 402hc.

Seminars, case discussion, 3 hours per week.

FNCE 4P04

Investment analysis

The financial instruments frequently traded in organized securities markets are studied in terms of their risk and return implications for the issuer and owners. Valuation models for these securities are critically reviewed.

Alternate investment strategies are explored in terms of appropriate portfolios of securities for various individual and institutional investors.

Prerequisite: FNCE 3P93.

Not open to students with credit in ADMI 404hc.

Lectures, 3 hours per week.

FNCE 4P05

International finance

Alternate solutions to the problems encountered by a financial manager in a multinational company are explored. To this end, the spectrum of business, foreign exchange, and political risks confronting such organizations are cast in the context of the economic and legal tools and institutions through which management conducts international operations.

Prerequisite: FNCE 3P93.

Not open to students with credit in ADMI 405hc.

Lectures, seminar, 3 hours per week.

FNCE 4P06

Financial theory

The theoretical basis for the financial decisions of individuals and business firms is explored. Of particular interest are those decisions involving the valuation of fixed assets and marketable securities. These and related decisions are reviewed under conditions of certainty and uncertainty and in the context of perfect and imperfect capital markets.

Prerequisite: FNCE 3P93.
Not open to students with credit in
ADMI 406hc.
Lectures, seminar, 3 hours per week.

FNCE 4P07

Financial market analysis
Managerial approach to the nature and
functions of financial markets is
developed. The impact of inflation and
flow of funds on interest rate mecha-
nism is analyzed. The criteria for
efficient financial markets are applied
to money, capital, securities, commodi-
ties and currency markets.
Prerequisite: FNCE 3P93.
Lectures, seminar, 3 hours per week.

FNCE 4P08

Management of financial institutions
Managerial in focus, the course covers
the process of financial intermediators.
Organizational structures, operating
practices and regulatory requirements
of various types of financial institutions
in Canada are examined. Managerial
aspects associated with savings, credit,
liquidity, assets, liabilities and capital
problems of financial institutions are
discussed. Financial planning and
strategy formulation for financial
institutions are also covered.
Prerequisite: FNCE 3P93.
Lectures, seminar, 3 hours per week.

FNCE 4P09

Portfolio management
Theory and practice of portfolio
management for the purpose of
selecting various financial instruments
to meet the preferences of investors. It
covers diversification effects, evalu-
ation of portfolio performance, use of
portfolio models and timing strategies
in portfolio selection.
Prerequisite: FNCE 3P93.
Lectures, seminar, 3 hours per week.

FNCE 4P11

Options
Theoretical formulations and empirical
studies of investments in options and
their markets. Some institutional

background is covered, but most of the
course focuses on pricing principles of
options and their practical applications.
Prerequisite: FNCE 3P93.
Lectures, cases, 3 hours per week.

FNCE 4P12

Futures
The importance of futures in financial
markets. The volume of transactions
and the introduction of new instru-
ments on foreign exchange, interest
rates, stock indexes and options on
futures have created new investment
opportunities. Pricing theory, practical
applications and empirical research in
futures.
Prerequisite: FNCE 3P93.
Lectures, cases, 3 hours per week.

FNCE 4P91

Research topic
Directed intensive study or research
under the supervision of a faculty
member in an area in which the student
has shown particular competence. To
be chosen in consultation with the
supervising faculty member.
Prerequisite: restricted to year 4
students; consent of the chair and
supervising faculty member.
Not open to students with credit in
ADMI 490hc, 491hc.

FNCE 4V90-4V95

Topics in finance
A course structured by a faculty
member having specialized interest in
an area within the discipline, normally
offered on an experimental basis.

Applied Language Studies

Officers of instruction

Chair

John N. Sivell

Associate professors

Glenwood H. Irons
John N. Sivell

Assistant professor

Ernest V. Harris

Lecturer

Hedy M. McGarrell

Sessional lecturers

Patricia E. Brillinger
Pamela Gifford
Lisa G. Mayer
Anastassios Spanos

Director of non-credit programs

Michael T. McGovern

Housing Co-ordinator

Marina Pieneman

General information

Mackenzie Chown, C409

Teaching English as a Second Language

The Brock program in the Teaching of English as a Second Language (TESL) includes the study of the changes that have taken place in the English language; present theories of ESL instruction and the related field of linguistics; practical application of English language instruction; and the social, psychological, historical and descriptive features of the English language. The BEd portion of the

TESL program encourages an application of TESL and linguistics theory to the practical problems of teaching English as a second language in the classroom, under the direct supervision of instructors from the department.

The TESL program is offered in two stages. During the first three years of this program, the student will take courses for credit towards a pass BA degree. Following the completion of the BA, the student may take courses, for a BEd degree, which offer practical training in the teaching of English as a second language.

TESL/EDUC courses at the year 4 level are for credit towards the BEd degree only, while all other courses are credited towards the BA degree.

Students proceeding towards a BA in the TESL program may complete a combined major in conjunction with one other humanities, social science or science department, or may proceed towards a single major in TESL.

Students already holding a relevant BA degree may be accepted into the BEd component of the TESL program. In such cases, additional courses may be required.

Students whose first language is English, who do not have a OAC credit in a second language, must take at least one course in a second language during the first year of a TESL program. Further language courses are strongly recommended.

TESL/EDUC courses do not lead to Ontario Ministry of Education certification to teach in the province of Ontario. Students who desire Ministry of Education certification to teach in the province of Ontario should consult the Faculty of Education calendar entry for the BEd Route I program.

Single major

Pass BA

Year 1

APLI 1F91; TESL 1F94; science and humanities context credit; one elective credit.

Year 2

TESL 2F50, 2F60; one of TESL 2F80, 2F90; two elective credits.

Year 3

At least two credits from TESL 3F92, 3F94, 3M80-3M99; two (or three) elective credits.

Combined major

Pass BA

Year 1

APLI 1F91; TESL 1F94; one credit in second major area; two context credits**.

Year 2

TESL 2F50, 2F60; two credits in second major area; one elective credit.

Year 3

TESL 3F92, 3F94, two credits in second major area; one elective credit.

**All three context credits must be completed within the first ten credits. If not satisfied by the introductory course in the second area and the first-year electives, the missing component must be completed in year 2.

BEd program

TESL/EDUC 4F01, TESL/EDUC 4F02, TESL/EDUC 4F03, TESL/EDUC 4F04, TESL/EDUC 4F05.

Description of courses

Please note that not all courses are offered in every session. Refer to the applicable term timetable for details.

TESL 1F91

Introduction to second-language acquisition and learning

Various relevant theories of language learning. Topics discussed will include first-language acquisition, behavioral, cognitive and humanist approaches to language learning, language and culture, contrastive analysis, error analysis, and numerous contemporary methods of language instruction. Lectures, seminar, 3 hours per week.

TESL 1F94

Introduction to linguistics
(also offered as COMM 1F94 and LING 1F94)

A study of phonetics, phonology, morphology, syntax, and the lexicon: their evidence in language use; differences between human language and communication systems; classification of human languages; linguistic family trees. Topics and questions relevant to Indo-European and non-Indo-European languages. Open to students in any year of study.

TESL 2F50

Introduction to the comparative phonology of English and French
(also offered as APLI 2F50 and FREN 2F50)

A comparative analysis of distinctive phonological features of the English and French languages. Prerequisite: TESL 1F94 or FREN 1F90 for French majors, or permission of the instructor.

TESL 2F60

Introduction to the analysis of grammar

Frameworks for grammatical analysis, their basic principles and aims. Focus on selected frameworks influential in 20th century linguistics; outline of their relationship to semantic theories. Focus on English, but examples from

other languages are used. Prerequisite: TESL 1F94. Lectures, seminar, 3 hours per week.

TESL 2F80

Gender differences in language and language use

(also offered as WISE 2F80) Gender in the structure and use of language at different levels of linguistic analysis (speech style/ pronunciation, vocabulary, sentence construction, discourse). Discussion of selected cultural variables and their relationship to language. Examples from English as well as a wide range of other languages. Lectures, seminar, 3 hours per week.

TESL 2F90

Child language acquisition

(also offered as APLI 2F90 and CHST 2F90) Linguistic stages in the development of child language. The milestones of sound system development and the development of "grammar". Topics include "ParentSpeak", social class and language development, pre-school and institutional language development and child L₂ acquisition and its effect on L₁. Prerequisite: APLI 1F91 or PSYC 1F90 or permission of the chair. Lectures, seminar/lab 3 hours per week.

TESL 3F92

Culture and language

The interplay between learning English, teaching English and English cultural orientation. In order to allow an understanding of the gaps which occur in the language learning process when cultural differences are not taken into consideration, an analysis will be made of specific language acquisition skills which are affected by cultural interference. Prerequisite: APLI 1F91, or permission of the chair. Lectures, seminar, 3 hours per week.

TESL 3F94

Discourse analysis
(formerly TESL 4F00)

Various techniques and frameworks for the analysis of written and spoken

discourse, with special reference to applications in second-language acquisition. Lectures will outline approaches to discourse analysis and related initiatives in communicative language-teaching methodology. Seminars will examine discourse analysis theories as well as corresponding pedagogical materials. Preparation of a practical project in discourse analysis.

Prerequisite: APLI 1F91, or permission of the chair.

Not open to students with credit in TESL 4F00.

Lectures, seminar, 3 hours per week.

TESL 3M80-3M99

Special issues in TESL

Selected issues in the theory and/or practice of TESL. Topics according to specific areas of instructional expertise and student interest.

Prerequisite: APLI 1F90 or permission of the chair.

Lectures, seminar, 3 hours per week.

Note: TESL/EDUC courses do not lead to Ontario Ministry of Education certification to teach in the province of Ontario. Students who desire Ministry of Education certification to teach in the province of Ontario should consult the Faculty of Education calendar entry for the Bachelor of Education Route I program.

***TESL 4F01

From grammar to writing in a second language

(also offered as EDUC 4F01)

Study of the role of grammar in second-language acquisition; theories and analyses of grammar and their relationship to ESL teaching practices; exploitation of syntactic principles in teaching methodology; study of models for writing and their implications for teaching and learning writing in ESL. Prerequisite: TESL 1F91 or permission of the chair.

Corequisite: TESL 4F02, 4F03, 4F04, 4F05 or permission of the chair. (Does not lead to Ministry of Education qualification to teach in the province of Ontario.)

Lectures, seminar, 3 hours per week.

Applied Language Studies

***TESL 4F02

Research methodology with project (also offered as EDUC 4F02)

Qualitative and quantitative research design options, with special emphasis on the study of language, language policy, and language learning/acquisition. Objective: research literacy and provide background for preparation, with a faculty advisor, of a project reflecting the qualities of publishable primary research in the realm of applied language study.

Prerequisite: TESL 1F91 or permission of the chair.

Co-requisite: TESL 4F01, 4F03, 4F04, 4F05 or permission of chair.

(Does not lead to Ministry of Education qualification to teach in the province of Ontario.)

Lectures, seminar, 3 hours per week.

***TESL 4F03

Comprehension and production in second language (also offered as EDUC 4F03)

Theories and methods related to the teaching of speaking and listening comprehension. The roles of first-language comprehension and production in second-language learning. The comprehension-based approach to second-language teaching and the advantages and limits of the language lab will be discussed.

Prerequisite: TESL 1F91 or permission of the chair.

Co-requisite: TESL 4F01, 4F02, 4F04, 4F05 or permission of the chair.

(Does not lead to Ministry of Education qualification to teach in the province of Ontario.)

Lectures, seminar, 3 hours per week.

***TESL 4F04

Curriculum design, methodology and practicum (also offered as EDUC 4F04)

An extension of introductory work in TESL 1F91. Examination of the theoretical and historical factors influential in the development of second-language curricula since 1960. A project in second-language course design during the first term. Practical application of second-language teaching methods and approaches.

Micro-peer teaching sessions, observation and teaching practice in Brock's Intensive English Language program.

Prerequisite: TESL 1F91 or permission of the chair.

Co-requisite: TESL 4F01, 4F02, 4F03, 4F05 or permission of the chair.

(Does not lead to Ministry of Education qualification to teach in the province of Ontario.)

Lectures, seminar, 3 hours per week.

***TESL 4F05

Reading in a second language (formerly TESL 3F93)

(also offered as EDUC 4F05)

Various methodologies for reading instruction. Fundamental principles and strategies for teaching and studying second-language reading. Opportunities will be provided for students to develop skills in reading assessment, instruction and evaluation. Attention will be devoted to techniques for the analysis and implementation of second-language reading programs.

Prerequisite: TESL 1F91 or permission of the chair.

Co-requisite: TESL 4F01, 4F02, 4F03, 4F04 or permission of the chair.

Not open to students with credit in TESL 3F93.

(Does not lead to Ministry of Education qualification to teach in the province of Ontario.)

Lectures, seminar, 3 hours per week.

***TESL/EDUC course for credit towards BED only.

Oriental languages

Courses in this program are designed to introduce speaking and writing ability in Oriental languages.

Description of courses

Please note that not all courses are offered in every session. Refer to the applicable term timetable for details.

JAPA 1F00

Introduction to modern standard Japanese

Elementary conversational and written Japanese including essential grammar, the *hiragana* and *katakana* syllabaries, and approximately 200 *kanji* (Chinese characters). Strong emphasis on cultural knowledge and customs. Open only to students with limited or no background in the language.

MAND 1F00

Introduction to Mandarin Chinese

Elementary conversational and written Mandarin (about 1200 words, introduced through approximately 600 Chinese characters). Strong emphasis on cultural knowledge and customs. Open only to students with limited or no background in the language. Seminars, 3 hours per week; lab, 1 hour per week.

English as a Second Language

APLS and ESLX courses are designed to enhance and develop the English speaking and writing ability of those for whom English is not a native language. Remedial English (non-credit) and skills enhancement (credit) courses are available for students with varying levels of English proficiency.

ESL students from all disciplines who are required to register in one written English and one spoken English section until their proficiency has improved to the exemption level are also required to practise pronunciation, grammar and listening comprehension at least one hour per week in the language lab. Participants in the ESL courses are normally placed there by virtue of their scores on the placement test given in the Fall.

Description of courses

Credit courses

APLS 1P90

Advanced written English

For students who need to refine writing skills and techniques to meet standards of basic academic and professional acceptance. Only available for credit to (a) Visa students whose native language is not English; (b) other students whose native language is not English and who have not attended an English-speaking high school. Not open to students with credit in EASL 143hc.

Lectures, 4 hours per week.

APLS 1P91

Advanced spoken English for ESL students

This course stresses the importance of seminar participation at Brock University. In order to help the student properly define and evaluate the practice of communication and intonation, a study of essential idioms and academic role plays is undertaken. An awareness of and flexibility towards using appropriate communication methods in different contexts is developed through varied use of structure, vocabulary and organization. No challenges for credit will be accepted for APLS courses.

Prerequisite: score of 80 or above on the English language placement test or successful completion of level II spoken English.

Only available for credit to (a) Visa students whose native language is not English; (b) other students whose native language is not English and who have not attended an English-speaking high school.

Not open to students with credit in EASL 140hc.

Seminars, 3 hours per week; language lab, 1 hour per week.

Non-credit (remedial) courses

The following courses are not eligible for credit toward a Brock degree.

ESLX 0N10

Level I written English for ESL students

For students whose scores on standardized tests show a definitive need for remedial written work. Students use descriptive texts to help them increase control over syntactic structures. They study basic techniques and conventions relevant to writing research papers.

Lectures, 4 hours per week.

ESLX 0N11

Level I spoken English for ESL students

This course is designed to help the student to develop a corpus of two-word verbs in order to manipulate them in an academic context and understand problematic morphological structures. The lab instructor aids the student's communicative performance through rectification of any pronunciation/comprehension/grammatical problems which lead to the production of structural errors.

Seminars, 3 hours per week; language lab, 1 hour per week.

ESLX 0N20

Level II written English for ESL students

For students whose writing ability may not reflect scores received on standardized tests. Students with a good grasp of basic structures of grammar and rhetoric are encouraged to expand writing skills beyond the sentence and paragraph levels. Emphasis on various writing techniques to assist students in producing a basic research paper.

Lectures, 4 hours per week.

ESLX 0N21

Level II spoken English for ESL students

The identification and correction of phonological problems to assist students in their seminar participation. Ample opportunity is provided to practise using English as the medium of expression in various academic or seminar-related contexts. Listening and note-taking skills are emphasized in order to help the student cope with the complexities of Brock's academic environment.

Seminars, 3 hours per week; language lab, 1 hour per week.

Intensive English Language Program (IELP)

The IELP provides 25 hours of English instruction per week in: grammar and writing; guided reading; spoken English; language lab; and study skills/orientation to Canadian culture. This program is open to all non-native speakers who wish to improve English for academic, professional or social purposes. Inquiries should be sent to the director, non-credit programs, department of Applied Language Studies, Room C409.

Applied Linguistics

Director

Glenwood H. Irons
Department of Applied
Language Studies

General information

Mackenzie Chown, C409

Applied Linguistics consists of a core of courses supplemented by recommended electives which reflect the various emphases and applications of this broadly-based field of study. These recommended electives have been chosen so that a student can concentrate on the following aspects of Applied Linguistics:

1. Applied Linguistics with an emphasis on language pathology, language development and use;
2. Applied Linguistics with an emphasis on theoretical aspects of language.

Students should be careful to select those electives which will prepare them for the career or post-graduate program of their choice; their elective choices must be approved by the director of the program.

Students interested in teaching language in the Ontario school system should consult the Ministry of Education guidelines. In those guidelines, "Language Courses" mean English or any teachable (modern language) subject.

Pass program

Year 1

APLI 1F91; PSYC 1F90; three of BIOL 1F25, TESL 1F94, *MATH 1F92, humanities context credit.

*If MATH 1F92 is not taken in year 1, then either it or a one credit social

science statistics course (e.g., PSYC 2F23 or SOCI 2F10) must be taken in year 2.

Year 2

APLI 2F50; CHST 2F10 or APLI 2F90; APLI 2F95; one of LBST 2F95, PSYC 2F20, TESL 2F60; one elective credit.

Year 3

APLI 3F08; TESL 3F92 or 3F94; two full credits from CLAS 3P93, ENGL 3F91, LBST 3P93, PSYC 3F96; one elective credit.

Honors program

Years 1, 2 and 3

As in pass program.

Year 4

APLI 4F01, 4F02, 4F03; PSYC 3P98, 3P99; one elective credit.

Description of courses

Please note that not all courses are offered in every session. Refer to the applicable term timetable for details.

APLI 1F91

Introduction to language acquisition and learning

Various contemporary theories of language acquisition and learning. Topics include neurological, psychological, cultural and applied linguistic factors in language acquisition and learning.

Lectures, seminar, 3 hours per week.

APLI 2F50

Introduction to the comparative phonology of English and French (also offered as FREN 2F50 and TESL 2F50)

A comparative analysis of distinctive phonological features of the English and French languages.

Prerequisite: TESL, LING, COMM 1F94 for TESL majors, or FREN 1F90 for French majors, or permission of the department.

Lectures, seminar, 3 hours per week.

APLI 2F90

Child language acquisition (also offered as CHST 2F90 and TESL 2F90)

Linguistic stages in the development of child language. The milestones of sound system development and the development of 'grammar'. Topics include 'Parentspeak', social class and language development, pre-school and institutional language development, and child L₂ acquisition and its effect on L₁.

Prerequisite: APLI 1F91 or PSYC 1F90 or permission of the director. Lectures, seminar/lab, 3 hours per week.

APLI 2F95

Introduction to speech-language pathology and audiology (also offered as EXST 2F95)

The development and disorders of human communication: normal speech, language and hearing development, and clinical disorders from the newborn to the aged. Approaches to assessment and remediation. Topics include articulation, language, voice, adult language disorders, fluency and stuttering, neurological and auditory disorders. This course is of interest to students in education, behavioral and social sciences, health professionals, and students intending to pursue subsequent professional training in speech pathology or audiology. Enrolment may have to be limited (by grade standing) due to space limitations.

Prerequisite: PSYC 1F90 or APLI 1F91 or permission of the instructor. Lectures, seminar, 3 hours per week.

APLI 3F08

Psychology of language (also offered as COMM 3F08 and PSYC 3F08)

Psychological processes involved in language including the study of meaning, language development in children, language and thought, listening, as well as special interest topics such as bilingualism and written language.

Lectures, seminar, 3 hours per week.

APLI 4F01

Honors thesis

A research project carried out with a faculty adviser. Students must consult the program director regarding both their program and an adviser before being admitted to year 4.

Prerequisite: admission to year 4.

APLI 4F02

Honors seminar

A comprehensive examination of the fundamental issues in the diverse areas of applied linguistics, with various faculty members responsible for specific sections of the course.

Prerequisite: admission to year 4.

Lectures, seminar, 3 hours per week.

APLI 4F03

Special topics in applied linguistics

Directed readings in an area of specialization in applied linguistics.

Topics to be arranged in advance with a faculty member willing to supervise the course.

Prerequisite: admission to year 4 and permission of the instructor.

Seminars, 3 hours per week.

Asian Studies

Co-ordinator
John R.A. Mayer

Co-operating faculty
Roderick Church, Politics
Hasan Imam, Economics
John R.A. Mayer, Philosophy
Josephine P. Meeker, Geography
Robert C. Nunn, Film Studies,
Dramatic and Visual Arts
Joseph L. Sanders, History
Debabrata Sinha, Philosophy
Paul D. Tyson, Psychology

General information

Asian Studies is a co-operative program of the departments of Economics, Geography, History, Philosophy, Politics and Psychology. Responsibility for its administration rests with the plenum on Asian Studies.

There is no degree program in Asian Studies at present. However, students can have a concentration in Asian Studies by including Asian Studies and Asia-related courses as electives or as part of a program in another department. In a pass program, a concentration in Asian Studies requires ASIA 1F90 and the equivalent of three Asia-related credits from at least three different departments, in an honors program, ASIA 1F90 and five credits from at least three departments. The words *concentration in Asian studies* will be added to the student's transcript if the program is certified by the co-ordinator of Asian Studies. Students should consult with the co-ordinator when planning their programs.

Course listing

The following courses concentrate wholly or substantially on Asia. They can be taken for credit towards a concentration in Asian Studies. In

addition, a number of special seminars, tutorials and thesis courses are available in different departments. They can be counted for Asian Studies credit if the instructor certifies that in a given year the content is wholly or substantially Asia-related.

ASIA 1F90	Introduction to the civilizations of Asia	POLI 3P43	Politics in the Third World
ECON 2P17	Economic development	POLI 3P44	Canada and the politics of Japan, Korea, Taiwan and Hong Kong
EXST 2F20 EXST 2F80	Comparative religion Yoga: theory and practice	POLI 4P43	Comparative politics of Southeast Asia
GEOG 2P06	Cultural geography	PSYC 2F97	Experiential psychology
GEOG 2P94	Environmental and developmental problems in the Third World	PSYC 3P54	Psychology of Western consciousness
HIST 2P93	Foundations of modern Japan	PSYC 3P55	Psychology of Eastern consciousness
PHIL 2F91	Religion and philosophy: comparative studies	SANS 1F00	Sanskrit
PHIL 2P12	Indian philosophy: an introduction to Hindu thought	<hr/> Description of courses <hr/>	
PHIL 2P13	Indian philosophy: an introduction to Buddhist thought	Please note that not all courses are offered in every session. Refer to the applicable term timetable for details.	
PHIL 2P16	Early Chinese philosophy	ASIA 1F90	Introduction to the civilizations of Asia An interdisciplinary introduction to the peoples, cultures and traditions of India, Southeast Asia, China and Japan. Topics include history, philosophy and religion, art, politics, economic development and social customs.
PHIL 2P17	Introduction to Chinese Buddhism		
PHIL 4V30-4V34	Advanced studies in Eastern philosophy		
POLI 2P42	The government and politics of China		
POLI 2P43	The government and politics of India		
POLI 3P24	International politics of the Third World		

Biochemistry

Biological Sciences department
Alan W. Bown, chair

Chemistry department
Richard R. Hiatt, chair
Stuart Rothstein (as of July 1, 1991)

General information

Biochemistry is taught in some universities by separate Biology, Chemistry and medical departments; in others the courses are offered by autonomous Biochemistry departments. At Brock, Biochemistry courses were developed originally by the Biological Sciences department and are now offered by that department and by the department of Chemistry.

Pass program

Year 1
BIOL 1F90; CHEM 1P90, 1P91 or CHEM 1P80, 1P81; MATH 1P93, 1P94; PHYS 1F20 or 1F25 or 1F90; one humanities or social science context credit (see Notes 1. and 2.).

Year 2
BIOL 2F01; two of BIOL 2P90, 2P91, 2P93, 2P98; CHEM 2P01, 2P02, 2P22; one of CHEM 2P12, 2P32, 2P42; the humanities or social science context credit not taken in year 1 (see Note 3.).

Year 3
BCHM 3P01, BIOL 3P50; two of BCHM 3P02, 3P04, 3P05, BIOL 3P51, 3P91; two of CHEM 2P12, 2P32, 2P42 not taken in year 2; CHEM 3P20, 3P21; one elective credit.

CHEM 3P40 is strongly recommended; the course is strongly recommended for most projects in CHEM 4F90, 4F91 and should be taken in year 3 by

students intending to proceed to a year 4 thesis in CHEM.

Honors program

Years 1, 2 and 3
As in pass program.

Year 4
BIOL 4F90, 4F91 or CHEM 4F90, 4F91; either BCHM 4P07 or one of BCHM 3P02 or BCHM(BIOL) 3P04 (if not taken in year 3); one other year 4 BCHM half credit; one year 4 credit in CHEM; one elective credit.

In years when CHEM 4P27 is given, this is a strongly recommended option. CHEM 4P27, together with CHEM 4P40, may be used to satisfy the CHEM credit requirement.

A minimum of three credits from courses numbered 3(*alpha*)90 or above must be included in an honors degree.

- Notes:*
1. CHEM 1P90, 1P91 required; CHEM 1P80, 1P81 permitted.
 2. Professional schools may require an introductory physics course with a lab.
 3. It is recommended that students interested in bio-inorganic chemistry should take CHEM 2P32 in year 2.

Biological Sciences

Officers of instruction

Chair

Alan W. Bown

Professors

Alan W. Bown
William H. Cade
Michael D. Dickman
Arthur H. Houston
Mohan S. Manocha
Ralph D. Morris
Peter Nicholls
R. Peter Rand

Associate professors

Robert L. Carlone
J. Cameron Lewis
Donald J. Ursino

Assistant professors

Douglas H. Bruce
Alan Castle
Yousef Haj-Ahmad
A. Joffre Mercier

Adjunct professors

John Middleton
Peter Ramm

Research associate

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General information

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The Biological Sciences--the life sciences--encompass a broad spectrum of subjects from molecular biology to ecology as well as such disciplines as

biochemistry, biophysics, genetics and physiology. The program offered by the department is designed to provide the student with a broad base in modern biological thought, to fulfil the basic requirements for admission to professional and advanced degree studies, and to prepare the graduates for careers in the biological sciences and related fields. Although the undergraduate program provides students with flexibility in selecting the areas of biology most compatible with their interests and skills, it also ensures that students develop an overview of the major concepts and problems of modern biology as expressed at all levels of biological organization.

The objectives of the undergraduate program are realized through a group of core courses in years 1 and 2, each with an associated laboratory. The laboratory classes stress the investigative approach to experimental studies. Students move progressively from structured laboratory studies to increasingly independent investigations and in the honors year undertake individual research projects. Working from the core program, students may follow a variety of curriculum patterns to satisfy their interests.

In addition to its own programs, the department of Biological Sciences participates in combined major programs with the departments of Chemistry, Geography, Geological Sciences, Mathematics, Physics and Psychology, and with the Institute of Urban and Environmental Studies. The department is also a major participant in Biochemistry, Neuroscience, Pre-professional Studies for the Health Sciences and Health Studies. Students also have access to a variety of field biology courses offered in association with other Ontario universities.

The laboratory and technical facilities of the department complement the undergraduate program and provide diverse opportunities for specialization at the graduate level.

Students contemplating careers in primary or secondary education should note the availability of undergraduate courses offered by the Faculty of Education carrying credit toward the undergraduate degree.

Pass program

Students must complete at least seven BIOL credits of which four must be from the core program. The core program consists of BIOL 1F90, 2F01, 2P04, 2P05, and one credit from BIOL 2P90, 2P91, 2P93, and 2P98. Also four ancillary science credits are to be completed, including CHEM 1P80, 1P81 or CHEM 1P90, 1P91, MATH 1P97, 1P98; one of COSC 1P90, 1P91, GEOL 1F95, PHYS 1F20 or 1F90, and one further non-biology credit from the Faculty of Mathematics and Science.

Recommended program:

Year 1

BIOL 1F90; CHEM 1P80, 1P81 or CHEM 1P90, 1P91; MATH 1P97, 1P98; one of PHYS 1F20, 1F25 or 1F90, GEOL 1F95, or COSC 1P90, 1P91; one humanities or social science context credit.

Notes:

1. Students registering for BIOL 1F90 should register in MATH 1P98 for the fall term, but should check with the Mathematics department regarding prerequisites.
2. Students should note that one credit in PHYS with labs, is required for certain professional programs.
3. PHYS 1F20 or 1F25 is strongly recommended for students who do not have OAC physics.

Year 2

BIOL 2F01, 2P04, 2P05; two of BIOL 2P90, 2P91, 2P93 and 2P98. One other year 1 or year 2 level science credit other than BIOL (a year 2 level organic

chemistry course is recommended); the humanities or social science context credit not taken in year 1. The unspecified credit in science excludes ASTR 1F00, SCIE 1F20, 1F30 and the year 1 MATH courses.

Year 3

Three credits in Biological Sciences numbered 2(alpha) 90 or above; two elective credits (one of which may be BIOL 2F95). Students in year 3 are encouraged to take at least one of the four half credits BIOL 2P90, 2P91, 2P93 and 2P98 not taken in year 2.

Students should note that not all courses listed will be offered each year.

Students should plan their programs accordingly and are advised to refer to the applicable term timetable for details.

Honors program

The honors year (year 4) provides students with the opportunity for either broadening their understanding of the biological sciences or for increased specialization. Ideally, the year 4 program provides an opportunity for the synthesis of material presented in earlier years and also provides an opportunity for independent investigative work. Each honors candidate undertakes a major research study under the direct supervision of a faculty member.

Years 1, 2 and 3
As in pass program.

Year 4
Four BIOL credits at year 3 or year 4 level including BIOL 4F90, 4F91 or BIOL 4F92; one elective credit. A minimum of three credits must be numbered 3(alpha)90 or above.

Concurrent BSc/BEEd

The Faculty of Mathematics and Science and the Faculty of Education have developed a concurrent BSc/BEEd program to meet the requirements of students interested in teaching science and mathematics at the Junior/Intermediate levels. This program is fully described within the calendar entry for the Faculty of Education. (See index.)

Combined major programs

The department of Biological Sciences offers combined major programs with the departments of Chemistry, Geography, Geological Sciences, Mathematics, Physics, Psychology, and with the Institute of Urban and Environmental Studies. A minimum of ten credits (five from each discipline) is required for a combined major pass degree, and a minimum of fourteen credits (seven from each discipline) is required for a combined major honors degree. Some typical programs:

Biology and Chemistry

Pass program

Year 1
BIOL 1F90; CHEM 1P80, 1P81 or CHEM 1P90, 1P91; MATH 1P93, 1P94; PHYS 1F90; one humanities or social science context credit.

Year 2
BIOL 2F01; one credit from BIOL 2P04, 2P05, 2P90, 2P91, 2P93, 2P98; CHEM 2P01, 2P21, 2P22 and one of CHEM 2P12, 2P32 or 2P42; the humanities or social science context credit not taken in year 1.

Year 3
BCHM 3P01; BCHM 3P02 or BIOL(BCHM) 3P04 or 3P05 (two of these recommended when available); one year 3 credit in Biological Sciences

(BIOL 3P50 recommended); two of CHEM 2P12, 2P32, 2P42 not taken in year 2; one credit from CHEM 3P20, 3P21, 3P30, 3P31, 3P40, 3P50, 3P51; one elective credit.

Note: CHEM 3P40 is strongly recommended; the course is strongly recommended for most projects in CHEM 4F90, 4F91 and should be taken in year 3 by students intending to proceed to a year 4 thesis in CHEM.

Note: honors students who elect BIOL 4F90, 4F91 and who have taken only the minimum five credits in CHEM in years 1-3 may experience difficulty in obtaining the necessary two additional CHEM credits in year 4.

Honors program

Years 1, 2, and 3
As in pass program.

Year 4
CHEM 4F90, 4F91 or BIOL 4F90, 4F91 or 4F92; one year 4 credit in the department of Biological Sciences in the areas of biochemistry, biophysics or molecular biology or one year 4 half credit from one of those areas plus BCHM 3P02 or BIOL 3P50; one year 3 or year 4 credit in CHEM; one elective credit. CHEM 4P27 is recommended.

Biology and Geography

Pass program

Year 1
BIOL 1F90; GEOG 1F91; MATH 1P97, 1P98; one humanities and one social science context credit.

Note: GEOG 1F90 is strongly recommended as a social science context credit.

Year 2
BIOL 2P04, 2P05; one credit from BIOL 2P90, 2P91, 2P93, 2P98; GEOG 2P07, 2P08; one credit from GEOG 2P04, 2P05, 2P09; one elective credit.

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Year 3

Two credits in BIOL; GEOG 3P56; one and one-half credits in geography from Group B (see Geography section of the calendar); one elective credit.

Honors program

Years 1, 2 and 3

As in pass program.

Year 4

Two credits in BIOL; GEOG 4F99; one year 4 credit in GEOG from Group B (see Geography section of the calendar); one elective credit. One of: BIOL 4F90, 4F91, or BIOL 4F92 or GEOG 4F90 must be included.

Biology and Mathematics

Pass program

Year 1

BIOL 1F90; MATH 1P90, 1P93, 1P94, 1P98; CHEM 1P80, 1P81 or CHEM 1P90, 1P91; one humanities or social science context credit.

Year 2

Two credits from BIOL 2F01, 2P04, 2P05, 2P90, 2P91, 2P93, 2P98; MATH 2F00 or 2F95; COSC 1P01, 1P04; the humanities or social science context credit not taken in year 1.

Year 3

Two credits in BIOL, one of which must be at the year 3 level; MATH 2F96, 2P20, 3P20; one elective credit.

Honors program

Years 1, 2 and 3

As in pass program.

Year 4

Two year 3 or year 4 credits in BIOL; two year 3 or year 4 credits in MATH (either 3P58, 4P58 or 3P59, 4P59 and 4P19, 4P20 recommended); one elective credit.

Biology and Psychology

Pass program

Year 1

BIOL 1F90; PSYC 1F90; CHEM 1P80, 1P81 or CHEM 1P90, 1P91; one humanities; one elective credit (MATH 1P97, 1P98 or MATH 1F92 recommended).

Year 2

Two credits from BIOL 2F01, 2P04, 2P05, 2P90, 2P91, 2P93, 2P98; PSYC 2F23, one other PSYC credit numbered 2(alpha)00 or higher; one elective credit.

Year 3

Two year 2 or year 3 credits in BIOL; two credits in PSYC numbered 2(alpha)90 or higher (for students proceeding to the honors program, PSYC 3F40 is required); one elective credit.

Honors program

Years 1, 2 and 3

As in pass program.

Year 4

Two credits in BIOL which may include BIOL 4F90, 4F91 or BIOL 4F92; PSYC 4P92, 4P93 and one other year 4 PSYC credit (if neither BIOL 4F90, 4F91 nor BIOL 4F92 is taken, PSYC 4F91 is required); one elective credit.

For combinations with Geological Sciences, Physics, and Urban and Environmental Studies, see the entry under the other department.

Master of Science (MSc) program

The department of Biological Sciences offers specialized training in a wide variety of research areas leading to the MSc degree. Candidates will normally

have an honors BSc or BA degree for admission to the program. A minimum of one year of full-time study and research is required, which will include BIOL 5F90 (MSc thesis) and the equivalent of two credits, one of which must be at the graduate level.

The department also offers an accelerated MSc program. Admission is an option available to students enrolled in BIOL 4F90, 4F91. Permission to enter the program is subject to satisfactory performance in course work and research. Further details are available from the departmental chair.

Graduate courses

BIOL 5F90
MSc thesis

BCHM 5P01
Advanced plant biochemistry--
metabolism

BCHM 5P02
Advanced plant biochemistry--
transport

BCHM 5P04
Advanced bioenergetics

BCHEM 5P05
Advanced topobiochemistry

BCHM 5P06
Current topics in photosynthesis

BIOL 5P11
Advanced histology

BIOL 5P15
Advanced fluorescence and electron
microscopy

BIOL 5P21
Physiological plant pathology

BCHM 5P27
Advanced enzyme and coenzyme
mechanisms

BIOL 5P28
Advanced neurobiology

BIOL 5F40/5P41
Selected topics in biophysics
(inter-university program)

BIOL 5P52
Advanced developmental genetics

BIOL 5P53
Immunology

BIOL 5P55
Membrane structure and function

BIOL 5P56
Behavioral genetics

BIOL 5P57
Advanced recombinant DNA techniques

BIOL 5P58
Fungal genetics

BIOL 5P59
Advanced molecular virology

BIOL 5P60
Advanced seminar in population and behavioral ecology

BIOL 5P61
Advanced paleolimnology

BIOL 5P62
Advanced limnology

BIOL 5P63
Advanced seminar in ecosystem theory

BIOL 5P64
Advanced insect behavior

BIOL 5P65
Advanced comparative physiology

BIOL 5P80
Selected topics in contemporary biology

BCHM 5P81
Selected topics in contemporary biochemistry

BCHM 5P85
Graduate seminar

For details, refer to the Graduate Calendar or contact the chair of the department.

Description of courses

Abbreviations:

BCHM	Biochemistry
BIOL	Biology

Please note that not all courses are offered in every session. Refer to the applicable term timetable for details.

BIOL 1F25
Biology-- a human perspective
The course is directed towards non-science majors and presents topics that comment on contemporary issues of human concern. Recent topics have included exercise physiology, the biology of cancer and selected issues in neurobiology. High school biology is not a prerequisite for this course. Lectures, 2 hours per week; seminar, lab, alternating weeks, 2 hours per week.

BIOL 1F90
Concepts in biology
Topics selected from such areas of biology as cell structure and function; transmission and molecular genetics; physiology, neurobiology and behavior; development and immunology; origins, natural selection and evolution. Weekly laboratory exercises or seminars are coordinated with lectures. Biology 1F90 is a prerequisite for most courses in the department. Prerequisite: OAC biology recommended. Lectures, 3 hours per week; lab/seminar, 3 hours per week.

Note:
Students registering for BIOL 1F90 should normally register for MATH 1P98 *Basic statistical methods* in the fall term. MATH 1P93 may be substituted for MATH 1P97 in the winter term.

tuted for MATH 1P97 in the winter term.

BIOL 2F01
Principles of molecular and cellular biology
The examination of cellular processes and their relationship to cellular structure with emphasis on the structure and function of proteins, membranes, cell organelles and the expression of genetic information. Prerequisite: BIOL 1F90. Lectures, 2 hours per week; seminar, 1 hour per week; lab, 3 hours per week (weeks 7-12 in term 1 and weeks 1-6 in term 2).

BIOL 2F95
Bioethics
(also offered as PHIL 2F95)
An interdisciplinary course that focuses on value conflicts and moral dilemmas in biology and medicine. A major component is the discussion of specific case studies in areas such as reproductive interventions, medical experimentation, concepts of 'health' and 'disease', modification of behavior, lifestyle choices, allocation of scarce or expensive medical resources, and death and dying. May count as an elective, but not as a major course in a biology or biology combined program. Prerequisite: university credit in BIOL or PHIL or permission of the instructor. Lectures, seminar, 3 hours per week.

BIOL 2P04
Principles of community and environmental biology
(formerly part of BIOL 2F03)
Biological processes at the community level of biological organization; patterns and diversity in natural ecosystems in terms of environmental toxins and their bioaccumulation in food webs, factors influencing community structure, biotic diversity and energy flow through ecosystems. Not open to students with credit in BIOL 2F03. Lectures, 2 hours per week; lab, 3 hours per week (weeks 1 - 6 in Duration 2 or weeks 7 - 12 in Duration 3).

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BIOL 2P05

Principles of population and behavioral ecology

(formerly part of BIOL 2F03)

The examination of biological processes and patterns of uniformity and diversity at the individual and population levels of organization; group characteristics of populations and the evolutionary basis of animal behavior. Not open to students with credit in BIOL 2F03.

Lectures, 2 hours per week; lab, 3 hours per week (weeks 1 - 6 in Duration 2 or weeks 7 - 12 in Duration 3).

BIOL 2P90

Invertebrate zoology

The diversity, structure, function, behavior, and evolutionary relationships of the invertebrate phyla.

Prerequisite: BIOL 1F90 or permission of the instructor.

Not open to students with credit in BIOL 292.

Lectures, 3 hours per week; lab, 3 hours per week.

BIOL 2P91

Comparative vertebrate zoology

An evolutionary examination of the vertebrate taxa with emphasis on the structure, development, and function of organ systems.

Prerequisite: BIOL 1F90 or permission of the instructor.

Not open to students with credit in BIOL 292.

Lectures, 3 hours per week; lab, 3 hours per week.

BIOL 2P93

Plant biology--an evolutionary perspective

Through the study of form, structure, and the reproductive cycles of a large diversity of plants, this course will focus on the major evolutionary trends seen in the plant kingdom.

Prerequisite: BIOL 1F90 or permission of the instructor.

Lectures, 3 hours per week; lab/ seminar, 3 hours per week.

BIOL 2P97

Human physiology

An introduction to vertebrate function with specific reference to humans.

Topics will focus on circulatory,

excretory, respiratory, digestive, and reproductive systems, and the role of the endocrine and other systems in regulation and adaptive responses.

This course may count as an elective, but not as a major course in a biology or biology combined major.

Prerequisite: BIOL 1F25 with a grade of 75 percent or better or 1F90.

Lectures, seminar, 3 hours per week; lab, 3 hours per week for 6 weeks.

BIOL 2P98

Principles of microbiology

Lecture and laboratory course dealing with the principles of microbiology. Structure and biology of various kinds of microorganisms will be studied.

Prerequisite: BIOL 1F90.

Not open to students with credit in BIOL 340hc.

Lectures, 3 hours per week; lab, 3 hours alternate weeks.

BCHM 3P01

Metabolic biochemistry

pH and buffers, biochemical energetics, carbon metabolism of carbohydrates, lipids and proteins; nitrogen metabolism.

Prerequisite: BIOL 2F01 or CHEM 2P20 or equivalent year 2 CHEM.

Lectures, seminar, 3 hours per week; labs to be announced.

BCHM 3P02

Proteins and enzymes

Primary-, secondary-, tertiary-, and quaternary-protein structure; protein function and physical chemistry; protein structure and enzyme activity. Enzyme mechanisms and kinetics; allostery and control; membrane-bound enzymes; multienzyme systems.

Prerequisite: BIOL 2F01.

Lectures, seminars, simulations, 3 hours per week; lab, 3 hours per week for six weeks.

BIOL(BCHM) 3P04

Introduction to biophysics and physical biochemistry

Topics in the course will include photobiology, membranes, and neurobiophysics. Emphasis will be given to ideas lying at the interfaces between the disciplines of biology, chemistry and physics. Laboratories will focus upon the techniques used to

study molecular events in complex biological systems including membranes, organelles and cells.

Prerequisite: BIOL 2F01, (BCHM 3P01 recommended), or permission of the instructor.

Lectures 3 hours per week; lab, 3 hours per week, alternate weeks.

BCHM 3P05

Biochemistry of membranes

The significance of membranes in biological systems, their composition and functions; spatial and topological roles; passive and mediated permeation; generation and utilization of ion gradients; recognition and communication; secretory functions; biosynthesis and pathology.

Prerequisite: BIOL 2P01 or equivalent or permission of the instructor.

Lectures, seminar, 3 hours per week; labs to be announced.

BIOL 3P22

An introduction to tissue structure

Microscopic anatomy and functional organization of epithelia, connective tissue, blood, nervous tissue and muscle.

Prerequisite: BIOL 2F01 or permission of the instructor.

Not open to students with credit in BIOL 324.

Lectures, 3 hours per week; lab, 3 hours per week.

BIOL 3P23

Histology of vertebrate organ systems

The microanatomy and functional morphology of organs and organ systems: integumentary, circulatory, digestive, excretory, reproductive, respiratory, endocrine and nervous.

Prerequisite: BIOL 2P91 (BIOL 3P22 strongly recommended) or permission of the instructor.

Not open to students with credit in BIOL 324.

Lectures, 3 hours per week; lab, 3 hours per week.

BIOL 3P28

Developmental biology

Cell lineage studies in early embryonic development. Origin of cell heterogeneity. Cell-cell interactions and tissue organization. Morphogenesis and

regeneration. Molecular investigations of differential gene expression.
Prerequisite: BIOL 2F01.
Lectures, 3 hours per week; lab, 3 hours per week, first 6 weeks.

BIOL 3P34

Neurobiology

Nervous systems from the single neuron level to integrated function in the brain. Topics include sensory systems, synaptic function and transmitter substances, developmental aspects and neural plasticity, cellular basis of behavior.

Prerequisite: two credits from BIOL 2F01, 2P04, 2P05, 2P90, 2P91, 2P93. Not open to students with credit in BIOL 320.

Lectures, 3 hours per week; lab, 3 hours per week.

BIOL 3P36

Environmental physiology

Physiological mechanisms of response to environmental change. Emphasis will be given to osmotic, ionic and acid-base regulation, respiratory adaptation, and thermal relationships associated with penetration of freshwater and terrestrial habitats.

Prerequisite: BIOL 2F01. Not open to students with credit in BIOL 3P35.

Lectures, 3 hours per week; lab, 3 hours per week for six weeks.

BIOL 3P42

Microbial physiology

Microbial growth and metabolism as influenced by nutritional and environmental factors.

Prerequisite: BIOL 2P98. Lectures, seminar, 3 hours per week; lab, 3 hours per week for 6 weeks.

BIOL 3P50

Molecular genetics

(also offered as BTEC 3P50)
Topics will include: the genetic code and information flow from nucleic acids to proteins, RNA and protein synthesis; prokaryotic and eukaryotic chromosomes; gene organization; transcription, RNA processing; codon usage; enhancers and transposons.
Prerequisite: BIOL 2F01 or permission of the instructor.

Lectures, 3 hours per week; lab 3 hours per week, for 6 weeks.

BIOL 3P51

Genetics: transmission, development, population

Concepts of classical genetics including genetic mapping, extra-nuclear inheritance, polyploidy, genetics and development, evolutionary genetics.

Prerequisite: BIOL 1F90. Lectures, 3 hours per week; lab, 3 hours per week.

BIOL 3P60

Animal behavior

Behavior of animals with emphasis on the social context of behavior and natural selection: the evolution and significance of visual, auditory and olfactory communication; spacing behavior and the evolution of diversity in spacing systems; mating systems and sexual selection; the development of species-typical behavior; the development and significance of periodic behavior patterns including endogenous rhythms, orientation and navigation.

Prerequisite: BIOL 2P04, 2P05; one of BIOL 2P90, 2P91.

May be taken concurrently, with the permission of the instructor. Lectures, seminar, 3 hours per week; lab as required.

BIOL 3P63

Field limnology

Physical-chemical aspects of limnology and their influence on the species composition of the aquatic organisms in selected lakes and streams in Ontario.

Lectures, seminar, 2 hours per week; lab, 3 hours per week.

BIOL 3P64

Introductory insect biology

Familiarity with insects will be gained through field and laboratory exercises and lectures covering morphology, physiology, evolution, ecology, social behavior, and harmful and beneficial aspects of the insects.

Prerequisite: BIOL 1F90 or permission of instructor.

Not open to students with credit in BIOL 296hc.

Lectures, 2 hours per week; lab, 3 hours per week.

BIOL 3P65

Investigative studies in animal ecology

A laboratory and field ecology course that provides experience in the process of science; question asking and formulation of hypotheses, experimental design, data collection and analysis, verbal and written presentation of results.

Prerequisite: BIOL 2P04, 2P05, 2P90 and 2P91 or permission of the instructor.

Lectures, lab, 6 hours per week.

BIOL 3P66

Aquatic plant ecology

Field and laboratory recognition of algae as well as higher aquatic plants; and adaptations to an aquatic environment; the physiology and the economic importance of these plants. Primary productivity, standing crop, collection, preservation and identification methods will be emphasized.

Prerequisite: BIOL 2P04, 2P05. May be taken concurrently with the permission of the instructor. Lectures, 3 hours per week; lab, 3 hours per week.

BIOL 3P71

Ontario universities field biology course

In co-operation with Carleton, Trent, Windsor, Toronto, Queen's, Waterloo, Western and York universities, the department of Biological Sciences participates in a series of one and two week field courses at established field stations in Algonquin Park, Lake Opinicon, and the OMNR station at Dorset, Ontario. In recent years, courses have been offered outside the province at field stations in Alberta, Manitoba, and the Northwest Territories. Each course is a separate unit and may include students from all participating universities. Among the units offered are: arid environments, insect sampling, limnology, fish ecology, ornithology, aquatic ecology, marine biology, bat behavior, scavenging arthropods, small mammal ecology, arctic ecology, high arctic tundra and alpine ecology. The number of units

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offered will vary from year to year, but those available will normally be scheduled during one and two-week periods from late April through early September. Two one-week units or one two-week unit will constitute the equivalent of one half course. Registrants normally defray their own travel expenses to the field station. Modest board and room costs are required in addition to the usual half credit registration fee.

Prerequisite: BIOL 2P04, 2P05.
Registration must be completed by the end of January with the course coordinator.

BIOL 3P72

Ontario universities field ecology course

See BIOL 3P71 for course description. May not be taken until BIOL 3P71 has been completed.

Prerequisite: BIOL 2P04, 2P05.

BIOL 3P80

Evolution

The idea of evolution and its development; scientific method and the past; classical, modern pre-Darwinian and Darwinian concepts; the history of the earth and the fossil record; biogeography; adaptation, natural selection and the origin of the species; molecular evolution; evolution of specific taxonomic groups including humans. Prerequisite: completion of required courses in year 2 in single or combined major programs in biology or equivalent, or permission of the instructor. Lectures 1 1/2 hours per week; seminar, 1 1/2 hours per week.

BIOL 3P84

Investigative neurobiology

Electrophysiological methods in neurobiology including intracellular and extracellular recordings using sensory and neuromuscular systems. Emphasis on the development of quantitative skills, experimental design and writing scientific papers. Prior knowledge of concepts used in neurobiology is essential.

Prerequisite: 2 credits from BIOL 2F01, 2P04, 2P05, 2P91, PSYC 2F36. BIOL 3P34 is strongly recommended.

Lectures, 1 hour; labs, 5 hours per week.

BIOL 3P85

Tropical biology

A specialized course, the orientation of which will be determined by the participating instructors. Held on location in the tropics it will include field experience, seminars, individual projects and written reports. Participants are expected to cover their own travel, subsistence and other personal expenses.

Prerequisite: the equivalent of two year 2 level BIOL credits or permission of the instructor.

BIOL 3P91

Plant physiology--metabolic and biophysical processes

The metabolism of carbon and nitrogen compounds; photosynthetic and respiratory processes; mineral nutrition; water relations; gas exchange and transport processes.

Prerequisite: BIOL 2F01, 2P93 or permission of the instructor.

Lectures, 3 hours per week; lab/seminar, 2 hours per week.

BIOL 3P92

Plant physiology--growth and development

The processes involved in plant growth and reproduction, and the factors regulating these processes. Topics receiving special emphasis will include the flowering hormones and growth substances, dormancy, and stress responses.

Prerequisite: BIOL 2F01, 2P93 or permission of the instructor.

Lectures, 2 hours per week; labs, 3 hours per week.

BIOL(BCHM) 3V90-3V99

Special topics in biology

A lecture/seminar course in which a student may explore areas not represented by existing courses. The subject area may not overlap with that of BIOL 4F90, 4F91, 4F92, or any year 3, year 4, or graduate course in BIOL. Under certain circumstances, a student may carry out, under faculty supervision, a detailed study of the scientific

literature pertinent to a specific topic. The results of this study will be presented as a major essay and as a formal seminar.

Prerequisite: permission of supervising instructor and chair of the department.

BIOL 4F90

BSc (honors) thesis

To be taken in conjunction with BIOL 4F91. Each student will undertake a limited research project involving field or laboratory study under faculty supervision. Students electing to pursue studies on non-laboratory ecological projects will be permitted to initiate their programs during the summer preceding registration in year 4, but may not include data or observations obtained as a consequence of participation in field courses such as BIOL 3P71 or 3P72. Submission and oral defence of a thesis is required.

Prerequisite: admission to the year 4 honors program.

BIOL 4F91

Literature research and seminar

To be taken in conjunction with BIOL 4F90. Each student will undertake a detailed study of the scientific literature relevant to the topic of the BSc (honors) thesis. The review will be included in the thesis and will be presented as a seminar.

Prerequisite: admission to the year 4 honors program.

BIOL 4F92

Library research essays

For students not registered for BIOL 4F90 and 4F91. Each student will be required to carry out two detailed studies of the scientific literature under faculty supervision. The results of these two studies will be presented in major essays and presented as formal seminars. One research topic is to be completed each term.

Prerequisite: admission to the year 4 honors program.

BIOL 4F93

BSc honors research

To be taken in conjunction with BIOL 4F94. Each student will undertake a research project involving field or

laboratory study under faculty supervision. Submission of a written report and the presentation of a seminar is required.

Prerequisite: admission to the accelerated MSc program.

Co-requisite: BIOL 4F94.

May not be taken concurrently with BIOL 4F90 or 4F91.

BIOL 4F94

Literature research

To be taken in conjunction with BIOL 4F93. Each student will undertake a detailed study of the scientific literature relevant to the topic of the honors research. The review will form an integral part of the seminar presentation associated with BIOL 4F93.

Prerequisite: admission to the accelerated MSc program.

Co-requisite: BIOL 4F93.

May not be taken concurrently with BIOL 4F90 or 4F91.

BCHM 4P01

Plant biochemistry--metabolism

A critical appraisal of the current research literature concerning selected aspects of carbon and nitrogen metabolism. Particular emphasis will be placed on the pathways by which inorganic carbon and nitrogen are assimilated into organic form.

Prerequisite: BCHM 3P01 or 3P02 or permission of the instructor.

Lectures, seminar, 2 hours per week.

BCHM 4P02

Plant biochemistry--transport

A critical appraisal of the current research literature concerning transport processes at plant cell membranes. Particular emphasis will be placed on the role of postulated proton translocating ATPases at the plasma membrane and tonoplast.

Prerequisite: BCHM 3P01 or 3P02 or permission of the instructor.

Lectures or seminar, 2 hours per week.

BCHM 4P04

Bioenergetics

Energy conservation and use in the cell; thermodynamics of oxidative phosphorylation; chemical and chemiosmotic energy stores; mitochondria,

chloroplast and bacterial phosphorylation; growth and whole organism energetics; Elsdon's and Kleiber's laws.

Prerequisite: BCHM 3P01 or 3P02 or 3P04 or 3P05 or permission of the instructor.

Lectures, seminar, 2 hours per week.

BCHM 4P07

Advanced seminar in biochemistry

A seminar course involving student presentation of selected research papers in biochemistry.

Prerequisite: BCHM 3P01 or 3P02 or 3P04 or 3P05 or permission of the instructor.

Seminars, 2 hours per week.

BIOL 4P23

Fungal physiology

The physiology and biochemistry of fungi with a concentration on those aspects of physiology where fungi are significantly different from other organisms, and often unique. Topics will include: growth, nutrition, fungal enzyme activity, and physiology of host-parasite interaction.

Prerequisite: BIOL 2P98 or permission of the instructor.

Lectures, seminar, 2 hours per week.

BIOL 4P24

Industrial and agricultural microbiology

(also offered as BTEC 4P24)

The use of microbes, both bacteria and fungi, as tools in industry and agriculture. Topics will include: industrial fermentation; recombinant DNA approaches to industrial problems; composting and silage; edible fungi; mycorrhizal associations and biological control agents.

Prerequisite: BIOL 2P98 and 3P50 or permission of the instructor.

Lectures, seminar, 2 hours per week.

BIOL 4P28

Developmental neurobiology

A seminar course on the principles of neural development. Topics include cell lineage and early determinative events, trophic functions, growth and plasticity, synaptogenesis and gene

expression in the establishment of the nervous system.

Prerequisite: BIOL 3P28 and 3P34 or permission of the instructor.

Seminars, 2 hours per week.

BIOL 4P34

Seminar in systems neurophysiology

Selected topics in sensory and integrative mechanisms in the nervous system.

Prerequisite: BIOL 3P34 or permission of the instructor.

Not open to students with credit in BIOL 4P50.

Seminars, 2 hours per week.

BIOL 4P35

Selected topics in exercise physiology

The analysis and discussion of research papers in exercise physiology. Although the topics will vary from year to year, they are likely to focus on exercise metabolism, skeletal muscle function, and the responses and adaptations to exercise of the cardiovascular, respiratory, and endocrine systems. Some attention will also be given to regulatory mechanisms, and to the determinants of athletic performance.

Prerequisite: BIOL 3P36 or permission of the instructor.

Lectures, 2 hours per week; seminar, 2 hours per week.

BIOL 4P36

Seminar in systemic physiology and endocrinology

Selected topics in systemic function and endocrine regulation.

Prerequisite: BIOL 3P36 or permission of the instructor.

Lecture, seminars, 2 hours per week.

Not open to students with credit in BIOL 4P30.

BIOL 4P51

Molecular virology

(also offered as BTEC 4P51)

An in-depth study of bacterial and animal viruses. Topics include biochemical properties, virus-host interaction, productive cycle, effect of virus on host cell and organism, viral vectors and gene therapy, recombinant viral vaccines and origin of virus.

Prerequisite: BIOL 3P50 or permission

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of the instructor.

Lectures, seminar, 2 hours per week.

BIOL 4P52

Developmental genetics

A seminar course on the role of specific structural and regulatory genes in development; homeotic genes in *Drosophila*; developmental lethals in mammals; maternal effect genes; temporal genes.

Prerequisite: BIOL 3P28 or 3P50 or 3P51.

Seminars, 2 hours per week.

BIOL 4P53

Immunology

Humoral and cellular immunity; structure and synthesis of immunoglobulins; origin of antibody diversity; transplantation immunity and the importance of the major histocompatibility complex; autoimmunity and allergic reactions.

Prerequisite: BCHM 3P01 or BIOL 3P50.

Lectures, seminar, 2 hours per week.

BIOL 4P56

Behavioral genetics

The genetics of activities performed by the organism in relation to its environment. Coverage will include single gene effects, chromosome aberrations and behavior, continuous variation and the inheritance of quantitative traits, the genetics of behavioral traits in man, *Drosophila*, rodents, and other taxa.

Prerequisite: BIOL 3P51 or permission of the instructor.

Lectures, seminar, 2 hours per week.

BIOL 4P58

Fungal genetics

(also offered as BTEC 4P58)
(formerly BIOL 4P55)

Transmission and molecular genetics of fungi. Recent advances in gene manipulation and the contribution of studies on these organisms to general genetic principles will be covered.

Prerequisite: BIOL 3P50 or 3P51 or

permission of the instructor.

Not open to students with credit in BIOL 4P55.

Lectures, seminar, 2 hours per week.

BIOL 4P60

Advanced seminar in population and behavioral ecology

Topics selected vary from year to year partly in response to student interests. Prerequisites: one of BIOL 3P60, 3P61, 3P64, 3P65.

Lectures, seminar, 2 hours per week.

BIOL 4P61

Paleolimnology

The use of microfossils in lake sediments for interpretation of past changes in climate and biotic species composition. Pollen, diatom, *Cladocera* and sediment geochemical stratigraphy will be stressed.

Prerequisite: BIOL 3P63 or permission of the instructor.

Lectures, seminar, 3 hours per week.

BIOL 4P62

Concepts of limnology

Productivity of aquatic ecosystems, species diversity, indicator species assemblages, lake classification and current concepts of limnology.

Prerequisite: BIOL 3P63 or permission of the instructor.

Lectures, seminar, 2 hours per week; lab, 3 hours per week.

BIOL 4P64

Insect behavior

Exploration of selected topics in the field of insect behavior, including programming and integration of behavior, orientation and dispersal, feeding and plant-herbivore coevolution, chemical, visual, and acoustical communication, defensive behavior, reproductive behavior and the eusocial insects.

Prerequisite: BIOL 3P60 or 3P64 or permission of the instructor.

Lectures, seminar, 2 hours per week.

BIOL 4P70

Coral reef biology

Reef structure, flora, fauna, framework elements, zonation, physical environment, physical formation and destruction, biogenesis, biodegradation, mechanical properties of sessile forms, ecological interrelationships and other topics.

Prerequisite: BIOL 2P90, 2P91 or permission of the instructor.

Lectures, 2 hours per week; seminar/lab 2 hours per week.

Biotechnology

Biological Sciences department
Alan W. Bown, chair

Chemistry department
Richard R. Hiatt, chair
Stuart Rothstein (as of July 1, 1991)

General information

Biotechnology is the use of living organisms to produce goods and services for practical and industrial purposes. Biotechnology has been used for centuries in fermentation, and the making of bread and cheese, but today involves new scientific tools like genetic and protein engineering, cell fusion and production of monoclonal antibodies. Biotechnology is a strategic technology, and an important economic component of industrialized nations. Biotechnology at Brock is a joint venture of the departments of Biological Sciences and Chemistry, with courses drawn from both Departments plus courses designed specifically for the program.

Pass program

Year 1
BIOL 1F90; CHEM 1P80, 1P81 or CHEM 1P90, 1P91; MATH 1P93, 1P94 or MATH 1P97, 1P98; PHYS 1F90; one humanities or social science context credit.

Year 2
BTEC 2P09; BIOL 2F01; one-half credit from BIOL 2P04, 2P05, 2P90, 2P91, 2P93, 2P98; CHEM 2P12, 2P20, 2P21, BTEC 2P63; humanities or social science credit not taken in year 1. (see Note 1.)

Year 3
BTEC 3P09, 3P50; BIOL 3P01, 3P02; CHEM 3P20; one of BTEC 3P62 or

3P63; one credit from BIOL 3P28, 3P42, 3P51, CHEM 3P40, 3P51; one elective credit.

Honors program

Years 1, 2 and 3

As in pass program

Year 4
BTEC 4F90 and 4F91; one credit from BTEC 4P24, 4P58, BIOL 4P23, 4P51, 4P53, BCHM 4P01, 4P02, 4P07; one-half credit from CHEM 4P27, BTEC 4P67, 4P68; BTEC 3P62 if not taken in year 3; BTEC 3P63 if not taken in year 3; one elective credit.

Note

1. BIOL 2P98 is highly recommended.

Description of courses

Please note that not all courses are offered in every session. Refer to the applicable term timetable for details.

BTEC 2P09
Introduction to biotechnology
An overview of traditional and modern biotechnology. Topics include: fermentation processes, medical, agricultural, and forensic applications; the use of biotechnology in waste treatment.
Prerequisite: BIOL 1F90, CHEM 1P80, 1P81 or CHEM 1P90, 1P91.
Lectures, 3 hours per week; lab, 3 hours per week.

BTEC 2P63
Introduction to biophysical chemistry
(also offered as CHEM 2P63)
The properties of colloidal systems applied to proteins and nucleic acids.

Physical photochemistry, electrochemistry and kinetics applied to biological systems.
Prerequisite: CHEM 2P12.
Lectures, 3 hours per week; lab, 3 hours per week.

BTEC 3P09
Bioreactor processes
An overview of fermentation technology and bioprocessing: the kinetics and thermodynamics of fermentation. Topics include: batch and continuous fermentation, biomass production (single-cell proteins), immobilized systems, by-product recovery and scale-up.
Prerequisite: BTEC 2P63.
Lectures, 3 hours per week; lab, 3 hours per week.

BTEC 3P50
Molecular genetics
(also offered as BIOL 3P50)
Topics include: the genetic code and information flow from nucleic acids to proteins, RNA and protein synthesis; prokaryotic and eukaryotic chromosomes; gene organization; transcription, RNA processing; codon usage; enhancers and transposons.
Prerequisite: BIOL 2F01 or permission of the instructor.
Lectures, 3 hours per week; lab 3 hours per week, for 6 weeks.

BTEC 3P62
Bio-organic chemistry
(also offered as CHEM 3P62)
The biosynthesis of the natural products of secondary metabolism. Introduction to the use of enzymes and other biological reagents in organic synthesis.
Prerequisite: CHEM 2P21.
Lectures, 3 hours per week; lab, 3 hours per week.

BTEC 3P63
Protein and nucleic acid chemistry
(also offered as CHEM 3P63)
The chemical synthesis and organic chemistry of proteins, enzymes and nucleic acids; their isolation and purification.

Biotechnology

Prerequisite: CHEM 2P21.
Lectures, 3 hours per week; lab, 3 hours per week.

BTEC 4F90

Research project

Experimental or theoretical research carried out under the supervision of a member of staff.

Prerequisite: permission of the chair.

BTEC 4F91

Thesis

The thesis will incorporate the results of the research project (BTEC 4F90), and will form the basis of a seminar presented by the student.

Corequisite: BTEC 4F90.

BTEC 4P24

Industrial and agricultural microbiology

(also offered as BIOL 4P24)

The use of microbes, both bacteria and fungi, as tools in industry and agriculture. Topics will include: industrial fermentation; recombinant DNA approaches to industrial problems; composting and silage; edible fungi; mycorrhizal associations and biological control agents.

Prerequisite: BIOL 2P98 and BTEC 3P50 or permission of the instructor.
Lectures, seminar, 2 hours per week.

BTEC 4P51

Molecular virology

(also offered as BIOL 4P51)

An in-depth study of bacterial and animal viruses. Topics include biochemical properties, virus-host interaction, productive cycle, effect of virus on host cell and organism, viral vectors and gene therapy, recombinant viral vaccines and origin of virus.

Prerequisite: BTEC 3P50 or permission of the instructor.

Lectures, seminar, 2 hours per week.

BTEC 4P58

Fungal genetics

(also offered as BIOL 4P58)

(formerly BIOL 4P55)

Transmission and molecular genetics of fungi. Recent advances in gene manipulation and the contribution of studies on these organisms to general

genetic principles will be covered.

Prerequisite: BTEC 3P50 or BIOL 3P51 or permission of the instructor.

Not open to students with credit in BIOL 4P55.

Lectures, seminar, 2 hours per week.

BTEC 4P67

Biophysical techniques

(also offered as CHEM 4P67)

Modern instrumental methods of biotechnology, including X-ray, NMR and mass spectral techniques. Membrane chemistry and electrophoresis. Computer modelling of enzyme and fermentation processes.

Prerequisite: CHEM 3P51.

Lectures, 3 hours per week; lab, 3 hours per week.

BTEC 4P68

Biotransformations

(also offered as CHEM 4P68)

The organic reactions carried out by isolated enzymes, fungal cultures and bacteria. The production of pharmaceutical, agricultural, and industrial chemicals by biological processes.

Prerequisite: BTEC 3P62 or 3P63.

Lectures, 3 hours per week.

Business Economics

Faculty of Business

A. William Richardson, Dean

Economics department

Isidore J. Masse, Chair

General information

The Bachelor of Business Economics (BBE) is a pass (three-year) degree program offered jointly by the Faculty of Business and the department of Economics. It is designed for students who wish to combine the study of Business Administration and Economics. The normal minimum grade requirement for admission to the BBE program is a 65 percent average on 6 OAC. (See page 20.)

While an honors degree program is not available for the BBE degree, it is possible for students with honors standing to transfer into an honors program in Business and/or Economics. For transfer into the combined honors program in Economics and Business Administration, the student should consult the Faculty of Business and the department of Economics.

Pass program

Year 1

ACTG 2P11, 2P12; ECON 1P91, 1P92; MGMT 1P91, 1P92; MATH 1P98; COSC 1P90; one humanities or one science context credit.

Year 2

ECON 2P21, 2P22, 2P31, 2P32, 2P90; FNCE 2P92; MKTG 2P22; MGMT 3P41; one humanities or science context credit.

Year 3

One and one-half year 3 ECON credits; FNCE 2P93; MKTG 2P24 or MGMT 3P42; MGMT 2P30, 3P81; one-half

ACTG, FNCE, MGMT, MKTG or ECON credit; one elective credit.

Honors program

For students with honors standing wishing to pursue a BBA, consult the Faculty of Business before selecting elective courses.

Students with honors standing wishing to pursue a combined honors degree in Economics and Business should consult the Faculty of Business and the department of Economics.

For students with honors standing wishing to pursue an honors degree in ECON:

(a) Students in the BBE program as outlined in the 1987-88 undergraduate calendar:

Years 1, 2 and 3

As in the BBE program with the exception that MATH 1P97 is required and should be taken as an elective half credit in the BBE program, or in the Spring, Summer term prior to admission to year 4. Students who expect to enrol in year 4 are encouraged to take ECON 3P91 in year 3.

Year 4

ECON 3P90, 3P91, 4F90, 4P13, 4P14; two year 3 ECON credits.

(b) Students in the BBE program as outlined in the 1986-87 or earlier calendars:

As in the BBE program with the exception that ECON 2P31, 2P32 and MATH 1P97 are required and must be taken prior to year 4. Students should note that unless these credits are taken to fulfil BBE elective requirements, the credits will have to be completed prior to year 4.

Year 4

ECON 3P90, 3P91, 4F90, 4P13, 4P14; two year 3 ECON credits.

Canadian Studies

Director

Patricia G. Dirks
Department of History
Nicolas Baxter-Moore
Department of Politics (as of July 1, 1991)

Canadian Studies offers a combined major program leading to the BA at pass and honors levels.

A combined major in Canadian Studies is always taken in conjunction with another humanities or social science discipline.

Canadian Studies offers students the opportunity to study Canadian culture and society from a variety of disciplinary perspectives. Students take a number of interdisciplinary Canadian Studies courses along with a number of Canada-centred courses offered by other departments. Emphasis is placed upon the unique nature of Canadian experience, and upon the value and practice of combining disciplinary approaches in the study of culture and society.

The Canadian Studies courses offered in years 1, 2 and 3 are designed to introduce students to interdisciplinary studies in a progressive manner. The first-year course is taught by one instructor and examines the development of Canadian culture from the perspectives of disciplines within the Humanities. The second-year course is organized into two separate interdisciplinary segments, one taught by an instructor from the social sciences, the other by an instructor from the humanities. At the third-year level, students take a fully interdisciplinary seminar course.

Notes:

1. Canadian Studies students must take one credit in French or a course related to French Canada as part of their degree program. Eligible courses appear with an asterisk (*) in the list of approved Canadian Studies courses.

2. Students are designated "humanities" or "social science" students according to the designation of the collateral department. Humanities students must fulfil the language requirement of the collateral department in which they are working.

3. Humanities students must take POLI 1F90 as their social science context elective in year 1. In year 2, they must take POLI 2F12, and social science students must take HIST 2F09 or 2F10 as part of their program.

4. It is strongly recommended that all Canadian Studies students complete one course in Canadian history, one course in Canadian politics, one in Canadian literature, and one Canadian-related fine arts course as part of their combined major program of study.

Each student should meet with the director of Canadian Studies and the chair or undergraduate officer of the collateral department at the beginning of the second year of study, to ensure that his or her choice of courses will meet the criteria for the combined major degree.

Pass program

CANA 1F91, one of CANA 2M90-2M99, CANA 3F91, two credits from the list of approved Canadian Studies courses (one at the second-year level and one at the third-year level).

Year 1

CANA 1F91; one credit from the collateral department; one social science and one science context elective; one elective credit.

Note: students whose collateral major is in the humanities must take POLI 1F90 as their social science context credit, and the humanities language requirement as specified by the collateral department. CANA 1F91 will satisfy the humanities context requirement.

Year 2

CANA 2M90-2M99; POLI 2F12

(humanities collateral majors), HIST 2F09 or 2F10 (social science collateral majors); two credits from the collateral department; one elective credit.

Year 3

CANA 3F91; one credit at the 2(alpha)90 level or higher from the list of approved Canadian Studies courses; two credits from the collateral department; one elective credit.

Honors program

CANA 1F91, one of CANA 2M90-2M99, CANA 3F91, CANA 4F99, three credits from the list of approved Canadian Studies courses (one at the second year level, one at the third-year level, and one at the fourth-year level).

Years 1, 2 and 3

As in pass program.

Year 4

CANA 4F99; one credit at the 3(alpha)90 level or higher from the list of approved Canadian Studies courses; two credits from the collateral department; one elective credit.

It is strongly recommended that electives be chosen from the list of approved Canadian Studies credits.

Description of courses

Please note that not all courses are offered in every session. Refer to the applicable term timetable for details.

CANA 1F91

Introduction to Canadian studies

The development of Canadian culture from the beginning of European settlement to the present. The course is interdisciplinary, and examines cultural expressions drawn from Canadian literature, painting and music, as well as selected issues in Canadian social and cultural history.

Not open to students with credit in CANA 290.

Lectures, seminar, 3 hours per week.

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CANA 2M90-2M99 The Canadian experience Study of a selected dimension of the Canadian experience focussing, in the first term, on interdisciplinary perspectives in the social sciences and, in the second, on interdisciplinary perspectives in the humanities.	DRAM 2F97 DRAM 2P91	Canadian drama Canadian radio and television drama	HIST 4V10-4V19	Problems in Canadian history
	ECON 2F95	Canadian economic policy	LABR 2P09	Canadian economic history. (also offered as ECON 2P09)
	ECON 2P09	Canadian economic history (also offered as LABR 2P09)	MGMT 3F51	ECON 2P09) Canadian public administration (also offered as POLI 3F51)
1991-92: (2M90) The immigrant experience in Canada Prerequisite: CANA 1F91 or permission of the instructor. Not open to students with credit in CANA 3M90. Lectures and/or seminar, 3 hours per week.	ECON 3P15	Public sector economics: taxation	MGMT 4P40 MGMT 4P52	Administrative law Personnel and finance administration in the public sector (also offered as POLI 4P52)
	ECON 3P19	Regional economics		Business-government relations (also offered as POLI 4P54)
	ENGL 2F91	Canadian literature in English		The government and politics of Canada
	FILM 2F24	Canadian popular culture (also offered as COMM 2F24)	MGMT 4P54	Canadian public administration (also offered as MGMT 3F51)
CANA 3F91 Canadian culture and society: interdisciplinary studies. A fully interdisciplinary seminar on selected Canadian issues, involving faculty from various departments.	*FREN 1F00	Language (introductory)	POLI 2F12	Urban politics and administration
	*FREN 1F80	Practical language		Politics in Ontario
	*FREN 1F90	Language and literature	POLI 3F51	Politics in Quebec
1991-92: Borders and margins A study of the concepts of "centre" and "margin" and the role of "boundaries" (or their absence) in Canadian culture and society. Prerequisite: CANA 2F91 or permission of the instructor. Seminar, 3 hours per week.	*FREN 2F05	Literary and cultural movements of French Canada		Politics and the mass media in Canada (also offered as COMM 3P17)
	*FREN 2F95	French-Canadian novel and short story (in French)	POLI 3P11	Law and politics
	*FREN 3P95	French-Canadian theatre (in French)	POLI 3P15 *POLI 3P16 POLI 3P17	The Canadian judicial process
	*FREN 3P96	French-Canadian poetry (in French)		Canadian foreign policy
CANA 4F99 Honors thesis Independent interdisciplinary study under the guidance of a faculty adviser. The results of the study will be presented as a thesis, to be evaluated by a faculty committee representing the disciplinary areas to which the thesis is related.	GEOG 2P91	Geography of Canada	POLI 3P18 POLI 3P19	Canadian - American relations
	GEOG 3P43	The evolution of urban space: the Canadian city		Environmental policy, law and administration
	HIST 2F09	Canada: colonization to confederation	POLI 3P28	Issues in local government and politics
	HIST 2F10	Canada since 1867 -- discovering the "Canadian" way	POLI 3P29	Federalism in Canada
	HIST 2P94	Canada's evolving social fabric	POLI 3P66	Canadian political economy
	HIST 3P74	Canada, a land of immigrants	POLI 4P11	Machinery of government
	HIST 3P82	Canadian - American Relations	POLI 4P14	Personnel and finance administration
	HIST 3P92	Selected aspects of Upper Canada/Ontario history, 1784-1914	POLI 4P15 POLI 4P50 POLI 4P52	
	*HIST 3P98	French Canada		
<hr/> Departmental offerings which are approved Canadian Studies credits: <hr/>				
COMM 2F24	Canadian popular culture (also offered as FILM 2F24)			
COMM 3P17	Politics and the mass media in Canada (also offered as POLI 3P17)			

Canadian Studies

	tion in the public sector. (also offered as MGMT 4P52)
POLI 4P54	Business-government relations (also offered as MGMT 4P54)
POLI 4P65	Public policy formulation in Canada
POLI 4V10-4V19	Issues in Canadian politics
SOCI 3P42	Canadian society
SOCI 3P46	Native peoples and Canadian society
SOCI 3P47	Ethnic groups
SOCI 4P42	Special topics in Canadian society
UEST 3P55	Management of fisheries and wild-life resources
UEST 3P57	Social services planning in the urban region
UEST 3V60-3V65	Selected issues in urban policy
VISA 2F50	Canadian art

Note: as many of the courses listed above have prerequisites, students should plan their programs in advance.

Canadian and European Community Studies

Director
Cecil A. Abrahams, Dean,
Faculty of Humanities

General information

Schmon Tower 401D

The Brock program in Canadian and European Community Studies explores the importance of reciprocal relations between Canada and the European community. The program is professionally oriented; it aims to help prepare its graduates for careers in transatlantic relations, especially those between Canada and Europe, in order to promote Canadian interests in Western Europe, one of the world's major trading entities. To this end, a system of courses has been co-ordinated including Business Administration, Economics, Geography, History, Politics, Sociology, Urban and Environmental Studies, and the French and German languages.

The program is offered only as a four-year honors program leading to the degree of Bachelor of Arts (BA) in Integrated Studies in Canadian and European Community Studies. Only students who have obtained a 70 percent overall average in year 2 may proceed to years 3 and 4.

Honors program

Students will be required to pass an oral proficiency test in either French or German prior to graduation. Competence in both languages is strongly recommended.

One credit in FREN and GERM at the 1F90 level or above must be taken in years 1 and 2. At least two credits in either FREN or GERM, numbered 2(alpha)90 or above, must be taken during years 3 and 4.

Students must fulfil the University's core and context requirements.

Of the remaining credits, at least five must have European content and five must have Canadian content. A minimum of six credits must be taken in either History or Politics, including a year 4 honors research credit.

Note:

Students enrolled in the program are invited to participate in the study year in Germany at the University of Freiburg, West Germany, and are eligible for the practicum in Germany (GERM 3P98, 4P98). Both opportunities are offered by the department of Germanic and Slavic Studies. Students may also avail themselves of the many summer programs offered by universities in Quebec and France.

Prerequisites:

Either OAC French (or FREN 1F00), or German (or GERM 1F00). FREN 1F00 or GERM 1F00, or both, may be taken in year 1.

Course listings

A complete list of approved Canadian and European Community Studies courses follows below. For more information and direction, consult the departments.

CANA 1F91	Introduction to Canadian studies
CANA 2M90-2M99	The Canadian experience
COMM 3P17	Politics and the mass media in Canada (also offered as POLI 3P17)
ECON 1P91	Principles of microeconomics

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ECON 1P92	Principles of macroeconomics
ECON 2F95	Canadian economic policy (also offered as LABR 2F95)
ECON 2P21	Intermediate microeconomics I
ECON 2P22	Intermediate macroeconomics I
ECON 2P31	Intermediate microeconomics II
ECON 2P32	Intermediate macroeconomics II
ECON 3F07	Comparative economic systems
ECON 3P11	International trade
ECON 3P12	International payments
ECON 3P14	Public sector economics: expenditure
ECON 3P15	Public sector economics: taxation
ECON 3P18	Urban economics
ECON 3P19	Regional economics
FREN 1F00	Language (introductory)
FREN 1F80	Practical language
FREN 1F90	Language and literature
FREN 2F00	Language (intermediate)
FREN 2F95	French-Canadian novel and short story
FREN 3P95	French-Canadian theatre
FREN 3P96	French-Canadian poetry
GEOG 1F90	Introduction to human geography
GEOG 2P02	Principles of economic geography
GEOG 2P06	Cultural geography
GEOG 2P90	Geography of western Europe
GEOG 2P91	Geography of Canada
GEOG 3P42	The evolution of urban space: the European city
GEOG 3P43	The evolution of urban space: the Canadian city
GEOG 3P84	Political geography
GERM 1F00	Language (introductory)

**Canadian and European
Community Studies**

GERM 1F90	Language and literature (intermediate I)	MGMT 1P91 MGMT 2P40 MGMT 3F51	Introduction to business Commercial law Canadian public administration (also offered as POLI 3F51)	UEST 3P55	Management of fisheries and wildlife resources
GERM 1F96	Culture and civilization of central Europe: from the Reformation to the post-WW II period			UEST 3V20-3V24	Interdisciplinary perspectives on human settlements
GERM 1P93	Culture and civilization of central Europe: from the prehistoric to the Carolingian period	POLI 1F90 POLI 2F12	Introduction to politics The government and politics of Canada	UEST 3V30-3V34	Interdisciplinary perspectives in environmental issues
GERM 1P94	Culture and civilization of central Europe: the Holy Roman Empire	POLI 2F20 POLI 2P45	International politics The government and politics of the United Kingdom		
GERM 2F00	Language and literature (intermediate II)	POLI 3F51	Canadian public administration (also offered as MGMT 3F51)		
GERM 3F99	Advanced language study I	POLI 3P11	Urban politics and administration		
GERM 3P98	Practicum in Germany	POLI 3P15	Politics in Ontario		
GERM 4F10	Advanced language study II	POLI 3P16	Politics in Quebec		
GERM 4P98	Practicum in Germany	POLI 3P17	Politics and the mass media in Canada (also offered as COMM 3P17)		
HIST 1F95	World history since 1914				
HIST 2F09	Canada: colonization to Confederation	POLI 3P18	Law and politics		
HIST 2F10	Canada since 1867-- discovering the "Canadian" way	POLI 3P26 POLI 3P27	International law International organization		
HIST 2P51	Europe's greatest century 1815-1914	POLI 3P28	Canadian foreign policy		
HIST 2P52	Europe from ruin to recovery: 1914-1972	POLI 3P66	Environmental policy, law, and administration		
HIST 2P99	Ideas and culture, 1700-1850	POLI 4P22	Foreign policies of the great powers		
HIST 3F24	Britain in the 20th century	POLI 4P27	Theories of international relations		
HIST 3F50	The Germans	POLI 4P45	Western European politics		
HIST 3F91	The experience of Empire	POLI 4P65	Public policy formulation in Canada		
HIST 3P00	Ideas and culture since 1850	POLI 4V10-4V19	Issues in Canadian politics		
HIST 3P74	Canada, a land of immigrants				
HIST 3P92	Selected aspects of Upper Canada/Ontario history, 1784-1914	SOCI 2P31 SOCI 2P52 SOCI 3P42 SOCI 3P46	Political sociology Socialization Canadian society Native peoples and Canadian society		
HIST 3P98	French Canada				
HIST 4V10-4V19	Problems in Canadian history	SOCI 3P47	Ethnic groups		
LABR 2F95	Canadian economic policy (also offered as ECON 2F95)	UEST 1F90	Introduction to urban and environmental studies		

Chemistry

Officers of instruction

Chair

Richard R. Hiatt
Stuart M. Rothstein (as of July 1, 1991)

Professors

Ian D. Brindle
Eugene A. Cherniak
Martin S. Gibson
J. Stephen Hartman
Richard R. Hiatt
Herbert L. Holland
Jack M. Miller
David C. Moule
Mary Frances Richardson
Stuart M. Rothstein
Jan Vrbik

Assistant professor

Kathleen M. Gough

Research professor (honorary)

Mikio Chiba

Senior demonstrator

Gail Neff

Laboratory demonstrator -

Research technician
Donna Vukmanic

Co-ordinator, Analytical services

T.R.B. Jones

General information

Mackenzie Chown, E206

Chemistry is the study of matter and its interactions with various forms of energy. Brock students are involved in the analysis, synthesis, and purification of substances; determining their structures and properties; and explaining the mechanisms of processes. The knowledge and experience gained in this study are of great value to science, technology and society.

Our programs stress chemical principles and practice through research in organic, inorganic, analytical, physical and theoretical chemistry, as well as the related fields of bio-inorganic and bio-organic chemistry and chemical physics. Special research interests include structures of metal-vitamin complexes, oxidation of organic molecules by fungi, fast reaction kinetics, photochemistry, molecular spectroscopy, nuclear magnetic resonance spectroscopy, quantum chemistry, and pesticide analysis.

The facilities available in the Mackenzie Chown complex are actively used for both teaching and research. A partial list of equipment includes: Bruker AC 200 NMR Cryospectrometer for solution and high resolution solid studies; Bruker WP60 multinuclear FT NMR and Bruker WP-80 CW NMR spectrometers; mass spectrometry facilities include two "EB" high resolution double focussing magnetic mass spectrometers, a new Kratos Concept 1S and a Kratos MS-30, interfaced to a Kratos DS-90 data system (Eclipse computer) which in turn is connected via an Ethernet linkage to a SUN SPARC station based Kratos MACH 3 mass spectrometry workstation. Positive and negative ionization, EI, CI, FAB and dynamic FAB sources, GC, LC (particle beam and dynamic FAB) and linked scanning are available. A dedicated HP quadrupole GC/MSD is also available; 6m. Ebert grating spectrograph; Cary and Varian spectrophotometers; Spex 14018 Raman spectrometer; PE 225 IR and Analect FT IR spectrophotometers; preparative and analytical gas chromatographs; flash photolysis apparatus; x-ray precession and universal cameras and Nonius CAD-4 automated single crystal x-ray diffractometer with low temperature accessories; Nova 4x mini computer with graphics terminal and plotter; lasers; Perkin Elmer and Waters high pressure liquid chromatographs with data stations; Spectrametrics Spectraspan V DCP emission spectrometer with Dataspan computer; Waters Ion Chromatograph; Rudolph autopolarimeter.

SUN SPARC stations and MacIntosh II series computers for theoretical computation and molecular modelling, will be interfaced via ETHERNET to the University's new UNIX academic computing network.

Chemistry majors who wear glasses:

It is strongly recommended that you secure your prescription glasses with 'hardened' lenses. (Safety glasses are required in the chemical labs.)

Breakage Charges

Students in laboratory courses will be charged for excessive breakage.

Pass program

The pass program in Chemistry must include: CHEM 1P80, 1P81 or CHEM 1P90, 1P91 (see Note 1.); PHYS 1F20, 1F25 or 1F90 (see Note 2.); CHEM 2P01, 2P02, 2P12, 2P22, 2P32, 2P42, 3P40; two of CHEM 3P20, 3P21, CHEM 3P30, 3P31, or CHEM 3P51, 3P53; PHYS 2P20, 2P31; MATH 1P93, 1P94; and two other credits, normally in the sciences, MATH or COSC (see Note 2.).

A typical pass program:

Year 1

CHEM 1P80, 1P81 or CHEM 1P90, 1P91 (preferred); PHYS 1F20, 1F25 or 1F90 (preferred); MATH 1P93, 1P94; two context credits.
(See Notes 1. and 2.)

Year 2

CHEM 2P01, 2P02, 2P12, 2P22, 2P32, 2P42; two elective credits. (see Notes 2. and 3.)

Year 3

Two credits from CHEM 3P20, 3P21, CHEM 3P30, 3P31, or CHEM 3P51, 3P53; CHEM 3P40; PHYS 2P31; two elective credits. (See Notes.) A pass program must include three credits numbered 2(alpha)90 or higher.

Chemistry

Notes:

1. PHYS 1F90 with a lab is preferred; note that professional schools may require an introductory physics credit with a lab.
2. The electives will normally be chosen from one or more credits taken in humanities, or one in social science, and the remainder normally in one or more of the sciences, MATH or COSC (except MATH 1P60, GEOL 1F90, BIOL 1F25, SCIE 1F20 or 1F30 or ASTR 1F00).
3. MATH 2F95 is recommended for students interested in physical chemistry.
4. CHEM 3P40 is strongly recommended; the course is strongly recommended for most projects in CHEM 4F90, 4F91 and should be taken in year 3 by students intending to proceed to a year 4 thesis in CHEM.

Honors program

The honors program in Chemistry is designed to give the student a broad knowledge of chemistry as well as depth in areas in which the student is most interested. A research project must be successfully completed and a thesis written as part of the requirements for an honors degree. The honors program, and certain of the combined honors programs listed below, when taken with chemistry electives satisfy the requirements for accreditation for membership in the Chemical Institute of Canada.

The honors program in Chemistry consists of 20 credits and must include: PHYS 1F20, 1F25 or 1F90 (see Note 1.); MATH 1P93, 1P94; CHEM 1P80, 1P81 or CHEM 1P90, 1P91 (preferred) or CHEM 2P01, 2P02, 2P12, 2P22, 2P32, 2P42, 3P20, 3P21, 3P30, 3P31, 3P40, 3P51, 3P53, 4F90, 4F91; PHYS 2P20, 2P31; two of CHEM 4P14, 4P15, 4P21, 4P22, 4P31, 4P40; and any additional three credits in the sciences, MATH or COSC (except MATH 1P60, GEOL 1F90, BIOL

1F25, SCIE 1F20 or 1F30 or ASTR 1F00).

A typical honors program:

Years 1, 2 and 3

As in pass program.

Year 4

Any of CHEM 3P20, 3P21, or CHEM 3P30, 3P31, or CHEM 3P51, 3P53 not taken in year 3; CHEM 4F90, 4F91; two of CHEM 4P14, 4P15, 4P21, 4P22, 4P31, 4P40; one elective credit.

Note: 5. One humanities and one social science credit must be taken in years 1 and 2. The remaining elective credits should be taken in one or more of the sciences or mathematics as described in Note 2. above.

Concurrent BSc/BEd

The Faculty of Mathematics and Science and the Faculty of Education have developed a concurrent BSc/BEd program to meet the requirements of students interested in teaching science and mathematics at the Junior/Intermediate levels. (See index.)

Combined major programs

Combined pass and honors programs can be taken in Chemistry/Biology, Chemistry/Computer Science, Chemistry/Geology, Chemistry/Mathematics, Chemistry/Physics and Chemistry/Urban and Environmental Studies. In most of the combined major programs a research project must be successfully completed and a thesis written as part of the requirements for an honors degree. Consult the department for a combined program which will satisfy the requirements for accreditation for membership in the Chemical Institute of Canada.

A minimum of ten credits (five from

each discipline) is required for a combined major pass degree and a minimum of fourteen credits (seven from each discipline) is required for a combined major honors degree.

Typical programs:

The first three years are typical pass programs.

Chemistry and Mathematics

Pass program

Year 1

CHEM 1P80, 1P81 or CHEM 1P90, 1P91 (preferred); MATH 1P93, 1P94 or MATH 1P93, 1P95; MATH 1P12, 1P90; PHYS 1F20, 1F25 or 1F90; one context credit.

Year 2

CHEM 2P01, 2P02, 2P12, and one of 2P22, 2P32, 2P42; MATH 2F00 or 2F95; PHYS 2P20; one and one-half elective credits.

Year 3

Two of CHEM 2P22, 2P32, 2P42, 3P40; CHEM 3P51, 3P53; MATH 2F10 or 2P20, 3P20 or 3F94; MATH 2F96; one year 3 credit in CHEM or MATH.

Honors program

Years 1, 2 and 3

As in pass program.

Year 4

CHEM 4F90, 4F91; one of CHEM 3P20, 3P21 or 3P30, 3P31; two year 3 or year 4 MATH credits. An honors program must include a minimum of three credits numbered 3(alpha)90 or higher.

Chemistry and Physics

Pass program

Year 1

CHEM 1P80, 1P81 or CHEM 1P90, 1P91 (preferred); PHYS 1F20, 1F25 or 1F90 (preferred); MATH 1P93, 1P94; two context credits.

Year 2

CHEM 2P01, 2P02, 2P12 and one of CHEM 2P22, 2P32, 2P42; PHYS 2P20, 2P21, 2P30, 2P31; MATH 2F95.

Year 3

Two of CHEM 2P22, 2P32, 2P42 not taken in year 2; one of CHEM 3P20, 3P30, 3P40, 3P51, 3P53; PHYS 3P50, 3P70; one of PHYS 3P20, 3P91, 3P92; PHYS 3F95 or MATH 2F96; one elective credit.

Honors program**Years 1, 2 and 3**

As in pass program.

Year 4

PHYS 4F90, 4F91 or CHEM 4F90, 4F91; one of CHEM 3P20, 3P30; one credit in CHEM or PHYS at the year 3 or 4 level; one of PHYS 3P20, 3P31, 4P61, 4P70; one elective credit. An honors program must include a minimum of three credits numbered 3(alpha)90 or higher.

For combinations with Biological Sciences, Geological Sciences, and Urban and Environmental Studies, see the entry under the other department. For combined majors in other areas of concentration please consult the departments.

Biochemistry

See separate calendar entry under Biochemistry.

Note: Students planning to pursue graduate studies in Chemistry are strongly recommended to take all of: CHEM 4P14, 4P21, 4P22, 4P31 and 4P40 in addition to CHEM 4F90 and 4F91. Chemistry majors planning to pursue graduate studies in biochemistry or biological chemistry are strongly recommended to take CHEM 4P27 in place of CHEM 4P14.

Master of Science (MSc) program

Candidates with either an honors or a pass BA or BSc degree in Chemistry, or equivalent, may apply to the chair of the department for entry into this program. Candidates holding a pass degree will be required to take a qualifying year, similar to year 4 of the honors program, before formally enrolling for the MSc degree. Candidates may be required to write Graduate Record Aptitude and Advanced Chemistry Examinations.

Candidates with an honors degree, or who have completed a qualifying year, require a minimum of one year of full-time study.

The following research fields are currently represented:

Inorganic chemistry: nuclear magnetic resonance both in solution and in the solid state; halogen redistribution and ionic-covalent equilibria in boron trihalide adducts; fluoroboron cations; Magic Angle Spinning NMR of inorganic solids including silicon carbide, geological samples, and fluorides. Synthesis and mass spectroscopy of organometallic compounds, including perhalogenoaromatic compounds and donor-acceptor adducts; Fast Atom Bombardment mass spectroscopy; strong hydrogen bonding to fluoride, and synthetic applications in organic chemistry; x-ray structure determinations; polytypism and solid-state phase transitions.

Organic chemistry: synthesis of heterocyclic, aromatic and aliphatic systems; kinetics and mechanisms of auto-oxidative processes; reactions of organic free radicals in solution; transitional activation; molecular rearrangements; chemistry of electron deficient intermediates such as arynes and 1:3 dipolar species; mechanisms of

thermal and photochemical rearrangements; model systems for biochemical processes; mechanism of biological reactions; biosynthetic pathways; the oxidation of organic molecules by fungi; x-ray structural studies of polymorphism in organic compounds.

Physical and theoretical chemistry: rovibronic analysis of electronic band spectra of polyatomic molecules; Franck-Condon calculation of geometry changes on electronic excitation; infrared and Raman spectroscopy, kinetic spectroscopy and spectrophotometry of transients produced during the flash photolysis of gases and liquids; quantum mechanical methods; atomic and molecular structure, intermolecular force and chemical reactivity calculations; applied statistics.

Analytical chemistry: development of analytical methods for pesticides and their degradation compounds; studies on the fate of pesticides in plants, insects, and the environment; gas chromatography/mass spectrometry and nuclear magnetic resonance applied to environmental problems; trace and ultra-trace determination of elements in complex matrices; applications of FAB mass spectroscopy in analytical chemistry; applications of analytical chemistry to archaeological problems: structure-activity relationships in toxicology.

For further information about the MSc program see the graduate calendar.

Graduate courses

The following courses are available in the department. A certain selection (determined, in part, by the interests of the students) will be offered each year. Further information about the courses to be offered in any year may be obtained from the chair of the department.

Chemistry

CHEM 5F90
MSc research and thesis

CHEM 5P00
Quantum chemistry--theory

CHEM 5P01
Quantum chemistry--applications

CHEM 5P05
Molecular spectroscopy--theory

CHEM 5P06
Molecular spectroscopy--applications

CHEM 5P09
Photochemistry

CHEM 5P11
Special topics in physical chemistry

CHEM 5P15
Nuclear magnetic resonance (NMR)
spectroscopy

CHEM 5P16
Mass spectroscopy

CHEM 5P17
Special topics in nuclear magnetic
Resonance (NMR) spectroscopy

CHEM 5P18
Special topics in mass spectroscopy

CHEM 5P19
Organic reaction mechanisms

CHEM 5P20
Special topics in organic chemistry

CHEM 5P21
Advanced organic synthesis

CHEM 5P23
Organic stereochemistry

CHEM 5P24
Natural products chemistry

CHEM 5P27
Advanced enzyme and coenzyme
mechanisms

CHEM 5P31
Special topics in inorganic chemistry

CHEM 5P33
Chemistry of organometallic and co-
ordination compounds

CHEM 5P41
Special topics in analytical chemistry

CHEM 5P51
Basic structural chemistry and crystal-
lography

CHEM 5P52
Advanced structural chemistry and
crystallography

For details, see graduate calendar.

Description of courses

Abbreviations:

BCHM Biochemistry

CHEM Chemistry

MATH Mathematics

PHYS Physics

**Please note that not all courses are
offered in every session. Refer to the
applicable term timetable for details.**

CHEM 1P80
**Introduction to modern
chemistry I**
(formerly part of CHEM 1F85)
Stoichiometry and chemical bonding,
descriptive inorganic and organic
chemistry. Problem solving is stressed.
Laboratory work includes chemical
analysis and illustrative experiments in
organic chemistry.
Prerequisite: grade 12 chemistry
required. OAC chemistry or equivalent
chemistry course recommended.
Not open to students with credit in
CHEM 1F85, 1F93 or 1P90, 1P91.
Lectures, 3 hours per week; seminar,
lab, 3 hours per week.

CHEM 1P81
Introduction to modern chemistry II
(formerly part of CHEM 1F85)
Gas laws, thermochemistry, solutions,
chemical equilibria and kinetics.

Problem solving is stressed. Labora-
tory work includes chemical analysis
and synthesis and experiments illustrat-
ing lecture topics.

Prerequisite: CHEM 1P80.
Lectures, 3 hours per week; seminar,
lab, 3 hours per week.

CHEM 1P90
Chemical principles and properties I
(formerly part of CHEM 1F93)
General chemistry; stoichiometry;
inorganic and organic structures and
reactions. Laboratory work includes
chemical purification and analysis and
experiments in organic chemistry.
Prerequisite: 70 percent or above in an
OAC chemistry or in an equivalent
chemistry course required.
Not open to students with credit in
CHEM 1F93, 1F85, or either of 1P80,
1P81.
Lectures, 3 hours per week; lab, 3
hours per week.

CHEM 1P91
**Chemical principles and
properties II**
(formerly part of CHEM 1F93)
General chemistry; introduction to
physical chemistry; thermochemistry,
chemical equilibria, kinetics and
analysis. Laboratory work includes
experiments in chemical analysis and
synthesis, thermochemistry and
chemical kinetics.
Prerequisite: CHEM 1P90.
Lecture, 3 hours per week; lab, 3 hours
per week.

CHEM 2P01
**Laboratory techniques in
chemistry I**
Experiments include use of computers
for data collection and analysis;
synthesis, separation, and analysis of
organic and inorganic compounds;
introduction to instrumental tech-
niques; measurement of kinetic,
thermodynamic and equilibrium
properties. Experiments will be
selected to take into account student
course patterns and experiments
performed in previous chemistry
courses.
Prerequisite: CHEM 1P81 or 1P91.
Lecture, one hour per week, lab, 6
hours per week.

CHEM 2P02**Laboratory techniques in chemistry II**

A continuation of CHEM 2P01.

Prerequisite: CHEM 2P01

Lecture, one hour per week; lab, 6 hours per week.

CHEM 2P12**Physical chemistry I: equilibrium and change**

Chemical thermodynamics, particularly the role of enthalpy and entropy, in understanding physical and chemical change in ideal and non-ideal systems; rates of chemical reactions, and the processes responsible for chemical change.

Prerequisite: CHEM 1P80, 1P81 or CHEM 1P90, 1P91; MATH 1P93, 1P94.

Co-requisite: CHEM 2P01.

Not open to students with credit in CHEM 2F10.

Lectures, 4 hours per week.

CHEM 2P20**Principles of organic chemistry**

An introduction to the principles and techniques of organic chemistry; correlation of reactions and physical properties of organic compounds with structure and energetic concepts. Laboratory work includes organic preparations and techniques.

Prerequisite: CHEM 1P90, 1P91 or CHEM 1P80, 1P81.

Not open to students with credit in CHEM 2P90.

Lectures, 3 hours per week; lab, 3 hours per week.

CHEM 2P21**Principles of bio-organic chemistry**

Organic chemistry of selected groups of natural products; their biological origin and significance. Introduction to applications of spectroscopy in organic chemistry and biochemistry. Laboratory work includes organic syntheses and characterization and organic analysis.

Prerequisite: CHEM 2P20.

Not open to students with credit in CHEM 2P91.

Lectures, 3 hours per week, lab, 3 hours per week.

CHEM 2P22**Organic chemistry**

An introduction to the principles and techniques of organic chemistry; correlation of reactions and physical properties of organic compounds; structure and energetic concepts; chemistry of functional groups.

Prerequisite: CHEM 1P80, 1P81, CHEM 1P90, 1P91.

Corequisite: CHEM 2P01.

Not open to students with credit in CHEM 2P20, CHEM 2P90.

Lecture, seminar, 4 hours per week.

CHEM 2P32**Principles of inorganic chemistry**

A survey of the periodic table, with stress on periodicity of chemical behavior. Chemistry and reactions in aqueous solutions; structure and bonding in simple compounds; applications to biological and environmental processes.

Prerequisite: CHEM 1P90, 1P91 or CHEM 1P80, 1P81.

Corequisite: CHEM 2P02.

Not open to students with credit in CHEM 2P30.

Lecture, seminar, 4 hours per week.

CHEM 2P42**Introduction to analytical chemistry**

Introduction to separation methods such as chromatography, solvent extraction, and precipitation; use of buffers for pH-control; statistical treatment of analytical data including normal distributions, significance testing and linear regression.

Prerequisite: CHEM 1P90, 1P91 or CHEM 1P80, 1P81.

Corequisite: CHEM 2P02

Not open to students with credit in CHEM 2P40, 2P41, 2P92.

Lectures, seminar, 4 hours per week.

CHEM 2P63**Introduction to biophysical chemistry**

(also offered as BTEC 2P63)

The properties of colloidal systems applied to proteins and nucleic acids. Physical photochemistry, electrochemistry and kinetics applied to biological systems.

Prerequisite: CHEM 2P12

Lectures, 3 hours per week; lab, 3 hours per week.

CHEM 2P98**Undergraduate research**

Undergraduate research project carried out either in the department under the supervision of a faculty member, or as an employee in chemical industry or other suitable laboratory. (If both CHEM 2P98 and CHEM 3P98 are taken, only one of these may be based on work done in the department.)

CHEM 3P20**Structure and reactivity of organic molecules**

Spectroscopic techniques in organic chemistry; organic stereochemistry and reaction mechanisms; synthetic methods. Laboratory work includes selected experiments in organic synthesis and structure determination with emphasis on spectroscopic methods.

Prerequisite: CHEM 2P21 or permission of the department.

Co-requisite: CHEM 3P40 recommended.

Lectures, 3 hours per week; lab, 3 hours per week.

CHEM 3P21**Organic reactions**

Reactive intermediates and rearrangements in organic chemistry; the chemistry of acyclic, cyclic, and heterocyclic compounds. The laboratory work is an extension of CHEM 3P20.

Prerequisite: CHEM 3P20.

Lectures, 3 hours per week; lab, 3 hours per week.

CHEM 3P30**Main group inorganic chemistry**

Systematic inorganic chemistry of the non-transition elements with emphasis on structure, bonding and reactivity in inorganic and organometallic compounds; inorganic reaction mechanisms. Selected experiments in inorganic synthesis; use of modern physical methods for determination of composition, structure and bonding.

Prerequisite: CHEM 2P32, 2P42.

CHEM 2P12, 2P22 and 2P20 should be taken concurrently if not taken previously.

Co-requisite: CHEM 3P40 recommended.

Chemistry

Lectures, 3 hours per week; lab, 3 hours per week.

CHEM 3P31

Transition metal chemistry

A continuation of CHEM 3P30, emphasizing the transition elements; introduction to ligand field theory.

Prerequisite: CHEM 3P30.

Lectures, 3 hours per week; lab, 3 hours per week.

CHEM 3P40

Instrumental methods of analysis

An introduction to the use of instrumental methods in qualitative and quantitative analysis, including methods such as: chromatography, mass spectrometry, nuclear magnetic resonance spectroscopy, dispersive and fourier transform IR spectroscopy, visible and ultraviolet spectrophotometry, atomic absorption and emission spectroscopy, differential pulse polarography, cyclic and stripping voltammetry, etc. The laboratory will concentrate on these techniques using, in most cases, microprocessor or micro-computer controlled instrumentation, and including computerized data manipulation.

Prerequisite: CHEM 2P42.

Lectures, 3 hours per week; lab, 3 hours per week.

CHEM 3P51

Quantum chemistry

Rigid rotor, harmonic oscillator, atomic structure, molecular orbital theory (diatomics and polyatomics), simple group theory. Introduction to FORTRAN 77.

Prerequisite: CHEM 2P12.

Lectures, 3 hours per week; tutorial, 3 hours per week.

CHEM 3P53

Atomic and molecular spectroscopy and photochemistry

Group theory, electromagnetic radiation, spectroscopic transitions, rotational far IR, microwave and Raman spectroscopy, vibrational near IR and Raman spectroscopy, atomic and molecular electronic, visible and UV spectroscopy, non-radiative photo-physical processes.

Prerequisite: CHEM 3P51.

Lectures, 3 hours per week; lab, 3 hours per week.

CHEM 3P60

Industrial chemistry

Principles and practice of industrial chemistry. A survey of the chemical industry, pollution control, plant design, corrosion, and similar topics. Selected industrial processes will be discussed in detail. Tours of chemical plants and industrial laboratories will be an integral part of the course.

Prerequisite: CHEM 2P42.

Co-requisite: CHEM 2P32.

Not open to students with credit in CHEM 3P92.

Lectures, 3 hours per week; seminar and plant tours, 3 hours per week.

CHEM 3P62

Bio-organic chemistry

(also offered as BTEC 3P62)

The biosynthesis of the natural products of secondary metabolism. Introduction to the use of enzymes and other biological reagents in organic synthesis.

Prerequisite: CHEM 2P21.

Lectures, 3 hours per week; lab, 3 hours per week.

CHEM 3P63

Protein and nucleic acid chemistry

(also offered as BTEC 3P63)

The chemical synthesis and organic chemistry of proteins, enzymes and nucleic acids; their isolation and purification.

Prerequisite: CHEM 2P21.

Lectures, 3 hours per week; lab, 3 hours per week.

CHEM 3P98

Undergraduate research

Undergraduate research project carried out either in the department under the supervision of a faculty member or as Prerequisite: satisfactory completion of the year 2 chemistry degree program and permission of the department. (If both CHEM 2P98 and CHEM 3P98 are taken, only one of these may be based on work done in the department.)

The following two courses are normally taken together in the same year, and both must be taken to obtain credit.

CHEM 4F90

Research project

Experimental or theoretical research to be carried out under the supervision of a member of the staff.

Prerequisite: permission of the chair; CHEM 3P40 is strongly recommended for most projects.

CHEM 4F91

Thesis

This thesis will incorporate the results of the research and will form the basis for a seminar to be presented by the student.

Prerequisite: permission of the chair; CHEM 3P40 is strongly recommended for most projects.

CHEM 4P14

Statistical thermodynamics

Systems of independent particles, chemical equilibrium, partition functions for atoms and molecules, nuclear spin statistics, fluctuations, thermodynamic properties of crystals, real gases, metals.

Prerequisite: CHEM 3P51. CHEM 3P53 should be taken concurrently if not taken previously.

Not open to students with credit in CHEM 410.

Lectures, seminar, 3 hours per week.

CHEM 4P15

Principles of polymer, colloid and surface chemistry

Physical properties of polymers and polymer solutions; polymerization kinetics and mechanisms, polymer engineering; properties of colloids; stability of colloidal systems; properties of interfaces, monomolecular films, adsorption, chemisorption, catalysis.

Prerequisite: CHEM 2P12 and any two third-year half credits in CHEM.

Lectures, 3 hours per week.

CHEM 4P21

Organic reactions and synthesis

The development, through examples, of synthetic methodology in organic chemistry.

Prerequisite: CHEM 3P21.

Not open to students with credit in CHEM 420.

Lectures, 3 hours per week.

CHEM 4P22

Organic reactions and mechanisms

The application of reaction mechanisms in organic chemistry. Topics may include physical organic chemistry, frontier orbital theory, or stereo-electronic control of reactions.

Prerequisite: CHEM 3P21.

Not open to students with credit in CHEM 420.

Lectures, seminar, 3 hours per week.

CHEM 4P27

Enzyme and coenzyme mechanisms

Hydrolytic and other processes catalyzed by enzymes lacking non-protein prosthetic groups; transferase reactions involving biotin, pyridoxal phosphate, thiamine pyrophosphate, folic acid and cobalamin; oxidation mechanisms involving pyridine nucleotides, flavoenzymes, hydroperoxidases and oxigenases; chemical patterns shown in biosynthetic pathways.

Prerequisite: BCHM 3P01, 3P02 and CHEM 2P21.

Lectures, seminar, 3 hours per week.

CHEM 4P40

Scientific instrumentation

Review of the use of electronic components and circuits for measurements and control; analog and digital measurements, instrument optics. Application to spectroscopic, electrochemical and other scientific instrumentation used for analysis, measurement or control.

Prerequisite: permission of the instructor.

Lectures, 3 hours per week.

CHEM 4P67

Biophysical techniques

(also offered as BTEC 4P67)

Modern instrumental methods of biotechnology, including x-ray, NMR and mass spectral techniques. Mem-

brane chemistry and electrophoresis.

Computer modeling of enzyme and fermentation processes.

Prerequisite: CHEM 3P51

Lectures, 3 hours per week; lab, 3 hours per week.

CHEM 4P68

Biotransformations

(also offered as BTEC 4P68)

The organic reactions carried out by isolated enzymes, fungal cultures and bacteria. The production of pharmaceutical, agricultural, and industrial chemicals by biological processes.

Prerequisite: CHEM 2P62 or 3P63.

Lectures, 3 hours per week.

CHEM 4V30-4V35

Special topics in inorganic chemistry

Selected topics in advanced inorganic chemistry.

Prerequisite: CHEM 3P31.

Lectures, seminar, 3 hours per week.

CHEM 4V41-4V45

Special topics in analytical chemistry**1991-92:(4V41) Topic to be announced**

Selected topics in environmental analytical chemistry.

Prerequisite: CHEM 3P40.

Lectures, seminar, 3 hours per week.

Child Studies

Director

James Wagner, Faculty of Education

Participating faculty

Paulette Coté-Laurence, Physical Education

Lilly Both, Child Studies

Alessandra Capodilupo, Child Studies

Katherine Covell, Child Studies

Nancy Johnston, Psychology

Darla MacLean, Psychology

Zopito Marini, Child Studies

Dona Mathews, Child Studies

John Mitterer, Psychology

Nancy Murray, Physical Education

Merle Richards, Faculty of Education

Linda Rose-Krasnor, Psychology

Sidney J. Segalowitz, Psychology

Viola Shuart, Child Studies

James Wagner, Faculty of Education

Rosemary Young, Faculty of Education

Adjunct assistant professor

Margaret Ogilvie

Non-academic co-ordinator

Rosamund Baitye

General information

Mackenzie Chown, D332

Students interested in the field of Child Studies may choose between two program streams. These are limited enrolment programs and applicants must have the approval of Child Studies.

The BA program is designed for students wishing to obtain an understanding of child development theory and its applications. This program is broadly based, offering an integration of psychological, sociological and educational perspectives.

Applicants should note that the Child Studies BA is not equivalent to an Early Childhood Education diploma and will not directly lead to certifica-

tion as a pre-school teacher.

The second option combines the BA program with teacher training. The BA/BEEd program is designed for persons who wish to teach at the primary and junior levels and is normally available for full-time students only. Students who complete this stream and meet other Ministry requirements, such as citizenship, may be recommended to the Ministry of Education for teaching certification in Ontario. Because the BA/BEEd program integrates teacher training courses with academic courses, the student should note that the pre-service education courses are credited toward the BEEd while the other courses are credited to the BA. For this reason, a student who transfers out of the BA/BEEd program may not have credit in pre-service education courses applied to a BA degree. Students should refer to the calendar section of the Faculty of Education for further details on the teacher training program.

The minimum grade requirement for admission to the BA/BEEd program is normally a minimum of 80 percent on 6 OAC credits or equivalent. Further admissions may be made on an individual basis. This is a limited-enrolment program.

Students may enter the BA/BEEd program at the year 2 level or re-enter the program at the year 3 level if (1) their average over all years is 75 percent or above; (2) there is room in the program; and (3) their program to date matches the BA/BEEd program closely. All such decisions will be made on an individual basis and must be approved by the department of Child Studies. Students who fail to maintain the required average in either the BA or BA/BEEd program may request an opportunity to upgrade their marks and to be reinstated to the program.

Applicants holding an Early Childhood Education diploma from a college of applied arts and technology with which an agreement has been reached (currently Niagara, Lambton, and

Mohawk Colleges), and who also have achieved at least 75 percent standing, may receive up to a maximum of four and one-half credits in the concurrent BA/BEEd program. Applicants from Ryerson and colleges of applied arts and technology must have a cumulative average of 75 percent or better in a two-year program to be considered for admission and possible transfer of credits.

BA pass program

This is a limited enrolment program. Child Studies majors require a minimum 65 percent average in required courses to progress to years 2 and 3. Students who wish to transfer into the Child Studies program should apply to the director.

Year 1

PSYC 1F90; SOCI 1F90; one humanities and one science context credit; one elective credit.

Year 2

CHST 2F10; MATH 1F92 or PSYC 2F23; three elective credits.

Year 3

CHST 3F21, 3F40, 3P11, 3P50; two elective credits.

Honors BA program

This is a limited enrolment program. Entrance into the honors BA is conditional on approval by the director; it will be based on average and the availability of a thesis supervisor.

Applicants for honors Child Studies must complete a Child Studies year 4 application form in addition to the University year 4 application form. The following courses are required: PSYC 1F90, SOCI 1F90, MATH 1F92 or PSYC 2F23; CHST 2F10, 3F21, 3F40 or 3F41, 3P11, 3P49 or 3P50, 4F99, 4P95, 4P98. Students are also

required to take an additional CHST credit.

Years 1, 2 and 3

As in pass program.

Year 4

CHST 4F99, 4P95, 4P98; one credit from CHST 3F96, 3V90-3V91, 3P84, 3P92, 4P31, 4P32, 4V35-4V36; two elective credits.

Concurrent pass BA/BEEd program

Students in the BA/BEEd program must achieve a 75 percent average in their overall standing and must maintain a 75 percent overall average each year in all academic grade-marked courses. Students should also note that practice teaching may have to be scheduled in May and June of year 4.

The program consists of fifteen credits toward the BA and five teacher training credits over a four-year period but because of the structure of the education courses, the credits are not evenly distributed across each year.

In EDUC course numbers:

D= 1.5 credits

Y= .25 credits.

See the Faculty of Education section of the calendar for course descriptions.

Year 1

EDUC 8Y04, 8Y05; PSYC 1F90; SOCI 1F90; one humanities and one science context credit.

Year 2

CHST 2F10; EDUC 8P06; MATH 1F92 or PSYC 2F23; two elective credits.

Year 3

CHST 3F21, 3P11; EDUC 2F00 or 3F01; EDUC 8P30, 8Y31, 8Y32; two of EDUC 8Y34, 8Y35, 8Y36; one and one-half elective credits.

Year 4

CHST 3F41, 3P49; EDUC 8D09, 8F08; one and one-half elective credits.

N.B: It is advisable, because of the practice teaching blocks, to have completed the year 4 elective credits during or before year 3.

Students holding an early childhood education diploma with advanced standing in four and one-half credits, will normally take the following program:

Year 2

CHST 2F10; EDUC 2F00 or 3F01; MATH 1F92 or PSYC 2F23; one science context credit; one elective credit.

Year 3

CHST 3F21, 3P11; EDUC 8P30, 8Y04, 8Y05, 8Y31, 8Y32; two of EDUC 8Y34, 8Y35, 8Y36; one and one-half elective credits.

Year 4

CHST 3F41, 3P49; EDUC 8D09, 8F08; one and one-half elective credits.

Suggested electives for Child Studies majors:

Science: BIOL 1F25 and SCIE 1F20 or 1F30.

Non-science: CHST 2F01, 2F90, 2P94, 3F35, 3F96, 3P23, 3P36, 3P37, 3P52, 3P56, 3P60, 3P73, 3P74, 3P84; EDUC 2F00, 3F01; ENGL 2F10; EXST 2F50, 2F95; PHED 2P00, 2P02, 2P05, 2P07, 3P04, 3P07; PSYC 2F20, 2P94, RECL 1P00, 1P02, 1P06; SOCI 2P22, 2P52; THEA 2F10, 3F09. Relevant prerequisites must be met.

Recommended courses for further study in Speech-language pathology.

Year 1

APLI 1F91

Year 2

APLI 2F50, 2F95

Year 3

PSYC 3P98

Year 4

Two of APLI 4F01, 4F02, 4F03

Additional electives for pre-profes-

sional preparation in speech-language pathology:

APLI 2F90, 3F08, BIOL 2P97, LING 1F94, PSYC 2F20, 2F36, TESL 2F60, 3F94.

Combined major program

A student taking a combined major in the BA pass program is required to complete PSYC 1F90, SOCI 1F90, CHST 2F10, 3F21, 3F40, 3P11, 3P49 or 3P50 and MATH 1F92 or PSYC 2F23 as well as the course requirements of the collateral department.

Note: No course may be used to satisfy the requirements of both Child Studies and the collateral department.

Entrance into honors BA in Psychology

The following courses from the Child Studies program may be included among the seven credits needed to enter the honors program: CHST 2F10, 3F96, 3P11, 3P23, 3P56, 3P60, 3P73, 3P74, 3P84. PSYC 1F90 and 2F23 are required.

Students planning to apply for admission to the honors program in Psychology should note that PSYC 3F40 is a prerequisite. They should consult a Psychology or Child Studies adviser early in their Child Studies program about their particular courses.

Description of courses

Please note that not all courses are offered in every session. Refer to the applicable term timetable for details.

CHST 2F01

School learning

(also offered as EDUC 2F01)

The psychological processes involved in learning in a school setting. Current cognitive theories of learning will be applied to examples in each of the major school subject areas with

Child Studies

emphasis on the specific nature of the learning associated with each subject. Other topics may include individual differences and problems in evaluating school learning.

Co-requisite: CHST 2F10 or EDUC 1F90 or PSYC 2F12 or 2F20.

Lectures, seminar, 3 hours per week.

CHST 2F10

Child development

Basic concepts and contemporary issues in the development of the child, including processes in cognitive and social-emotional patterns of change. Developmental theory and research provides the conceptual framework.

The course is designed to promote the bridging of disciplines. A half-day placement per week is required for all students.

Prerequisite: PSYC 1F90.

Not open to students with credit in PSYC 2F10.

Lectures, seminar, 3 hours per week.

CHST 2F90

Child language acquisition

(also offered as APLI 2F90 and TESL 2F90)

Linguistic stages in the development of child language. The stages of sound system development and the development of 'grammar'. Topics include 'ParentSpeak', social class and language development, pre-school and institutional language development, and child L2 acquisition and its effect on L1.

Prerequisite: APLI 1F91 or PSYC 1F90 or permission of director.

Lectures, seminar/lab, 3 hours per week.

CHST 2P94

Movement for the young child

(also offered as PHED 2P94)

Movement education experiences applicable to the child aged 3 to 5. Practical experience in various play situations through creative games, dance and activities with apparatus will comprise a major part of the course; it will also integrate various art forms with movement activities. Basis of movement for pre-school children, motor development, role of play, creativity, and suitable environment for

learning will be discussed.

Prerequisite: PSYC 1F90 or permission of the instructor.

Not open to students with credit in CHST 292hc.

Lectures, lab, 3 hours per week.

CHST 3F21

The child in the family

Family patterns including gender roles and the dynamics of family change and development. Topics include examination of marriage and family issues, gender role socialization and change, dual careers, alternative life styles, gender roles in cross-cultural perspective, and marital and family relationships past, present and future.

Prerequisite: CHST 2F10.

Not open to students with credit in CHST(SOCI) 3P21 or 3P51.

Lectures, seminar, 3 hours per week.

CHST 3F35

Integrating the special child

Curriculum modification and assessment tools. Topics will include assessment and intervention for children with various handicaps through the use of a variety of devices, integration techniques, task analysis, behavior management and use of community resources.

Prerequisite: permission of the instructor. Not open to students with credit in CHST 295, 380hc/381hc; not eligible for education certificate.

Lectures, lab, seminar, 3 hours per week; practicum required.

CHST 3F40

Research methods in child development

Methods for studying children, with an emphasis on observational techniques. Other topics may include research ethics, research design, data analysis and presentation, structured assessment, and program evaluation.

Prerequisite: CHST 2F10; MATH 1F92 or PSYC 2F23; open only to CHST majors or by permission of instructor.

May not be taken concurrently with or after receiving credit for CHST 3F41. Enrolment limited to 60 students per section.

Lectures, seminar, 3 hours per week.

CHST 3F41

Research methods in child development

Methods of studying children, with an emphasis on observational techniques. Other topics may include research ethics, research design, data analysis and presentation, structured assessment and program evaluation.

Prerequisite: CHST 2F10; MATH 1F92 or PSYC 2F23 or permission of the instructor.

Open to BA/BEd students only.

May not be taken concurrently with or after receiving credit for CHST 3F40. Lectures, seminar, 3 hours per week.

CHST 3F96

Psychology of the exceptional child (also offered as PSYC 3F96)

An integration of theoretical, experimental and clinical approaches to the development of the child with special needs; i.e., the child who is mentally retarded, perceptually handicapped. Students will be required to fulfil a supervised practicum working with an atypical child. Field trips will be arranged.

Limited to one section per semester with a maximum enrolment of 35-- to be determined by academic standing.

Prerequisite: CHST 2F10 or three PSYC courses beyond PSYC 1F90.

Not open to students with credit in CHST(PSYC) 300.

Lectures, seminar, 3 hours per week.

CHST 3P11

Theories in developmental psychology

(also offered as PSYC 3P11)

Current theories in developmental psychology and recent controversies and evidence concerning them. The student will study human development from an integrated approach. Enrolment limited to 65 students per section. Prerequisite: third-year standing in Child Studies or Psychology with CHST 2F10 or PSYC 2F12, or permission of the instructor.

Not open to students with credit in CHST(PSYC) 3F11.

Lectures, seminar, 3 hours per week.

CHST 3P20

Psychology of learning disabilities
Current theoretical, methodological, and remedial approaches to learning disabilities in children. Cognitive and social aspects of learning disabilities will be emphasized.
Prerequisite: CHST 2F10 or PSYC 3F17.
Lectures, seminar, 3 hours per week.

CHST 3P23

Psychology of parenting
(also offered as PSYC 3P23)
The determinants, varieties and consequences of parenting. The focus is on psychological research findings in contemporary parenting/parenthood issues. Topics include: the transition to parenthood, different styles of parenting, dual-career parents, and abusive parents.
Prerequisite: CHST 2F10 or PSYC 2F12.
Enrolment limited to 65 students per section.
Lectures, seminar, 3 hours per week.

CHST 3P36

Assessment and early intervention with children
Issues in the assessment of children with emphasis on infant and preschool assessment, as well as preventative and early intervention strategies. A variety of assessment techniques will be examined, including testing, observation and rating scales.
Enrolment limitation of 35 students, on a first-come, first-served basis.
Prerequisite: CHST 2F10, PSYC 2F12.
Lectures, seminar, 3 hours per week.
Practicum may be required.

CHST 3P37

Assessment and intervention with families
Theoretical, research, and clinical issues pertaining to assessment and intervention with families. Interventions such as parent training, self-help groups, and family counselling. Particular focus will be placed on early identification and intervention.
Enrolment limitation of 35 students, on a first-come, first-served basis.
Practicum may be required.

Prerequisite: CHST 2F10, PSYC 2F12.
Lectures, seminar, 3 hours per week.

CHST 3P49

Focus on early childhood education I
(also offered as EDUC 3P49)
Early childhood education programs for children from birth to age eight. Topics include the historical and societal influences on early childhood education, an examination of program models derived from theories of learning and child development, and research on the effectiveness of these programs.
Open only to BA/BEed students.
Enrolment limited to 65 students. If necessary, further sections may be opened.
Prerequisite: CHST 2F10.
Not open to students with credit in CHST(EDUC) 3F50 or 3P50.
Lectures, seminar, 3 hours per week.

CHST 3P50

Focus on early childhood education I
(also offered as EDUC 3P50)
Early childhood education programs for children from birth to age eight. Topics include the historical and societal influences on early childhood education, an examination of program models derived from theories of learning and child development, and research on the effectiveness of these programs.
Enrolment limited to 65 students. If necessary, further sections may be opened.
Prerequisite: CHST 2F10.
Not open to students with credit in CHST(EDUC) 3F50 or 3P49.
Lectures, seminar, 3 hours per week.

CHST 3P52

Focus on early childhood education II
(also offered as EDUC 3P52)
Methods in early childhood education programs for children from birth to age eight. Topics include a detailed examination of curricula, instructional strategies, and evaluative techniques. Students will be involved in a field placement working with young children in a community setting.
Enrolment limited to 25 students, to be determined by academic standing.

Prerequisite: CHST(EDUC) 3F50 or 3P49 or 3P50.
Lectures, lab/seminar, 4 hours per week.

CHST 3P56

Biological perspectives in developmental psychology
(also offered as PSYC 3P56)
Examination of current research on the role of biological factors in psychological development. Topics include the role of genes and early biological environment in normal and abnormal development, and developmental neuropsychology. Enrolment limited to 65 students per section.
Lectures, seminar, 3 hours per week.

CHST 3P60

Conflict and development
(also offered as PSYC 3P60)
An overview of the role of conflict in early human development, including the causes, types and phases of conflicts. Particular attention will be focussed on cognitive and social strategies used to resolve conflicts. Students' participation in labs and research projects will permit a detailed analysis of the positive as well as negative outcome of conflicts. Enrolment limited to 65 students per section.
Prerequisite: CHST 2F10 or permission of the instructor.
Lectures, seminar, 3 hours per week.

CHST 3P73

The psychology of reading
(also offered as PSYC 3P73)
(formerly CHST 3P88)
Psychological processes involved in beginning and skilled reading. Current theories of reading will be presented and evaluated in the light of current research findings. Theories of reading disability and prospects for remediation will also briefly be considered.
Enrolment limited to 65 students per section.
Recommended background: PSYC 2F20 or 3F08 or CHST(PSYC) 3P11.
Prerequisite: PSYC 1F90, and one of MATH 1F92, PSYC 2F23 or SOCI 2F10 (may be taken concurrently).
Not open to students with credit in CHST(PSYC)3P88.
Lectures, seminar, 3 hours per week.

Child Studies

CHST 3P74

Psychology of computers in education

(also offered as PSYC 3P74)
(formerly CHST 3P89)

Current and potential uses of computers in education will be carried out in light of current theories of child development. The emphasis is upon putting the use of computers in education on firm theoretical and empirical footing.

Recommended background: PSYC 2F20 or 3F08 or CHST(PSYC) 3P11.

NOTE: this is not a computer programming course. Enrolment limited to 65 students per section.

Not open to students with credit in CHST(PSYC)3P89.

Prerequisite: MATH 1F92 or PSYC 2F23 or SOCI 2F10 (may be taken concurrently).

Lectures, seminar, 3 hours per week.

CHST 3P84

Advanced topics in social development

(also offered as PSYC 3P84)

Social competence, aggression, friendship and other topics in social development will be examined from a variety of developmental perspectives. Methodological and training issues relevant to the study of social development will also be examined.

Enrolment limited to 35 students per section.

Prerequisite: CHST 2F10, PSYC 2F12, 3F17 or permission of the instructor.

Not open to students with credit in CHST(PSYC) 383 or CHST 392.

Lectures, seminar, 3 hours per week.

CHST 3P92

(also offered as WISE 3P92)

Gender and sexuality in childhood and adolescence

Interdisciplinary perspective on gender acquisition and sexual development based on social psychological, sociological, historical, and cross-cultural accounts. Special topics include child sexual abuse, juvenile prostitution and sex education.

Prerequisite: PSYC 1F90 or SOCI 1F90 or WISE 1F90 or CHST 2F10.

Lectures, seminar, 3 hours per week.

CHST 3V90-3V91

Directed readings

A program of study not available among the regular course offerings, designed in consultation with the faculty member directing the course. Arrangements must be agreed upon prior to registration.

Prerequisite: year 3 standing.

CHST 4F99

Thesis tutorial

A research project carried out under the supervision of a faculty adviser. Students must be admitted to the honors program and consult with the program director before registering for a thesis tutorial.

Prerequisite: CHST 3F40 or 3F41, admission to year 4 in Child Studies.

Co-requisite: CHST 4P98.

CHST 4P31

Treatment alternatives for children: dynamic therapies

(also offered as PSYC 4P31)

The theoretical background, research and evaluation of current therapeutic approaches to emotionally and behaviorally disturbed children and adolescents. All students will participate in a practicum placement. Major topics: a) play therapies, including non-directive, expressive and Gestalt approaches; b) group methods, including use of modelling, goal setting and evaluation methods.

Prerequisite: PSYC 2F12 and admission to year 4 in Child Studies.

Lectures, seminar, 3 hours per week.

CHST 4P32

Treatment alternatives for children: cognitive and behavioral approaches

(also offered as PSYC 4P32)

Behavioral theory and techniques will be presented. Social skills training, cognitive theories, contingency management and relaxation will be included in this section. All students will participate in a practicum placement.

Prerequisite: PSYC 2F12 and admission to year 4 in Child Studies.

Lectures, seminar, 3 hours per week.

CHST 4P95

Contemporary issues

A seminar course exploring contemporary theoretical and empirical issues in child development, with presentations by various faculty and guest lecturers on specialty topics.

Prerequisite: admission to year 4.

CHST 4P98

Research seminar

A seminar run in conjunction with the thesis project course. Special topics research methods will be discussed in conjunction with the student's own research.

Prerequisite: admission to year 4 in Child Studies.

Co-requisite: CHST 4F99.

CHST 4V35-4V36

Special topics seminar

A seminar offered occasionally to complement current offerings. The specific focus will vary depending on the needs of the program and availability of a faculty instructor.

Prerequisite: admission to year 4 in Child Studies and permission of the instructor.

Classics

Officers of instruction

Chair

A. Victoria Soady

Professors

Alan D. Booth
Noel D. Robertson
David W. Rupp

Associate professors

Frederick H. Casler
A. Victoria Soady

Assistant professor

Richard W. Parker

General information

Mackenzie Chown

The Classics department offers two types of courses: courses in Latin, Greek or Hebrew language and literature, and courses in ancient civilization in all its aspects--literature, art, philosophy, education, history, ancient art and archaeology. The second type of course, labelled Classics, requires no knowledge of Latin, Greek or Hebrew.

A program in classical languages, either pass or honors, will consist mainly of Greek and/or Latin courses. A program in classical studies, either pass or honors, will consist mainly of Classics courses. Details of both programs are given below.

The department has special resources for teaching both languages and civilization. New methods of language instruction have been tested and refined in the introductory Greek, Latin, and Hebrew courses. Summer study tours abroad provide students with first hand knowledge of Greek and Roman

culture. The Brock Museum of Cypriote Antiquities provides a representative collection of art and artifacts from the Neolithic period to the end of the Roman Empire and beyond. Archaeological training sessions are conducted every other summer in Mediterranean lands. The Niagara Peninsula Society of the Archaeological Institute of America and the Niagara Chapter of the Ontario Archaeological Society assist the department in organizing archaeological programs and lectures.

Pass programs (single major)

I Classical languages: a student must take eight credits in the Classics department, with at least three credits numbered 2(alpha)80 or above; four of the eight must be Latin and/or Greek credits.

II Classical studies: a student must take seven credits in the Classics department, with at least three credits numbered 2(alpha)80 or above, and may specialize in one of three areas: literature (in translation), history and religion, or ancient art and archaeology.

A. Concentration in literature: three credits in literature (in translation) and four other credits in the Classics department.

B. Concentration in history and religion: three credits in ancient history and four other credits in the Classics department.

C. Concentration in ancient art and archaeology: three credits in ancient art and archaeology and four other credits in the Classics department.

Honors programs (single major)

I Classical languages: a student must take twelve credits in the Classics

department, with at least three credits numbered 3(alpha)80 or above; seven of the twelve must be Latin and/or Greek credits.

II Classical studies: a student must take eleven credits in the Classics department, with at least three credits numbered 3(alpha)80 or above, and must specialize in one of three areas: literature, history and religion, or ancient art and archaeology:

A. Concentration in literature: two credits in Latin or Greek, five credits in literature (in translation) and four other credits in the Classics department.

B. Concentration in history and religion: two credits in Latin, Greek or Hebrew, five credits in ancient history and four other credits in the Classics department.

C. Concentration in ancient art and archaeology: two credits in Latin or Greek, five credits in ancient art and archaeology and four other credits in the Classics department.

N.B. The ancient language requirement can be fulfilled by taking: (a) LATI 1F00 and LATI 2F00 or LATI 2F00 and one credit in advanced Latin; (b) GREE 1F00 and GREE 2F00 or GREE 2F00 and one credit in advanced Greek; (c) LATI 2F00 or GREE 2F00 and HEBR 1F00.

III Classical languages and ancient history: a student must take fourteen credits in the Classics department, with at least three credits numbered 3(alpha)80 or above; seven of the fourteen must be Latin and/or Greek credits, and five of the fourteen credits must be in ancient history.

Combined major programs

The Classics department allows a student to combine either classical languages or classical studies with another major field. The pass program

Classics

then consists of at least five credits in the Classics department, with at least two credits numbered 2(*alpha*)80 or above, and the honors program of at least seven credits in the Classics department with at least two credits numbered 3(*alpha*)80 or above. Students must specialize in one of three areas: literature (in translation), history and religion; ancient art and archaeology. For a pass degree, three of the minimum five Classics credits must be selected from one of these areas; for an honors degree, five of the minimum seven Classics credits must be selected from one of these areas.

General or Integrated Studies

A student may wish to pursue a pattern of study which does not coincide with a major or combined major program. Any such program must be approved by the Dean of Humanities, and may include five credits in the Classics department towards a pass degree, or seven credits in the Classics department towards an honors degree. For details, see calendar entry for general and integrated studies.

Language requirement for humanities majors

Students majoring in the classical studies pass program are required to complete one credit in a language other than English during their first two years in the program. The recommended languages are Greek, Hebrew, Latin, French, German, and Italian. Students are advised that graduate programs in Classics usually require competence in French and/or German as well as Latin and Greek. For further information about the Classics department and its programs, students should consult the brochure *Classics at Brock*, available from the department, and make an appointment with the department chair to discuss their educational objectives and career plans.

Description of courses

Abbreviations:

CLAS	Classics (given in English)
GREE	Greek
HEBR	Hebrew
LATI	Latin

Please note that not all courses are offered in every session. Refer to the applicable term timetable for details.

CLAS 1P91 Greek civilization

The literature, art, thought and political evolution of ancient Greece, based on masterworks of classical literature. Slides are used to illustrate classical history and archaeology. Not open to students with credit in CLAS 190. Lectures, seminars, 3 hours per week.

CLAS 1P92
Roman civilization
The literature, art, thought and political evolution of ancient Rome, based on masterworks of classical literature. Slides are used to illustrate classical history and archaeology. Not open to students with credit in CLAS 190. Lectures, seminars, 3 hours per week.

CLAS 1P93
Culture and civilization of Central Europe: from the Prehistoric to the Carolingian period
(also offered as GERM 1P93)
(given in English)
The cultural development of Central Europe from the earliest stone and pottery cultures through the Bronze and Iron Ages, the Celts and Romans and the first Germanic kingdoms. The emphasis is placed on beliefs and practices, artistic style and architecture. Slides are used to illustrate the cultural evidence. Not open to students with credit in GERM 195. Lectures, 3 hours per week.

CLAS 1P95

Greek myths and religions
The structure and function of major Greek myths with attention to ancient and modern interpretation. Aspects of Greek religion with emphasis on means of communicating with the gods. Not open to students with credit in CLAS 196. Lectures, seminars, 3 hours per week.

CLAS 1P97

Roman religions and myths
History of the development of Roman religions from the foundation of Rome until the triumph of Christianity in the Roman Empire, with attention to the formulation of a Roman mythology and eastern influences upon the traditional religious outlook. Not open to students with credit in CLAS 196. Lectures, seminars, 3 hours per week.

CLAS 2F91

Roman history
The history of Rome to the death of Marcus Aurelius (AD 180), with an emphasis on social and political developments from the Gracchi to Nero. Prerequisite: two of CLAS 1P91, 1P92, 1P95, 1P97. Lectures, seminars, 3 hours per week.

CLAS 2P10

5th century Athens
The economic and social background of Western civilization's most productive epoch, with emphasis on material evidence (vases, inscriptions, the Agora, etc.). Athenian realities, 500-400 BC: domestic life, public works, law and government, industry and trade, warfare, slavery. Lectures, seminars, 3 hours per week.

CLAS 2P11

Rome under the first Caesars
Economic and social conditions at the acme of Roman power, with emphasis on material evidence (coins, inscriptions, the Forum, etc.). Roman realities, 50 BC-AD 79: styles of living, law and government, work and recreation, industry and commerce, slavery. Lectures, seminars, 3 hours per week.

CLAS 2P30**Origins of human culture**

The growth and development of human society from the prehistoric beginnings through the complex societies of the ancient Near East and India.

Lectures, seminar, 3 hours per week.

CLAS 2P35**Ancient technology**

The techniques developed and used in the Old World from the Paleolithic period through the Byzantine period to provide tools, food, clothing, shelter, protection, transportation and communication. Emphasis will be placed on the social context of technology in the Greek and Roman worlds.

Prerequisite: two of CLAS 1P91, 1P92, 1P93, 1P95, 1P97 or VISA 1F90 or permission of the department.

Lectures, seminar, 3 hours per week.

CLAS 2P36**Greek archaeology**

The archaeology and material culture of the ancient Greek world from the Upper Paleolithic period to the end of the Hellenistic period.

Prerequisite: two of CLAS 1P91, 1P92, 1P93, 1P95, 1P97, 2P30, 2P35, 2P51 or 2P93.

Not open to students with credit in CLAS(VISA) 2P97.

Lectures, seminar, 3 hours per week.

CLAS 2P38**Roman archaeology**

The archaeology and material culture of the Italian peninsula and Roman Empire from the 12th century BC through the 4th century AD.

Prerequisite: two of CLAS 1P91, 1P92, 1P93, 1P95, 1P97, 2P30, 2P35, 2P51 or 2P93.

Not open to students with credit in CLAS(VISA) 2P97.

Lectures, seminar, 3 hours per week.

CLAS 2P48**Greek sanctuaries**

The historical development of Greek sanctuaries. Rural shrines in different regions; civic shrines in different city-states; ethnic and Panhellenic shrines.

Healing shrines and other sacred places; patterns of civic worship; the rise and fall of Delphi and Olympia. Emphasis on the interplay between tradition and changing needs and values.

Prerequisite: two of CLAS 1P91, 1P92, 1P95, 1P97.

Not open to students with credit in CLAS 4P12.

Lecture, seminar, 3 hours per week.

CLAS 2P49**The mystery religions and the background of Early Christianity**

Initiation and secret societies; ethical teaching and the afterlife; purification and asceticism; ecstasy, mysticism, conversion; withdrawal, persecution, and apocalyptic beliefs. Readings from Greek and Roman sources to illustrate the Eleusinian and Dionysiac mysteries, Orphics and Pythagoreans, Isis, Mithras, Gnosticism, local sects in Palestine and Asia Minor; readings from Jewish and Christian sources.

Prerequisite: two of CLAS 1P91, 1P92, 1P95, 1P97.

Lectures, seminars, 3 hours per week.

CLAS 2P51**Syro-Palestinian archaeology**

Introduction to the archaeology of the Syro-Palestinian region with emphasis on the sites and artifacts from the Neolithic period to the rise of Islam; reconstructing the living conditions during these periods.

Prerequisite: two of CLAS 1P91, 1P92, 1P95, 1P97, or VISA 1F90 or permission of the instructor.

Lectures, seminars, 3 hours per week.

CLAS 2P61**Women in the Ancient World (also offered as WISE 2P61)**

Problems and issues of particular relevance to women in Greek and Roman society. Topics will include: social, political, and legal rights; prostitution; religious duties; marriage and children; birth control and abortion.

Lectures, seminar, 3 hours per week.

CLAS 2P62**The politics of gender in Archaic and Classical Greece**

(also offered as WISE 2P62)

Social issues of Ancient Greece as viewed from a modern perspective.

Topics include: familial bonding; female and male identity; domestic and civil violence; sexuality and social status; power dynamics within the family and city-state.

Lectures, seminar, 3 hours per week.

CLAS 2P88**The history of early Greece**

The social and political history of the Greek world down to 450 BC Minoans and Mycenaeans, the Dark Age, the colonizing period, the tyrants, the rise of Sparta, the Persian wars, and the Athenian Empire. Readings from Greek historians and documents in translation.

Prerequisite: two of CLAS 1P91, 1P92, 1P95, 1P97.

Not open to students with credit in CLAS 290.

Lectures, seminars, 3 hours per week.

CLAS 2P89**The history of Classical Greece**

The social and political history of the Greek world, 450-323 BC The great war between Athens and Sparta, the rivalry of the city-states, the rise of national states, Alexander the Great. Readings from Greek historians and documents in translation.

Prerequisite: two of CLAS 1P91, 1P92, 1P95, 1P97.

Not open to students with credit in CLAS 290.

Lectures, seminars, 3 hours per week.

CLAS 2P93**Field archaeology**

An introduction to basic archaeological theory, field techniques and procedures, and to the study of archaeological materials.

Prerequisite: two of CLAS 1P91, 1P92, 1P95, 1P97, or VISA 1F90 or permission of the instructor.

Lectures, seminars, 3 hours per week.

Classics

CLAS 2P94

Greek education

The development of educational institutions in the Greek-speaking world and at Athens in particular, together with a study of Greek educational policies, practices and theories. Prerequisite: CLAS 1P91 and 1P95 or permission of the instructor. Not open to students with credit in CLAS 2F96.

Lecture, 3 hours per week.

CLAS 2P95

Roman education

The development of educational institutions in the Latin-speaking world and at Rome in particular, together with a study of Roman educational policies, practices and theories. Prerequisite: CLAS 1P91, 1P93 and 1P97; or permission of the instructor. Not open to students with credit in CLAS 2F96.

Lecture, 3 hours per week.

CLAS 3F10

The ancient Near East

The history of the ancient civilizations of Egypt, Mesopotamia, Anatolia, the Levant and Iran.

Prerequisite: two of CLAS 1P91, 1P92, 1P95, 1P97, or CLAS 2P51.

Lectures, seminars, 3 hours per week.

CLAS 3F20

Greek art and architecture

(also offered as VISA 3F20)

Greek art and architecture from the Bronze Age through the Hellenistic period within the framework of historical and cultural change.

Prerequisite: two of CLAS 1P91, 1P92, 1P95, 1P97, or VISA 1F90.

Not open to students with credit in CLAS(VISA) 298.

Lectures, seminars, 3 hours per week.

CLAS 3F21

Roman art and architecture

(also offered as VISA 3F21)

Roman art and architecture from the Early Iron Age through the Late Empire within the framework of historical and cultural change; with attention to the influence of the

Classical heritage on early Christian/Byzantine art.

Prerequisite: two of CLAS 1P91, 1P92, 1P95, 1P97, or VISA 1F90.

Not open to students with credit in CLAS(VISA) 299.

Lectures, seminars, 3 hours per week.

CLAS 3P00

Homer and Greek epic

(given in English)

The two heroic epics of Homer, the *Iliad* and *Odyssey*. Topics for discussion include the conventions of epic, the oral transmission of epic verse, and the Homeric concept of the gods.

Prerequisite: two of CLAS 1P91, 1P92, 1P95, 1P97.

Not open to students with credit in CLAS 292.

Lectures, seminars, 3 hours per week.

CLAS 3P01

Vergil and the literary epic

Literary epics inspired by the works of Homer. The *Argonautica* of Apollonius and the *Pharsalia* of Lucan are used to frame a lengthy treatment of Vergil's masterful and patriotic epic of Rome, the *Aeneid*.

Prerequisite: two of CLAS 1P91, 1P92, 1P95, 1P97.

Not open to students with credit in CLAS 292.

Lectures, seminars, 3 hours per week.

CLAS 3P02

Greek tragedy

The origins of tragedy and its development as entertainment and literature through the Classical period. Works studied may include: Aeschylus, *The Oresteia*; Sophocles, *Oedipus Rex* and *Oedipus at Colonus*; and Euripides, *Medea* and *Hippolytus*.

Prerequisite: two of CLAS 1P91, 1P92, 1P95, 1P97, or DRAM 1F93.

Not open to students with credit in CLAS 294.

Lectures, seminars, 3 hours per week.

CLAS 3P03

Greek and Roman comedy and melodrama

Ancient comedy is illustrated from the works of Aristophanes, Menander,

Plautus and Terence. The tragi-comic melodramas of Euripides are studied in comparison with the violent, tragic melodramas of Seneca.

Prerequisite: two of CLAS 1P91, 1P92, 1P95, 1P97, or DRAM 1F93.

Not open to students with credit in CLAS 294.

Lectures, seminars, 3 hours per week.

CLAS 3P48

Religion and society in the Ancient World

The main patterns of religious behavior and belief in the ancient Near East, Greece and Rome with special reference to social functions. Topics will include sacrifice, seasonal festivals, the consecration of the social order, household and kinship rites, the cult of the dead.

Prerequisite: two of CLAS 1P91, 1P92, 1P95, 1P97.

Not open to students with credit in CLAS 350.

Lectures, seminars, 3 hours per week.

CLAS 3P49

Religion and the individual in the Ancient World

Personal religion and private rites and beliefs in the ancient Near East, Greece and Rome. Topics will include magic, healing, omens and prophecy, miracles and epiphanies, the cult of heroes, the high god, moral dictates and the afterlife, revelation and conversion, mysticism.

Prerequisite: two of CLAS 1P91, 1P92, 1P95, 1P97.

Not open to students with credit in CLAS 350.

Lectures, seminars, 3 hours per week.

CLAS 3P92

Greek and Roman satire and the novel

The satiric genre and the birth of the novel; the history of abuse from Homer to Apuleius. Incantation, invective, wonder tales, romantic novels, with special reference to models for medieval and Renaissance satirists and to the emergence of the picaresque hero.

Prerequisite: a CLAS credit numbered 2(*alpha*)90 or above, or permission of

the department.

Lectures, seminars, 3 hours per week.

CLAS 3P93

Historical linguistics

The development of ancient writing systems (hieroglyphs, syllabaries and alphabets) into modern scripts with emphasis on Egyptian hieroglyphs, cuneiform, Phoenician, and the Greek and Latin alphabets. Also a study of language change, the comparative method, and reconstruction of ancient languages.

Prerequisite: one of the following: GERM 1F00, GREE 1F00, HEBR 1F00, LATI 1F00, LBST 1F92, LING 1F94, PSYC 3F08, RUSS 1F00, SANS 1F00, TESL 2F50.

Not open to students with credit in CLAS 397, 420 or 3P30.

Lectures, seminars, 3 hours per week.

CLAS 4F40

Provinces and frontiers of the Greco-Roman world

The impact of Greek and Roman culture on other ancient peoples, especially after Alexander and under the Roman Empire; with attention to Scythians, Iranians, Egypt and Judaea in the Hellenistic period; to Rome's provinces, including Gaul, Britain and North Africa; and to the barbarian invaders of the Late Empire. Topics will include the role of technology and science, military resources and strategy, imperial and local administration, education and social mobility, nationalism and sectarian religion, provincial art and architecture.

Prerequisite: a CLAS credit numbered 2(alpha)90 or above, or permission of the department.

Lectures, seminars, 3 hours per week.

CLAS 4F75

Archaeological practicum

First-hand training in archaeological field work including lectures, demonstrations and study tours of ancient sites, monuments and museums. Conducted at different times in the Mediterranean area. All practica run daily for six weeks during the summer, and are conducted with the assistance of local authorities. Recommended

preparation for this course includes: CLAS 2P30, 2P93 and 4P13.

Prerequisite: permission of the department.

CLAS 4F85

The end of the Ancient World and the beginning of Medieval Europe, AD 180-600

An analysis of two of the most significant transformations in European history: the fall of the Roman Empire and the emergence of early medieval society, and the victory of Christianity in Europe.

Prerequisite: a CLAS credit numbered 2(alpha)90 or above, or permission of the department.

Lectures, seminars, 3 hours per week.

CLAS 4M00-4M09

Study in Mediterranean lands

(also offered as VISA 4M00-4M09)

First-hand topographical investigations of ancient sites and monuments. Study tours of the great cities and museums of the Mediterranean world with emphasis on the art and architecture of the Prehistoric, Classical and later periods. Offered in the summer day session for approximately three or four weeks of intensive study abroad.

Prerequisite: permission of the department.

CLAS 4M95-4M99

Advanced study and directed research

Individual study of one of the three areas: archaeology, ancient history or classical literature. Content to be determined by the interests of the student and the advice of the department.

Lectures, seminars, 3 hours per week.

CLAS 4P02

Greek historical writing and theories of history

Greek historical writing, its origins, development and genres: the logographers; national and local history; contemporary history; universal history; chronology; biography and eulogy; historical romance. Readings in translation from the works of Herodotos, Thucydides, Xenophon,

and Polybios and selections from the *Hellenica Oxyrhynchia*, fragments from other historians and historiographical documents.

Prerequisite: a CLAS credit numbered 2(alpha)90 or above, or permission of the department.

Not open to students with credit in CLAS 4P01.

Lectures, seminar, 3 hours per week.

CLAS 4P03

Roman historical writing and theories of history

Roman historical writing, its origins and development: annals, contemporary history; the monograph; memoirs; antiquaries; imperial biography; chronicles; ecclesiastical history.

Readings in translation from the works of Sallust, Caesar, Livy, Tacitus and selected biographies and memoirs.

Prerequisite: a CLAS credit numbered 2(alpha)90 or above, or permission of the department.

Not open to students with credit in CLAS 4P01.

Lectures, seminar, 3 hours per week.

CLAS 4P11

The art and architecture of the ancient Near East

(also offered as VISA 4P11)

The art and architecture of Egypt, the Levant, Mesopotamia, Iran and eastern Anatolia from the Neolithic period through the Early Iron Age.

Prerequisite: a CLAS or a VISA credit numbered 2(alpha)90 or above

Not open to students with credit in CLAS(VISA) 389hc.

Lectures, seminars, 3 hours per week.

CLAS 4P13

The art and archaeology of Cyprus

(also offered as VISA 4P13)

The cultural history of Cyprus from the Neolithic period through the early Byzantine period, based on the archaeological record, and of the role of Cyprus in the civilization of the eastern Mediterranean.

Prerequisite: a credit numbered 2(alpha)90 or above or VISA 1F90, or permission of the department.

Not open to students with credit in CLAS(VISA) 398hc.

Lectures, seminar, 3 hours per week.

Classics

CLAS 4P14

The Aegean Bronze Age (also offered as VISA 4P14)

The development of the Bronze Age cultures of the Aegean basin from 3000 to 1100 BC. The art and architecture of the Minoans on Crete and the Mycenaeans on the Greek mainland will be stressed.

Prerequisite: a CLAS credit numbered 2(*alpha*)90 or above or VISA 1F90, or permission of the department.

Not open to students with credit in CLAS(VISA) 395 or 402hc.

Lectures, seminars, 3 hours per week.

CLAS 4P15

Topics in archaeology

Current topics and problems in Greek, Roman, Cypriote and/or Near Eastern archaeology. Emphasis will be given to theoretical considerations, scientific analytical techniques, multidisciplinary research strategies and interpretation.

Prerequisite: CLAS 2P93(293hc), two ancient art/archaeology credits, one of which must be at the year 3 level, or permission of the instructor.

Not open to students with credit in CLAS 405hc.

Lectures, seminars, 3 hours per week.

CLAS 4P16

(formerly CLAS 3P40)

Archaeological analysis and interpretation

The analysis of archaeological data to yield cultural information. The processes of inference and reconstruction in archaeological interpretation.

Prerequisite: CLAS 2P30 and 2P93 or permission of the instructor.

Not open to students with credit in CLAS 3P40.

Lectures, seminar, 3 hours per week.

CLAS 4P18

Science and archaeology

Interdisciplinary examination of the roles that science and technology play in archaeological field work, analyses and interpretation.

Prerequisite: CLAS 2P93 and one other 2(*alpha*)00 or above half credit in the ancient art/archaeology stream.

Lectures, seminars, 3 hours per week.

GREE 1F00

Language (introductory)

The fundamentals of Greek. Selections from various Greek authors.
4 hours per week.

Note: Students who have studied Classical Greek before coming to university should identify themselves to the department; such students may be eligible to enrol in GREE 2F00.

GREE 2F00

Language and literature

(formerly GREE 1F90)

Review of grammar. Graded selections from various Greek authors. Greek prose composition.

Prerequisite: GREE 1F00 or permission of the department.

Not open to students with credit in GREE 200 or 1F90.

Lectures, seminars, 4 hours per week.

GREE 3P10

Plato

Selections from the dialogues of Plato. Greek prose composition.

Prerequisite: GREE 2F00.

Not open to students with credit in GREE 291.

Lectures, seminars, 3 hours per week.

GREE 3P20

Euripides

Selected passages from the plays of Euripides. Greek prose composition.

Prerequisite: GREE 2F00.

Not open to students with credit in GREE 292hc.

Lectures, seminars, 3 hours per week.

GREE 3P30

The Attic orators

Readings from the Attic orators.

Prerequisite: GREE 2F00.

Not open to students with credit in GREE 296hc.

Lectures, seminars, 3 hours per week.

GREE 3P40

Homer

Selected passages from Homer's epic poems, the *Iliad* and the *Odyssey*.

Greek prose composition.

Prerequisite: GREE 2F00.

Not open to students with credit in GREE 294hc.

Lectures, seminars, 3 hours per week.

GREE 4M95-4M99

Advanced reading and directed research

Prerequisite: permission of the department.

Lectures, seminars, 3 hours per week.

GREE 4P10

Sophocles

Selected passages from the tragedies of Sophocles. Greek prose composition.

Prerequisite: GREE 2F00.

Not open to students with credit in GREE 291.

Lectures, seminars, 3 hours per week.

GREE 4P20

The Greek historians

Selections from the historical writings of Herodotus, Thucydides and Xenophon.

Prerequisite: GREE 2F00.

Not open to students with credit in GREE 298hc.

Lectures, seminars, 3 hours per week.

GREE 4P30

Greek lyric poetry

Selected poems from Alcaeus, Alcman, Anacreon, Archilochus, Mimnermus, Pindar, Sappho and Theognis. Greek prose composition.

Prerequisite: GREE 2F00.

Not open to students with credit in GREE 396hc.

Lectures, seminars, 3 hours per week.

GREE 4P40

Greek comedy

Selections from the comedies of Menander and Aristophanes. Greek prose composition.

Prerequisite: GREE 2F00.

Not open to students with credit in GREE 395hc.

Lectures, seminars, 3 hours per week.

HEBR 1F00

Hebrew language (introductory)

Biblical Hebrew, with selected readings of Old Testament passages.

Not open to students with credit in

REST 100.

Lectures, language lab, 4 hours per week.

LATI 1F00**Language (introductory)**

The fundamentals of Latin. Selections from various Latin authors.

Lectures, seminars, 4 hours per week.

Note: Students who have studied Latin before coming to university should identify themselves to the department; such students may be eligible to enrol in LATI 2F00.

LATI 2F00**Language and literature (formerly LATI 1F90)**

Review of grammar. Intermediate selections from Latin authors. Latin prose composition.

Prerequisite: LATI 1F00 or permission of the department.

Not open to students with credit in LATI 1F90 or 200.

Lectures, seminars, 4 hours per week.

LATI 3P10**Literature of the Republic: Roman comedy**

Selections from the plays of Plautus and Terence. Excerpts from early Latin prose and poetry.

Prerequisite: LATI 2F00.

Not open to students with credit in LATI 291hc.

Lectures, seminars, 3 hours per week.

LATI 3P20**Literature of the Republic: prose and poetry**

Ideals and atoms: selections from the writings of Cicero, Lucretius, and Catullus.

Prerequisite: LATI 2F00.

Not open to students with credit in LATI 292hc.

Lectures, seminars, 3 hours per week.

LATI 3P30**Augustan poetry: Vergil**

Selections from Vergil's *Georgics* and *Aeneid*.

Prerequisite: LATI 2F00.

Not open to students with credit in

LATI 293hc.

Lectures, seminars, 3 hours per week.

LATI 3P40**Roman verse satire**

Readings from Horace, Juvenal and Persius.

Prerequisite: LATI 2F00.

Not open to students with credit in LATI 396hc.

Lectures, seminars, 3 hours per week.

LATI 3P50**Historians and biographers of the Late Republic and Principate**

Selected readings from the works of Nepos, Sallust, Caesar and Livy.

Prerequisite: LATI 2F00.

Not open to students with credit in LATI 390.

Lectures, seminars, 3 hours per week.

LATI 4M95-4M99**Advanced readings and directed research**

Prerequisite: permission of the department.

Lectures, seminars, 3 hours per week.

LATI 4P10**Historians and biographers of the Empire**

Selected readings from the works of Tacitus, Suetonius and Ammianus Marcellinus.

Prerequisite: LATI 2F00.

Not open to students with credit in LATI 390.

Lectures, seminars, 3 hours per week.

LATI 4P20**Literature of the Early Empire**

Readings from Seneca, Lucan, Pliny the Younger, Martial and Quintilian.

Prerequisite: LATI 2F00.

Not open to students with credit in LATI 300 or 301hc.

Lectures, seminars, 3 hours per week.

LATI 4P30**Augustan poetry: Horace**

Selections from the *Odes* and *Epodes* of Horace.

Prerequisite: LATI 2F00.

Lectures, seminars, 3 hours per week.

LATI 4P40**Roman prose satire**

Readings from Petronius, Seneca and Apuleius.

Prerequisite: LATI 2F00.

Not open to students with credit in LATI 397hc.

Lectures, seminars, 3 hours per week.

LATI 4P50**Roman elegy and pastoral poetry**

Readings from Catullus, Propertius, Tibullus, Ovid, and Vergil's *Eclogues*.

Prerequisite: LATI 2F00.

Not open to students with credit in LATI 420.

3 hours per week.

Communications Studies

Director

John A. Lye

James C. M. Leach (as of July 1, 1991)

Associated faculty

Nicolas Baxter-Moore, Politics

John G. Benjafield, Psychology

Sharon Broderick, Management/
Marketing

Scott Edgett, Management/Marketing

Barry K. Grant, Film Studies, Dramatic
and Visual Arts

Deborah A. Harrison, Sociology

William H.N. Hull, Politics

Glenwood H. Irons, Applied Language
Studies

James C.M. Leach, Film Studies,
Dramatic and Visual Arts

John A. Lye, English Language and
Literature

Mary Jane Miller, Film Studies,
Dramatic and Visual Arts

Paul Nesbitt-Larking, Sociology

Joan Nicks, Film Studies, Dramatic and
Visual Arts

Joan M. Preston, Psychology

Laurel Reid, Recreation and Leisure
Studies

Merle Richards, Faculty of Education

Jeannette Sloniowski, Film Studies,
Dramatic and Visual Arts

Walter Watson, Sociology

Part-time instructor:

Monica Schouten

Co-operating faculty from:

English Language and Literature, Film
Studies, Dramatic and Visual Arts,
Management/Marketing, Politics,
Psychology and Sociology.

General information

Communications Studies is an interdisciplinary program which studies human communicative behavior, the institutions of communication, and the social production of meaning. It has three

streams; the streams share a core of communications courses but focus on distinct areas of interest.

The Communications: culture and language stream is oriented toward an understanding of the role of mass media in the construction of meaning and the creation of national identity in our culture through the study of the cultural, cognitive and textual aspects of film, television, literature, and popular culture.

The Communications: social policy stream focuses on the interaction of the mass media with social and political forces in society, and includes an examination of the structures of government, the processes of public policy formation, and issues of media regulation, in the Canadian context.

The Communications: business communications stream combines the study of communications with a study of the fundamentals of management and marketing. The stream aims to equip the student with a sound theoretical basis for analysing and practising communications within the business environment.

Students are generally advised that choice of stream is best based on their interest and aptitude. It is possible to change streams although in some cases this may require additional courses; students should consult the director.

Communication Studies is a limited enrolment program. Admission to year 1 is provisional, although maintenance of a 75 percent average assures permanent admission. Any student with the required courses may apply after year 1 for permanent admission to the program. Admission is based on grade standing and available places in the streams.

Satisfactory completion of the first three years of the program entitles the student to a pass degree. The honors degree requires four full years of study.

Communications: social policy

Year 1

COMM 1F90; ENGL 1F91; MGMT 1P91, 1P92; POLI 1F90; SOCI 1F90.

Year 2

COMM 2F24, 2P23, 2P50; POLI 2F12; SOCI 2F10; one science context credit (see Note 1.).

Year 3

COMM 3P17, 3F60; POLI 3F51; one of COMM 2P55, 3P77, 3P94, 3P95, SOCI 3P34, 3P76; one credit from COMM 2F92, 2F97, 3F08, 3F10, 3F50, DRAM 2F97, ENGL 2F91, 3F60, FILM 3M20-29; one elective credit.

Honors program

Years 1, 2 and 3

As in pass program.

Year 4

COMM 4F99; two credits from 3P95, 4F30, 4F80, 4P32, 4V50-59; one credit from COMM 3P94, 3P95, 4F30, 4F80, 4P23, 4P32, 4V50-59, SOCI 3P34, 3P76; one elective credit.

All honors programs must contain at least three credits numbered 3(*alpha*)90 or above.

Communications: culture and language

Year 1

COMM 1F90; ENGL 1F91; FILM 1F94; PSYC 1F90; SOCI 1F90.

Year 2

COMM 2F24, 2P23, 2P50; SOCI 2F10; one credit from COMM 1F94, 2F54, 2F92, 2F97, 2M90-99, PSYC 2F20, VISA 1F90; one science context credit (see Note 1).

Year 3

COMM 3F60, 3P17; one credit from COMM 2F54, 2F97, 3F50; one of COMM 2P55, 3P77, 3P94, 3P95, DRAM 2P91, PSYC 3P82, SOCI 3P34, 3P76; one credit from COMM

Environmental Science

Director

Bruce W. Krushelnicki
John Middleton (as of July 1, 1991)

General information

Mackenzie Chown, F202

The Environmental Science program at Brock is administered by the Institute of Urban and Environmental Studies (UEST). See also that section of the calendar. The program, which offers a pass or an honors BSc degree in Environmental Science, combines the disciplinary skills of Biology and Chemistry, a suitable complement of courses in Mathematics and Computer Science and the interdisciplinary perspective and systems-oriented approach of Environmental Studies.

Students may elect to take the co-operative studies option which provides opportunity for on-the-job training and practical experience for degree credit. Full-time students who have completed year 2 are eligible for the program; enrolment will be limited. See details under the Urban and Environmental Studies calendar entry.

Combined major programs leading to a BSc degree are also available with Biological Sciences/Urban and Environmental Studies, Chemistry/Urban and Environmental Studies, Geography/Urban and Environmental Studies, Geological Sciences/Urban and Environmental Studies.

The recommended course selection for an Environmental Science program is outlined below. It is important that students follow the program sequence

of courses carefully to ensure that prerequisites for upper year courses are satisfied.

Pass program

Please note that not all courses are offered in every session. Refer to the applicable term timetable for details.

Year 1

UEST 1F90; BIOL 1F90; CHEM 1P80, 1P81 or CHEM 1P90, 1P91; COSC 1P90; MATH 1P98; one humanities context credit.

Year 2

BIOL 2P04, 2P05; one credit from BIOL 2F01, 2P90, 2P93, 2P98; CHEM 2P42 and one-half year 2 credit in CHEM; COSC 1P91; MATH 1P97; one elective credit.

Year 3

UEST 2F97; one of UEST 3V20-3V24 or 3V30-3V34; one of UEST 3P41, 3P42, 3P53, 3P55 or 3V10-3V15; one credit in BIOL numbered 2(*alpha*)90 or above; one credit in CHEM chosen in discussion with that department; one elective credit (GEOL 1F95 or PHYS 1F20 or GEOG 1F91 recommended).

Honors program

Years 1, 2 and 3

As in the pass program.

Year 4

UEST 4F95; one of UEST 3P41, 3P42, 3P53, 3P55 or 3V10-3V15; one of UEST 3V20-3V24 or 3V30-3V34; one of CHEM 4F90, 4F91 or BIOL 4F92 and one year 3 or year 4 BIOL credit; one elective credit. A minimum of three credits numbered 3(*alpha*)90 must be included in an honors degree.

English Language and Literature

For course descriptions, see Film Studies, Dramatic and Visual Arts.

of external cultural and linguistic forces in the shaping of modern English. Selected literary models will be used to illustrate the stylistic development of English.

Lectures, seminar, 3 hours per week.

ENGL 3F92

Old English

Literature and language; a close reading of prose and several major poems in Old English, including passages from *The Parker Chronicle*, *Wanderer*, *Seafarer*, *Deor*, *The Battle of Maldon*, *The Dream of the Rood*.

Seminars, 4 hours per week.

ENGL 4F05

Poetic form

Close reading of poems in English from the Renaissance to the 20th century. Emphasis upon period styles, formal conventions and variations, and changing theories of poetry.

Special concentration upon contemporary American poetry, rivalry between traditional and "open" forms.

Seminar, 3 hours per week.

ENGL 4F10

Middle English

A critical examination of the English literature of the late Middle Ages; studies in the work of Chaucer and Langland, and in the Northern alliterative revival.

Seminars, 4 hours per week.

ENGL 4F30

19th century thought

Writings in social criticism, aesthetics, education, science, and philosophy, from Burke to Wilde.

Seminars, 3 hours per week.

ENGL 4F70

Contemporary literary theory

Contemporary theoretical approaches to literature, including Phenomenology, reader-response criticism, Psychoana-

lytic theory, Structuralism, Post-Structuralism, Marxism and Feminism.

Prerequisite: ENGL 3F70 or permission of the instructor.

Lectures, seminar, 3 hours per week.

ENGL 4F99

Senior research tutorial or thesis

Either tutorial combined with individual research or a thesis on a specialized topic or major author, of mutual interest to the student and instructor. Students are urged to make arrangements with an instructor and to plan their projects in the spring, for the following year. A written proposal *must* be submitted for department approval before September 1.

Time to be arranged.

ENGL 4M40-4M49

Major writers

Drama courses available for English credit

*DRAM 1F93

Introduction to drama

*DRAM 2F95

The comic spirit

*DRAM 2F97

Canadian drama

DRAM 2F98

The tragic vision

*DRAM 3F10

Shakespeare

*DRAM 3F93

Twentieth century drama

Only one credit from DRAM 1F93, 2F95 or DRAM 2F98 may be taken for English credit.

English Language and Literature

(Carlyle).
Lectures, seminar, 4 hours per week.

ENGL 2F40
Restoration and 18th century literature
Literature of the age of wit and satire (Dryden, Pope, Swift) and of the age of sensibility (Gray, Collins, Cowper, Burns); includes drama, poetry, prose. Lectures, seminar, 3 hours per week.

ENGL 2F50
Commonwealth literature (formerly ENGL 3F15)
Literature written in countries of the Commonwealth other than Canada. Close analyses are made of the books to demonstrate the literary merit of the writing. Where appropriate, emphasis will be placed on the Colonial and post-Colonial political struggles and the changing nature of the political, economic and social processes of societies in the Commonwealth. Not open to students with credit in ENGL 3F15. Lectures, seminar, 3 hours per week.

ENGL 2F60
Modern American literature
Established 20th century authors in fiction, poetry and drama, including such writers as James, Eliot, Pound, Hemingway, Fitzgerald, Faulkner, West, Steinbeck, Roth. Lectures, seminar, 3 hours per week.

ENGL 2F91
Canadian literature in English
Emphasis on the critical reading of poetry and fiction drawn from the pre-Confederation period to the present day. Representative works by such writers as Haliburton, Lampman, Roberts, Leacock, Pratt, Callaghan, Birney, Laurence, Atwood and Findley. Lectures, seminar, 3 hours per week.

ENGL 2F97
Shakespeare
The poetry and plays. Not open to students with credit in ENGL(DRAM) 397 or 296 or DRAM 3F10(310). Students may take DRAM

3F10(310) in place of ENGL 2F97.
Lectures, seminar, 3 hours per week.

ENGL 2M90-2M99
English area studies
Studies in a specialized area of English literature.

Winter 1991-92: (2M92) Women novelists and the development of the novel
Close reading of novels by women writers including Burney, Austen, Eliot, Wharton, Woolf, Lessing and Atwood. Not open to students with credit in the ENGL 4F99 version of this course, as offered in 1986-87. Lectures, seminar, 3 hours per week.

ENGL 3F00
The novel
Major English novelists and the development of the form from its origins (Bunyan) to the close of the 19th century (Hardy and/or James). Lectures, seminar, 3 hours per week.

ENGL 3F05
Creative writing
A seminar course in the craft of creative writing, for selected students in any discipline; years 3 and 4 preferred. Apply in writing, with portfolio, well before classes begin. Details from department. Seminars, 3 hours per week.

ENGL 3F21
Milton and the 17th century
The literature of the late Renaissance in England, from Donne and Jonson to Marvell and Browne, including all of Milton's major works. Lectures, seminar, 3 hours per week.

ENGL 3F30
Victorian literature
Poetry, novels, and non-fictional prose from 1825 to 1914; from the high Victorian period (Carlyle, Mill, Tennyson, Browning), through the pre-Raphaelite (Rossetti, Morris), to developments in the last half of the century (in Meredith, Swinburne,

Hopkins, Hardy, Wilde, Kipling).
Lectures, seminar, 3 hours per week.

ENGL 3F42
Modern poetry
Modernism and its alternatives in poetry of the 20th century, including contemporary poetry. Major poets include Yeats, Eliot, Auden, Stevens. Lectures, seminar, 3 hours per week.

ENGL 3F45
20th century literature
Major developments in the poetry and prose of Britain and America in the 20th century. Lectures, seminar, 3 hours per week.

ENGL 3F50
The modern novel
English and American novelists from James and Hardy to the present. Lectures, seminar, 3 hours per week.

ENGL 3F60
American literature to World War I
American writing from the Puritan period to the major authors of the Romantic period (Irving, Cooper) and of the mid-19th century (Emerson, Thoreau, Hawthorne, Melville, Poe, Whitman, Dickinson); precursors of the Modern period (Crane, Clemens, James) are also studied. Lectures, seminar, 3 hours per week.

ENGL 3F70
Literary criticism (formerly ENGL 4F00)
History of the principles and practice of literary criticism. An examination of major critics from Aristotle to Eliot, Leavis and Brooks. Not open to students with credit in ENGL 4F00. Seminars, 3 hours per week.

ENGL 3F91
History of the language
The development of the English language from its origins to the present state of English in North America. The nature and cause of major internal changes in the language will be examined, together with the influence

Year 4

Four ENGL credits, including at least two at the year 4 level (see (v) above); one elective credit.

Students are expected to complete the language requirement by the end of year 2 except in the case of ENGL 3F92.

in literature, natural science and social science. Special attention will be given to students' writing.

Not open to students with credit in ENGL(LBST) 192; ENGL 1P97 or 1P98.

Lectures, seminar, 3 hours per week.

Combined major programs

Description of courses

Pass program

Students wishing to study English as part of a combined major pass program are required to complete: ENGL 1F91; two historical core courses, one from list A and one from list B; two other ENGL credits. It is expected that a student will take two credits in ENGL at the year 2 level and two at the year 3 level. (See Language requirement.)

Abbreviations:

*ENGL English courses that may be taken for credit in drama.

*DRAM Drama courses that may be taken for credit in English.

Please see *Note* under the English pass and honors program descriptions above.

ENGL 1P97

Language and thought for Bachelor of Accounting students I

The critical study of selected writings in literature, natural science and social science, designed to improve thinking, reading and writing through a study of some of the most significant uses of language in the 19th and 20th centuries.

Prerequisite: admission to the Bachelor of Accounting program.

Not open to students with credit in ENGL 1F99.

Honors program

Students who wish to study English as part of a combined major honors program are required to complete: ENGL 1F91; three from the historical core list A and B above, two from one list and one from the other; three other ENGL credits. It is expected that an honors student will take two ENGL credits at the year 2 level, two at the year 3 level and two at the year 4 level. (See Language requirement.)

Please note that not all courses are offered in every session. Refer to the applicable term timetable for details.

***ENGL 1F91**

Introduction to literature

The critical study of works by major authors in English literature from the 14th century to the 20th, including Chaucer, Shakespeare, Milton, Swift, Austen, Dickens, Eliot. Special attention will be given to students' writing.

Lectures, seminar, 3 hours per week.

ENGL 1P98

Language and thought for Bachelor of Accounting students II

A continuation of the course of study of ENGL 1P97.

Prerequisite: ENGL 1P97.

Not open to students with credit in ENGL 1F99.

Special combined program in English and Drama

A student reading for a combined pass degree in English and Drama must (i) meet the requirements of each department for a combined major; (ii) take at least ten credits in ENGL and DRAM for a pass degree, fourteen credits for an honors degree; (iii) take at least five credits from each department for a pass degree, seven from each department for an honors degree.

ENGL 1F92

Logic, rhetoric and practical criticism

(also offered as LBST 1F92)

Methods of developing, organizing and expressing ideas, directed to improving skills of thought, reading and persuasion. Classical logic and rhetoric will be examined in the works of Aristotle and Cicero. Students will analyse the logic and rhetoric of writing on a range of subjects in a variety of modes.

Not open to students with credit in ENGL 1F99 or LBST 195hc.

Lectures, seminar, 3 hours per week.

ENGL 2F10

Young people's literature

The critical study of children's fiction and poetry from the past to the present. Fairy tales, fantasy, adventure, realistic and problem novels, animal stories and fables are explored as works of art in relation to the themes and concerns of literature for young people.

Not open to students with credit in EXST 195 or 211.

Lectures, seminar, 3 hours per week.

Language requirement for humanities majors

English majors must complete one credit in a language other than English or, in special cases, ENGL 3F92 (*Old English*).

ENGL 1F99

Language and thought

The critical study of selected writings

ENGL 2F21

16th century literature

Prose and poetry of Tudor England with emphasis on Sidney, Spenser and Shakespeare.

Lectures, seminar, 3 hours per week.

ENGL 2F30

Romantic literature

Poetry, together with imaginative, critical, and philosophical prose, from the 1780s (Blake) to the 1830s

English Language and Literature

Officers of instruction

Chair

Angus A. Somerville
Kenneth M. McKay (as of July 1, 1991)

Professors

Cecil A. Abrahams
Michael S. Hornyansky
R. Douglas MacDonald
Kenneth M. McKay

Associate professors

Gordon H. Coggins
Brian Crick
John A. Lye
George C. Reecer
Marilyn J. Rose
Ian C. Shaw
Stella Slade
Angus A. Somerville

Part-time instructor

Patricia A. Green

General information

Mackenzie Chown, A310

The department of English Language and Literature aims at fostering a critical intelligence. To this end our required core of historical period courses (2F21, 2F30, 2F40, 3F21, 3F30, 3F45, 4F10) provides a comprehensive grasp of the whole. Seminars (small discussion groups) are the rule in all English courses, for they encourage the student to become an active participant in the study of literature. With essay assignments and our close criticism of these assignments, the student should learn to write in a literate, subtle and disciplined way.

The department of English Language and Literature offers credit for those Drama courses included among the list of English courses offered, subject to the conditions noted below under pass

program and honors program.

English majors are free to take any elective which their timetable will allow, but the following are recommended as most useful: classical civilization, Drama, Film, History, Liberal Studies, other languages (particularly Latin), Philosophy.

Students are reminded that year 3 courses are restricted to those who have at least three year 2 university credits or the permission of the instructor, and are cautioned against taking a year 3 English course without having passed at least one year 2 English course.

Students in other disciplines who have not taken ENGL 1F91 may take a senior English course as an elective with permission of the instructor.

Courses at the year 4 level are normally for year 4 students; other students may be admitted by permission of the department.

Students who intend to take a three-year or four-year degree in English should discuss their program with a member of the department.

Historical core courses:
List A: 2F21 or 3F21, 2F40, 4F10
List B: 2F30, 3F30, 3F45

Note:

Students who registered before April 1988, may, in completing their degree requirements, add 2F20 and 3F35 to the above lists, and are not required to conform to the distribution between the lists noted in the current requirements. Students registered before April 1987, may also add 2F97.

Pass program

Students reading for a pass degree with a major in English are required to complete seven credits in English, including ENGL 1F91.

Of the seven, three credits must be chosen from the historical core list A and B above, two from one list and one

(for English as a Second Language see page 46)

from the other list. Three credits must be chosen from courses numbered 2(alpha)90 or above.

Note:

The department recommends that students take one credit in Dramatic Literature from ENGL 2F97, DRAM 1F93 (or 2F95 or 2F98), DRAM 2F97, 3F10, 3F93. A maximum of two DRAM credits may be taken for English credit.

Normal pattern:

Year 1

ENGL 1F91; one science and one social science context credit; two elective credits. (See Language requirement.)

Year 2

Three ENGL credits; two elective credits. (See Language requirement.)

Year 3

Three ENGL credits; two elective credits.

Honors program

Eleven English credits are required, including:

- (i) ENGL 1F91;
- (ii) four historical core courses, two from list A and two from list B;
- (iii) one of ENGL 3F91 or 3F92;
- (iv) one credit in Dramatic Literature (ENGL 2F97 or DRAM 3F10 recommended);
- (v) at least two of ENGL 4F05, 4F10, 4F30, 4F70, 4F99, 4M40-4M49.

Note: a maximum of three DRAM credits may be taken for English credit. ENGL 3F70 is recommended for all honors students.

Normal pattern:

Years 1, 2 and 3

As in pass program.

Not open to students with credit in EDUC 496hc.
Lectures, seminar, practicum, 3 hours per week.

EDUC 9P07
Special education, teaching the trainable retarded pupil (T.R.P.) (advanced)

Issues surrounding screening, identification and education of trainable retarded students; studies of curriculum development, gross motor and physical development, language and communication skills. Living skills.
Prerequisite: EDUC 9P01 and 9P06.
Not open to students with credit in EDUC 497hc.
Lectures, seminar, practicum, 3 hours per week.

EDUC 9P08

Special education, gifted I (basic)
The nature of educational giftedness; basic screening and identification procedures; the design and implementation of appropriate educational programs.
Prerequisite: EDUC 9P01.
Lectures, seminar, practicum, 3 hours per week.

EDUC 9P09

Special education, gifted II (advanced)
Theories and strategies for teaching gifted students; the identification of this exceptionality and its subclassifications and its relationship to other exceptionalities.
Prerequisite: EDUC 9P01 and 9P08.
Lectures, seminar, practicum, 3 hours per week.

EDUC 9P10

Special education, behavior I (basic)
Current issues in the education of the behaviorally exceptional student; basic screening and identification procedures; the design and implementation of appropriate educational programs.
Prerequisite: EDUC 9P01.
Lectures, seminar, practicum, 3 hours per week.

EDUC 9P11

Special education, behavior II (advanced)
Theories and strategies for teaching the

behaviorally exceptional student; the identification of this exceptionality and its subclassifications and its relationship to other exceptionalities.
Prerequisite: EDUC 9P01 and 9P10.
Lectures, seminar, practicum, 3 hours per week.

EDUC 9P12

Special education, combined electives I (basic)
The identification of students with learning disabilities, behavioral exceptionalities and giftedness and provision of appropriate programming for them. This elective course will be offered whenever specific special education basic courses are not available.
Prerequisite: EDUC 9P01.
Lectures, seminar, practicum, 3 hours per week.

EDUC 9P13

Special education, combined electives II (advanced)
Theories and strategies for teaching students with learning disabilities, behavioral exceptionalities and giftedness. This elective course will be offered whenever specific special education advanced courses are not available.
Prerequisite: EDUC 9P01 and 9P12.
Lectures, seminar, practicum, 3 hours per week.

EDUC 9P14

Physical exceptionalities (basic)
Basic methodologies in teaching children with physical and health-related disabilities.
Prerequisite: EDUC 9P01.
Lectures, seminar, practicum, 3 hours per week.

EDUC 9P15

Physical exceptionalities (advanced)
Planning, implementing and evaluating programs for children with physical and health-related disabilities.
Prerequisite: EDUC 9P01 and 9P14.
Lectures, seminar, practicum, 3 hours per week.

EDUC 9P90

Special topics in education
Topics selected from year to year on the basis of specific areas of instruc-

tional expertise and candidate interest.
Prerequisite: permission of the chair, department of Continuing Studies.
Not open to students with credit in EDUC 498hc.
Lectures and seminars, twelve 3 hour sessions.

EDUC 9P99

Program measurement and evaluation
Measurement and evaluation of program and student achievement with a focus on methods of data collecting, formulating measurement instruments, and techniques for analyzing and communicating results. Content for the course will be based on the Ministry of Education Ontario Assessment Instrument Pool (OAIIP).
Open to teachers and administrators.
Lectures, seminars, practicum, twelve 3 hour sessions.
Note: this course carries BEd credit only.

Education

an Ontario Teacher's Certificate endorsed at the primary, junior or intermediate level. Candidates may be asked to successfully complete three weeks of practice teaching as assigned by the Faculty of Education during a scheduled block in winter or spring term.

Lectures, seminar, practicum, 3 hours per week.

(9M20) English

(9M21) Mathematics

(9M22) Science

(9M23) History

(9M24) Geography

(9M25) Computer science

(9M26) Society, challenge and change (Man in society)

(9M27) Physical education

Consult the department of Continuing Studies regarding teachable subject areas to be offered.

EDUC 9M30-9M39

Senior basic curriculum and instruction (minor)

Basic strategies for teaching at the senior level. An overview of current principles of student development and learning, curriculum development and implementation for the senior division. Prerequisite: an acceptable undergraduate degree with at least *three* credits in the teachable subject area and an Ontario Teacher's Certificate endorsed at the senior level. Candidates may be asked to successfully complete three weeks of practice teaching as assigned by the Faculty of Education during a scheduled block in winter or spring term.

Lectures, seminar, practicum, 3 hours per week.

(9M30) English

(9M31) Mathematics

(9M32) Science

(9M33) History

(9M34) Geography

(9M35) Computer science

(9M36) Society, challenge and change (Man in society)

(9M37) Physical education

Consult the department of Continuing Studies regarding teachable subject areas to be offered.

(Special Education)

Note:

In order to be recommended to the Ministry of Education for special education part I, candidates must complete EDUC 9P01 plus one basic elective half credit; for part II, EDUC 9P02 and a second elective (either part II or another part I); for part III, EDUC 9P03 and a third elective (see EDUC 9P04-9P15). Students with previous credits in special education should consult the department regarding their further studies.

EDUC 9P01

Special education, foundations I

The identification of students with special educational needs; characteristics of the five main exceptionalities: behavioral, communicative, intellectual, physical and multiple. Models, theories and approaches of educational exceptionalities, their classroom implications, available community resources, and effective school/student/parent communication.

Open to certified teachers or permission of the department chair.

Not open to students with credit in EDUC 417.

Lectures, seminar, practicum, 3 hours per week.

EDUC 9P02

Special education, foundations II

Further studies of the educational implications of multiple exceptionalities; formal and informal assessment of exceptional students and their particular needs; the design and implementation of appropriate educational programs for students at a more advanced level; reporting techniques, the Identification Placement and Review Committee (IPRC) process and the teacher's role in it.

Prerequisite: EDUC 9P01 and basic elective.

Not open to students with credit in EDUC 418.

Lectures, seminar, practicum, 3 hours per week.

EDUC 9P03

Special education, foundations III

Leadership and consultation in special education at the school and board level. The design of workshops or training sessions and their evaluation; preparation for a referral to an Identification Placement and Review Committee (IPRC) and for case conferences. This course includes a specialist special studies component.

Prerequisite: EDUC 9P02 and basic or advanced elective.

Not open to students with credit in EDUC 419.

Lectures, seminar, practicum, 3 hours per week.

(Electives)

EDUC 9P04

Special education, learning disabilities I (basic)

The identification of speech, language and learning disabilities; the development and implementation of appropriate teaching intervention strategies.

Prerequisite: EDUC 9P01.

Lectures, seminar, practicum, 3 hours per week.

EDUC 9P05

Special education, learning disabilities II (advanced)

Theories and strategies of teaching students with speech and language disabilities; identification of these exceptionalities, their subclassifications and relationship to other exceptionalities.

Prerequisite: EDUC 9P01 and 9P04.

Lectures, seminar, practicum, 3 hours per week.

EDUC 9P06

Special education, teaching the trainable retarded pupil (T.R.P.) (basic)

The development of programs for teaching the trainable retarded; the history and causes of retardation; the response of the family and society to the special child. The planning of effective learning environments, instructional approaches, behavioral management and evaluative processes. Prerequisite: EDUC 9P01.

permission of the department chair.
Lectures, seminar, practicum, 3 hours per week.

EDUC 9F82

Multiculturalism in education part II

A continuation of the consideration of the history of racial and ethnic issues in Canada and the theories of cross-cultural and inter-cultural communication and their application in the school setting. The analysis and assessment of results of a multicultural curriculum or program. Practical experience involving an ethnic group or institution.

Prerequisite: EDUC 9F81.

Lectures, seminar, practicum, 3 hours per week.

EDUC 9F83

Multiculturalism in education part III

Advanced consideration of the factors relating to a multicultural society and the significant resources in a specific area of concentration (e.g., curriculum, counselling, assessment and placement, communication). Advanced practical experience in the field of multicultural education.

Prerequisite: EDUC 9F82.

Lectures, seminar, practicum, 3 hours per week.

EDUC 9F84

Mathematics primary/junior part I

A study of Ministry of Education policies, support documents and resources related to mathematics at the primary and junior divisions. An overview of developmental and learning theories as they apply to the teaching strategies for mathematics including learning processes, organization, motivation and concept development. An examination of mathematics in other subject areas and in practical applications.

Open to certified teachers or by permission of the department chair.

Lectures, seminar, practicum, 3 hours per week.

EDUC 9F85

Mathematics primary/junior part II

A more detailed examination of Ministry policies and resources related to mathematics at the primary and

junior divisions. A study of various assessment strategies and an introduction to diagnostic techniques and remedial procedures. An examination of the technology related to the teaching of mathematics at the primary and junior divisions.

Prerequisite: EDUC 9F84

Lectures, seminar, practicum, 3 hours per week.

EDUC 9F86

Mathematics primary/junior part III

A focus on additional teaching strategies so as to review, develop and implement changes in the mathematics curriculum at the primary and junior divisions. A more intensive examination of assessment strategies for student achievement and of diagnostic techniques and programming for students with special needs. An opportunity to review the research and current issues related to the teaching of mathematics at the primary and junior divisions.

Prerequisite: EDUC 9F85.

Lectures, seminar, practicum, 3 hours per week.

EDUC 9F87

Intermediate education part I

Current principles of adolescent development and learning; resource materials available to intermediate teachers; basic teaching strategies appropriate to the intermediate division. The various modes of communication, consultation, and co-operative action in the development of curricula.

Prerequisite: open only to certified intermediate grade teachers.

Lecture, seminar, practicum, 3 hours per week.

EDUC 9F88

Intermediate education part II

Detailed examination of various theories of adolescent growth and development; curriculum design principles, teaching strategies, and effective learning materials appropriate to the intermediate division; evaluation techniques and counselling procedures used at this grade level.

Prerequisite: EDUC 9F87.

Lecture, seminar, practicum, 3 hours per week.

EDUC 9F89

Intermediate education part III

Alternate patterns of teaching strategies, evaluation techniques, and curricular concerns examined in EDUC 9F87 and 9F88 with the focus on adolescent exceptionality, career awareness, and social adjustment.

Instruction and practice in leadership skills which enhance effective communication with students, parents, colleagues, and administrators.

Prerequisite: EDUC 9F88.

Lecture, seminar, practicum, 3 hours per week.

EDUC 9M00-9M09

Intermediate basic curriculum and instruction

Basic strategies for teaching at the intermediate level. An overview of current principles of student development and learning, curriculum development and implementation for the intermediate division.

Prerequisite: an acceptable undergraduate degree that includes *two* credits in the teachable subject area.

Lectures, seminar, practicum, 3 hours per week.

Note: additional prerequisite for certification purposes: an Ontario Teacher's Certificate endorsed with primary, junior or senior additional basic qualification on the Ontario Teacher's Record Card.

(9M00) Language arts (English)

(9M01) Mathematics

(9M02) Science

(9M03) History

(9M04) Geography

Consult the department of Continuing Studies regarding teachable subject areas to be offered.

EDUC 9M20-9M29

Senior basic curriculum and instruction (major)

Basic strategies for teaching at the senior level. An overview of current principles of student development and learning, curriculum development and implementation for the senior division. Prerequisite: an acceptable undergraduate degree with a major of at least *five* credits in the teachable subject area and

Education

counselling practicum and business-industry-education practicum.

Prerequisite: EDUC 9F65.

Lectures, seminar, practicum, 3 hours per week.

EDUC 9F67

English as a second language part I

An introduction to the study of English as a second language. Concerns and implications faced by students adapting to Canadian society; techniques and theories of teaching and learning as applied to second-language acquisition, and a study of available teaching/learning materials.

Open to certified teachers or permission of the department chair. Applicants must be able to communicate well in both written and spoken English.

Lectures, seminar, practicum, 3 hours per week.

EDUC 9F68

English as a second language part II

A continuation of EDUC 9F67. Further development of instructional units in ESL; the evaluation of ESL programs and learning materials.

Prerequisite: EDUC 9F67.

Lectures, seminar, practicum, 3 hours per week.

EDUC 9F69

English as a second language part III

Development of strategies, organization and programs in ESL using school and community resources; the design, implementation and evaluation of effective ESL programs.

Prerequisite: EDUC 9F68.

Lectures, seminar, practicum, 3 hours per week.

EDUC 9F71

Co-operative education part I

An analysis of a variety of co-operative education programs currently being used in the schools of Ontario. Students will plan, implement, supervise and evaluate a co-operative education course at the classroom level with reference to Ministry of Education documents (OSIS--Ontario Schools Intermediate and Senior division programs).

Open to certified teachers or permis-

sion of the department chair.

Not open to students with credit in EDUC 472.

Lectures, seminar, practicum.

EDUC 9F72

Co-operative education part II

The development, implementation and evaluation of co-operative education programs at the department and school-wide level; social and vocational needs, values and programs; community and work-site reactions to the concept of co-operative education.

Prerequisite: EDUC 9F71.

Not open to students with credit in EDUC 475.

Lectures, seminar, practicum, 3 hours per week.

EDUC 9F73

Co-operative education part III

Organizing and leading workshops in co-operative education; planning, coordinating and implementing co-operative education programs (including in-school and out-of-school components) at the school and board level.

Prerequisite: EDUC 9F72.

Not open to students with credit in EDUC 476.

Lectures, seminar, practicum, 3 hours per week.

EDUC 9F74

Dramatic arts part I

Basic methodologies in teaching dramatic arts in Ontario schools. Consideration will be given to the preparation of an introductory course in dramatic arts and appropriate methods of student evaluation.

Open to all teachers or permission of the department chair.

Lectures, seminar, practicum, 3 hours per week.

EDUC 9F75

Dramatic arts part II

A continuation of the study of the components introduced in part I. More advanced consideration of the preparation and evaluation of courses in dramatic arts.

Prerequisite: EDUC 9F74.

Lectures, seminar, practicum, 3 hours per week.

EDUC 9F76

Dramatic arts part III

Organizing and teaching workshops in dramatic arts: planning, implementing and evaluating dramatic arts programs.

Prerequisite: EDUC 9F75.

Lectures, seminar, practicum, 3 hours per week.

EDUC 9F77

Curriculum and instruction in the junior division

For teachers who are seeking qualification in an additional area of concentration in the junior division (Ontario Teacher's Qualifications Reg. 407/78, Section 26 and 27). Basic teaching strategies in all subject areas taught at the junior level. Current principles of child development and learning, and curriculum at the junior level.

Prerequisite: an undergraduate degree and an Ontario Teacher's Certificate.

Not open to students with credit in EDUC 9F57, 9F58, 9F59.

Lectures, seminar, practicum, 3 hours per week.

EDUC 9F78

Primary basic curriculum and instruction

For teachers who are seeking qualification in an additional area of concentration in the primary division (Ontario Teacher's Qualifications Reg. 407/78, Section 26, 27). Basic teaching strategies in all subject areas taught at the primary level. Current principles of child development and learning, and curriculum at the primary level.

Prerequisite: an undergraduate degree and an Ontario Teacher's Certificate.

Lectures, seminar, practicum, 3 hours per week.

EDUC 9F81

Multiculturalism in education part I

The scope of multicultural education at elementary and secondary school levels; its implications for the total learning environment and the cultural dynamics of school-community relations. Objectives: development of a course at the secondary school level or a unit in an elementary program or a school program based on the concept of multicultural education.

Open to certified teachers or by

explore the many aspects of Catholic Christianity. Open to certified teachers or permission of the department chair. Lectures, seminar, practicum, 3 hours per week.

Note: Names of candidates who successfully complete EDUC 9F54 will be recommended to OECTA for credit towards an additional qualification in Religious education part I.

EDUC 9F55

Religious education part II

A continuation of EDUC 9F54. Detailed and specific studies leading to an intermediate certificate in religious education. A concentration on the experience and communication of sacred revelation as celebrated in the tradition of faith and behavior of the Roman Catholic church.

Prerequisite: EDUC 9F54.

Lectures, seminar, practicum, 3 hours per week.

Note: Names of candidates who successfully complete EDUC 9F55 will be recommended to OECTA for credit towards an additional qualification in Religious education part II.

EDUC 9F56

Religious education part III

The development of leadership in teaching strategies, curriculum, and organization of religious education programs using school and community resources. Designing, implementing and evaluating religious education programs and workshops in the Roman Catholic school system.

Prerequisite: EDUC 9F55.

Lectures, seminar, practicum, 3 hours per week.

Note: Names of candidates who successfully complete EDUC 9F56 will be recommended to OECTA for credit towards an additional qualification in Religious education part III.

EDUC 9F57

Junior education part I

Curriculum matters of concern to junior teachers; an examination of basic teaching strategies in the various subject areas, and the development of skills associated with a recognized system of interpersonal relationships.

Open to certified junior grade teachers. Not open to students with credit in EDUC 458.

Lectures, seminar, practicum, 3 hours per week.

EDUC 9F58

Junior education part II

An overview of current principles of child development and learning; a more detailed examination of curricula, and a finer analysis of techniques of instruction and evaluation in one specific area of the curriculum (communications, environmental studies, or arts).

Prerequisite: EDUC 9F57.

Not open to students with credit in EDUC 459.

Lectures, seminar, practicum, 3 hours per week.

EDUC 9F59

Junior education part III

A more intensive consideration of the teaching strategies, evaluation techniques, and curricular concerns examined in EDUC 9F57 and 9F58 with a focus on the leadership skills involved in the professional development of teachers, the principles of curriculum construction, and the diagnosis and remediation of learning difficulties.

Prerequisite: EDUC 9F58.

Not open to students with credit in EDUC 460.

Lectures, seminar, practicum, 3 hours per week.

EDUC 9F61

Computers in the classroom part I

An introduction to the microcomputer and its educational application for the classroom teacher; the architectural, historical and pedagogical aspects of microcomputers; basic computer literacy; elementary program development; students will select, review, modify, and field test educational computer courseware.

Not open to students with credit in EDUC 473hc, 474hc.

Open to certified teachers or permission of the department chair.

Lectures, seminar, practicum, 3 hours per week.

EDUC 9F62

Computers in the classroom part II

A continuation of EDUC 9F61.

Further development of computer literacy and programming skills; instruction and practice in designing and evaluating courseware and networking. The major project will involve self-designed courseware.

Prerequisite: EDUC 9F61.

24 3-hour lab sessions.

EDUC 9F63

Computers in the classroom part III

More advanced techniques in the evaluation, design and production of computer-aided learning materials.

Instruction and practice in advanced programming, troubleshooting, and systems design. The major project will involve a systems design.

Prerequisite: EDUC 9F62.

24 3-hour lab sessions.

EDUC 9F64

Guidance part I

An introduction to guidance based on Ministry of Education curriculum guidelines; guidance for human development; interpersonal skills and human relations; counselling theories and approaches; group techniques and the information process.

Open to certified teachers or permission of the department chair.

Lectures, seminar, practicum, 3 hours per week.

EDUC 9F65

Guidance part II

A continuation of EDUC 9F64.

Effective utilization of group processes; the importance of career and educational planning; counselling techniques.

Prerequisite: EDUC 9F64.

Lectures, seminar, practicum, 3 hours per week.

EDUC 9F66

Guidance part III

Development of strategies, organization, and programs in guidance using school and community resources. Curriculum development and planning; marketing, co-ordinating, and evaluating guidance services; advanced

Education

the leadership skills involved in the professional development of teachers; principles of curriculum construction; the diagnosis and remediation of learning difficulties; the examination of relevant case studies and the pursuit of individual interests.

Prerequisite: EDUC 9F38.

Lectures, seminar, practicum, 3 hours per week.

EDUC 9F41

Physical and health education primary/junior part I

Activities and practices for teachers of the primary/junior grades, with attention to current theory and philosophy. The primary program and motor skills development; creative movement in dance and gymnastics; folk dance; health education and organizational procedures. Intramural activities, planned by students and faculty. Open to certified teachers or permission of the department chair.

Lectures, seminar, practicum, 3 hours per week.

EDUC 9F42

Physical and health education primary/junior part II

Fitness and activity sessions for children at the junior level including: movement education in dance and gymnastics, folk dance, orienteering and health. Intramural activities.

Prerequisite: EDUC 9F41.

Lectures, seminar, practicum, 3 hours per week.

EDUC 9F43

Physical and health education primary/junior part III

Program content and development; current problems, both personal and programmatic, and the development of leadership skills.

Prerequisite: EDUC 9F42.

Lectures, seminar, practicum, 3 hours per week.

EDUC 9F44

Physical and health education intermediate/senior part I

Activities and philosophies related to current practices at the intermediate

level; program development in dance, gymnastics, games; anatomy and athletic injuries; individual games activities suitable for these age levels. Intramural activities.

Open to certified teachers or permission of the department chair.

Lectures, seminar, practicum, 3 hours per week.

EDUC 9F45

Physical and health education intermediate/senior part II

Activities and philosophies related to the senior division; program development; teaching strategies in dance, gymnastics and games, appropriate health topics and the organization of suitable programs for the involvement of students at this level. Intramural sessions.

Prerequisite: EDUC 9F44.

Lectures, seminar, practicum, 3 hours per week.

EDUC 9F46

Physical and health education intermediate/senior part III

Advanced instruction in the organization and administration of physical and health education programs at the intermediate and senior levels. Curriculum development, teaching strategies, evaluation techniques, leadership and supervision.

Prerequisite: EDUC 9F45.

Lectures, seminar, practicum, 3 hours per week.

EDUC 9F47

Attendance counsellor

Important aspects of the attendance counsellor training program as defined by the Ministry of Education guidelines including: philosophy of attendance counsellor training; change agent theory and practice; counselling theory and practicum; developmental psychology; law and education.

Open to potential attendance counsellor candidates, practicing attendance counsellors, certified teachers, social workers, BEd candidates (limited enrolment). The program requirements may be met through the successful completion of a combination of

compulsory and elective courses. The following patterns reflect the combination of courses necessary to meet Ministry certification requirements. Not open to students with credit in EDUC 482.

Lectures, seminar, practicum, 3 hours per week.

EDUC 9F51

Visual arts part I

The scope of visual arts in general education at the elementary and secondary school levels; methodologies related to development in personal expression, awareness, appreciation, knowledge, perception, and skills in art, craft and design. The relationship of these methodologies to the total school experience of the student.

Open to certified teachers or permission of the department chair.

Lectures, seminar, practicum, 3 hours per week.

EDUC 9F52

Visual arts part II

Planning art programs for a divisional level. Topics will include studio workshops in media processes and design, methods of exhibition and art appreciation.

Prerequisites: EDUC 9F51.

Lectures, seminar, practicum, 3 hours per week.

EDUC 9F53

Visual arts part III

Curriculum design and implementation; leadership skills in managing a visual arts department, planning and conducting advanced level workshops in visual arts, and evaluating visual arts programs.

Prerequisite: EDUC 9F52.

Lectures, seminar, practicum, 3 hours per week.

EDUC 9F54

Religious education part I

An introductory course designed by OECTA/OSSTA, leading to an elementary certificate in religious education. Under the guidance of leaders who are both teachers and theologians, participants are invited to

program, to the school, and to the local and provincial system.

Prerequisite: EDUC 9F25.

Lectures, seminar, practicum, 3 hours per week.

EDUC 9F27

Teacher-librarianship part I

The role of school librarian in the teaching program of the school; organizing resource materials, operating A/V equipment, selecting suitable reference and resource materials; providing instruction and guidance to students on the selection of appropriate materials for research, recreational, and informational needs.

Open to certified teachers or permission of the department chair.

Lectures, seminar, practicum, 3 hours per week.

EDUC 9F28

Teacher-librarianship part II

A continuation of EDUC 9F27.

Foundations for management of library programs; instruction and guidance in interpreting and utilizing aural and visual media. The selection, organization, circulation, and utilization of picture books, government publications, newspapers, and pamphlets as well as film and text.

Prerequisite: EDUC 9F27.

Lectures, seminar, practicum, 3 hours per week.

EDUC 9F29

Teacher-librarianship part III

The development of strategies, organizations, and programs using community and other resources beyond the school. Curriculum design principles and selection policies for a school library. Design and evaluation of library programs and facilities.

Prerequisite: EDUC 9F28.

Lectures, seminar, practicum, 3 hours per week.

EDUC 9F31

Environmental science part I

The development and implementation of courses of study and learning experiences in environmental science within the community, neighborhood and outdoor areas to which a school has access.

Open to certified teachers or permission of the department chair.

Not open to students with credit in EDUC 471.

Lectures, seminar, practicum, 3 hours per week.

EDUC 9F32

Environmental science part II

A continuation of EDUC 9F31.

Planning programs of environmental science (outdoor education) in a K to OAC continuum with emphasis on implementation at the three divisional levels.

Prerequisite: EDUC 9F31.

Lectures, seminar, practicum, 3 hours per week.

EDUC 9F33

Environmental science part III

The organization, administration and supervision of environmental science programs; their design, development and implementation in elementary and secondary schools.

Prerequisite: EDUC 9F32.

Lectures, seminar, practicum, 3 hours per week.

EDUC 9F34

Family studies part I

An introduction to family studies based on Ministry of Education curriculum guidelines. Topics will include: social trends affecting individuals and families, curriculum trends and concept development, examining and organizing programs in family studies at the elementary/secondary levels, and the place of family studies in the total school curriculum.

Open to certified teachers or permission of the department chair.

Lectures, seminar, practicum, 3 hours per week.

EDUC 9F35

Family studies part II

A continuation of EDUC 9F34.

The foundations and development of family studies programs; the selection and utilization of suitable reference and resource materials from the community for the preparation and teaching of units of study in family studies.

Prerequisite: EDUC 9F34 and at least three university credits in any of the

related areas (child and family development, management and consumer economics, housing and interior design, clothing and textiles, foods and nutrition).

Lectures, seminar, practicum, 3 hours per week.

EDUC 9F36

Family studies part III

Strategies, organization and programs in family studies using school and community resources with attention to designing, implementing and evaluating family studies programs.

Prerequisite: EDUC 9F35 and a minimum of five university credits from the five areas outlined in EDUC 9F35.

Lectures, seminar, practicum, 3 hours per week.

EDUC 9F37

Primary education part I

Basic teaching strategies in the various subject areas; a consideration of curriculum matters of concern to primary teachers, and the development of skills associated with a recognized system of interpersonal relationships. Open to certified primary grade teachers.

Lectures, seminar, practicum, 3 hours per week.

EDUC 9F38

Primary education part II

An extension of EDUC 9F37; an overview of current principles of child development and learning; a more detailed examination of curricula, and a finer analysis of the techniques of instruction and evaluation. An opportunity will be provided to concentrate on one specific area of the curriculum (communications, environmental studies, or arts).

Prerequisite: EDUC 9F37.

Lectures, seminar, practicum, 3 hours per week.

EDUC 9F39

Primary education part III

A more intensive consideration of the teaching strategies, evaluation techniques, and curriculum concerns examined in EDUC 9F37 and 9F38;

Education

levels. Classes and assignments will include studies of Ministry guidelines, language development, curriculum and unit development, language materials, and visits to immersion classes.

Prerequisite: EDUC 9F11.

Lectures, seminar, practicum, 3 hours per week.

EDUC 9F13

Teaching French as a second language part III

Advanced techniques for programs at the primary, junior, and intermediate divisions in teaching French as a second language. Studies will be made of leadership skills and styles, program organization, professional development and sequencing of programs.

Prerequisite: EDUC 9F12 and a transcript showing at least five credits in French at the university level.

Lectures, seminar, practicum, 3 hours per week.

EDUC 9F14

Music--vocal primary/junior part I

Concepts of music including: singing, listening, reading, playing, creating, moving, and dramatizing; the tonic solfa method. Concentration will be at the primary level.

Open to certified teachers as well as other interested qualified individuals who qualify by successful completion of an oral and written test.

Lectures, seminar, practicum, 3 hours per week.

EDUC 9F15

Music--vocal primary/junior part II

Teaching strategies and materials required for a well-balanced classroom music program. Planning a one-year curriculum that provides for continuity in the development of musical skills and the understanding of concepts. Concentration will be at the junior level.

Prerequisite: EDUC 9F14.

Lectures, seminar, practicum, 3 hours per week.

EDUC 9F16

Music--vocal primary/junior part III

The organization and administration of music programs in a variety of school

settings in the primary and junior divisions; curriculum building, the selection of materials and resources, choral repertoire and vocal techniques for performance. Contemporary approaches to music education will be examined and compared.

Prerequisite: EDUC 9F15.

Lectures, seminar, practicum, 3 hours per week.

EDUC 9F17

Science education primary/junior part I

An introduction to the teaching of science in the primary and junior divisions based on Ministry of Education curriculum guidelines. The development of teaching models, programs, materials and their evaluation.

Open to certified teachers or permission of the department chair.

Lectures, seminar, practicum, 3 hours per week.

EDUC 9F18

Science education primary/junior part II

A continuation of EDUC 9F17.

Planning programs in primary/junior science with emphasis on implementing learning strategies; evaluating the science component of a balanced and integrated program at the primary/junior division level.

Prerequisite: EDUC 9F17.

Lectures, seminar, practicum, 3 hours per week.

EDUC 9F19

Science education primary/junior part III

The study of leadership skills in the organization, administration and supervision of science education program for the primary/junior division.

Prerequisite: EDUC 9F18.

Lectures, seminar, practicum, 3 hours per week.

EDUC 9F21

Reading part I

An introduction to the language processes of reading and writing.

Basic assessment procedures and the

improvement of reading skills.

Open to certified teachers or permission of the department chair.

Lectures, seminar, practicum, 3 hours per week.

EDUC 9F22

Reading part II

A more detailed study of the components involved in the reading act and the techniques used in the diagnosis and remediation of reading problems.

Prerequisite: EDUC 9F21.

Lectures, seminar, practicum, 3 hours per week.

EDUC 9F23

Reading part III

Advanced instruction in the theory and practice of reading instruction; the design and implementation of reading programs.

Prerequisite: EDUC 9F22.

Lectures, seminar, practicum, 3 hours per week.

EDUC 9F24

Industrial arts part I

Laboratory-centred activity on material and processes; an analysis of curriculum theory as it applies to industrial arts programs. Topics include safety, drafting and sketching, wood and plaster fabrication, metal fabrication, and applied design.

Open to certified teachers or permission of the department chair. Candidates will be required to pass the Manufacturing Area, Trade Test B.

Lectures, seminar, practicum, 3 hours per week.

EDUC 9F25

Industrial arts part II

Laboratory-centred activity focusing on the processes of project design and curriculum development in order to produce units of study for various types of courses in industrial arts.

Prerequisite: EDUC 9F24.

Lectures, seminar, practicum, 3 hours per week.

EDUC 9F26

Industrial arts part III

Organization and curriculum development as they apply to the industrial arts

EDUC 8Y32

Primary/junior social and environmental studies

An active, inquiry approach to the teaching of social and environmental studies in grades K - 6 as indicated in the Ministry's curriculum guidelines. Two hours alternate weeks.

EDUC 8Y34

Primary/junior art

Planning and instructing at the primary/junior level; studio skills and art forms appropriate for school use; the teacher's role in meeting the needs and capabilities of the young child as artist. No visual arts background is required. Two hours alternate weeks.

EDUC 8Y35

Primary/junior music

The music program at the primary/junior levels; designed primarily for students with no academic background in music to prepare them to teach music in their own classrooms (K-6). Two hours alternate weeks.

EDUC 8Y36

Primary/junior physical education

Ways of teaching and organizing physical education activities for grades 1-6 pupils in accordance with Ministry and Board curriculum guides. Two hours alternate weeks.

(In-service courses)

Courses numbered 9(alpha)00 or above are for students in the BEd Route II program. Five credits are required, three of which must be in a specialized series.

EDUC 9F01

Adult education

The needs and characteristics of adult learners and the social systems established to assist them. Preparing learning materials, planning, implementing, and evaluating programs; consulting and communicating effectively with adult learners.

Prerequisite: Ontario Teacher's Certificate.

Not open to students with credit in EDUC 494.

Lectures, seminar, practicum, 3 hours per week.

EDUC 9F02

Assessment of teaching performance

Counselling, supervision and evaluation of student teacher performance. The practicum component allows associate teachers to work with student teachers enrolled in the Pre-Service program at the Faculty of Education. Not open to students with credit in EDUC 470.

Open to certified teachers.

Lectures, seminar, practicum, 3 hours per week.

EDUC 9F03

Childhood education

Evaluation of the child aged four to six, six to eight, or four to eight. Topics include: characteristics of developmental stages, appropriate learning environments, curriculum and evaluation techniques; additional topics include multicultural education, sex role stereotyping, early identification of special learning problems, child abuse and community school relations. Open to certified teachers or permission of the department chair. Not open to students with credit in EDUC 432.

Lectures, seminar, practicum, 3 hours per week.

EDUC 9F04

Integrated arts

The contribution of the arts towards a balanced school program in the primary and junior grades. The development of curriculum and teaching strategies that foster awareness and appreciation of the arts (drama, music, physical education and visual arts) individually and collectively.

Open to certified teachers or permission of the department chair.

Not open to students with credit in EDUC 457.

Lectures, seminar, practicum, 3 hours per week.

EDUC 9F05

Law education

Designed to assist teachers who are either currently teaching or who plan to teach the subjects: law intermediate/senior division, business law or Canadian and world concerns courses.

An examination of the content, organization and teaching methodology for the study of law at the secondary school level.

Open to teachers and administrators. Lectures, seminar, practicum, 3 hours per week.

EDUC 9F06

Entrepreneurial studies

Designed for teachers who are presently teaching or who plan to teach entrepreneurial studies. An examination of the content, organization and teaching methodology for the study of entrepreneurship at the secondary level. Open to teachers and school administrators.

Lectures, seminar, practicum, 3 hours per week.

EDUC 9F07

Teaching Mohawk/Cayuga

Teaching Mohawk and/or Cayuga as an ancestral language for the purposes of retention and maintenance; the collection of language samples and preparation of teaching aids.

Open to certified teachers with proficiency in either language adequate for teaching at a beginning level.

Lectures, seminar, practicum, 3 hours per week.

EDUC 9F11

Teaching French as a second language part I

Teaching French as a second language as outlined in the Ministry's curriculum guidelines for the primary, junior, and intermediate divisions; the aims of the French program in Ontario schools; methodology; an introduction to linguistics; audio-visual devices; demonstration classes and practice teaching. Open to certified teachers as well as other interested qualified individuals who qualify by successful completion of an oral and written test. Lectures, seminar, practicum, 3 hours per week.

EDUC 9F12

Teaching French as a second language part II

Teaching French as a second language in core and immersion programs at the primary, junior, and intermediate

Education

EDUC 8P83

Science - intermediate/senior

Teaching science in the intermediate and senior division; Ministry, Board and school curriculum documents and other resources are examined.

Two hours per week.

EDUC 8P84

Visual arts - intermediate/senior

Studio activity, skills and art forms appropriate for students in grades 7-OAC; course planning and teaching methods for group and individual activities in the classroom.

Experience or course work in studio art is a helpful background.

Two hours per week.

EDUC 8P86

Science - biology - intermediate/senior

Teaching biology in secondary schools; Ministry, Board and school curriculum documents and other resources are examined.

Two hours per week.

EDUC 8P87

Science - chemistry - intermediate/senior

Teaching chemistry in secondary schools; Ministry, Board and school curriculum documents and other resources are examined.

Two hours per week.

EDUC 8P88

History - intermediate/senior

The nature of history in the secondary school program. Emphasis on development of history skills, curriculum design, analysis of subject guidelines from grade 7 - OAC.

Not open to students with credit in EDUC 8P79.

Two hour per week.

EDUC 8P89

Political science - intermediate/senior

The nature of political science in the secondary school program. Focus on development of skills in political science, curriculum design, analysis of subject guidelines for secondary school.

Not open to students with credit in

EDUC 8P79.

Two hours per week.

EDUC 8Y04

Current trends and issues in special education

Current legislation and recent developments related to the education of exceptional students.

Required.

Lectures, seminar, practicum, 2 hours per week.

EDUC 8Y05

The education enterprise

An analysis of contemporary theories, issues, and innovations in education.

Investigation of the relationship between philosophical principles and the aims of education evidenced in selected educational systems. Study of the acts and regulations regarding education.

Required.

Lectures, seminar, practicum, 2 hours per week.

EDUC 8Y20

Junior/intermediate language arts

An integrative approach to spoken and written language in the classroom.

Various methodologies are examined in relation to current Ministry guidelines and changing views of language teaching.

Two hours alternate weeks.

EDUC 8Y21

Junior/intermediate mathematics

Teaching mathematics at the junior and intermediate levels; looking at materials, games, individualized programs and workshop methods of teaching mathematics.

Two hours alternate weeks.

EDUC 8Y22

Junior/intermediate social studies

Objectives, format, structure, strategies and evaluation of social studies in the junior and intermediate divisions stressing teaching techniques for social studies courses.

Two hours alternate weeks.

EDUC 8Y23

Junior/intermediate science

A practical approach to recent theories in science education, to instruction procedures and handling of science materials in the classroom, laboratory and the field. Interpretation of the Ontario science curriculum.

Two hours alternate weeks.

EDUC 8Y24

Junior/intermediate art

Planning and instructing in grades 4 - 10 with emphasis on art as a school discipline; the teacher's role in meeting the needs of the pre-adolescent. No visual arts background is required.

Two hours alternate weeks.

EDUC 8Y25

Junior/intermediate music

Basic musicology for grades 4-8. No academic background in music is required. Emphasis placed on grades 4 - 6.

Two hours alternate weeks.

EDUC 8Y26

Junior/intermediate physical education

Physical education for grades 4-10; setting up programs, planning and organizing lessons, gymnasium procedures, encouraging participation, evaluation procedures.

Two hours alternate weeks.

EDUC 8Y27

Junior/intermediate reading

The development of reading in middle childhood and its relationship to language. Teaching techniques, curriculum guidelines, comprehension and diagnosis and remediation of reading difficulties.

Two hours alternate weeks.

EDUC 8Y31

Primary/junior mathematics

The ways in which a child learns mathematics and the uses of mathematics for today's child, grades 1-6.

Two hours alternate weeks.

Focus on the four components of communication: listening, speaking, reading and writing.
Two hours per week.

EDUC 8P38
Special topics in primary/junior education
Topics selected from year to year on the basis of specific areas of instructional expertise and candidate interest.
Two hours per week.

EDUC 8P65
Marketing and merchandising - intermediate/senior
Teaching methods and curriculum materials for marketing and merchandising courses in the secondary schools of Ontario.
Not open to students with credit in EDUC 8P71.
Two hours per week.

EDUC 8P66
Secretarial studies - intermediate/senior
Teaching methods and curriculum materials and other resources for secretarial studies courses in Ontario secondary schools.
Not open to students with credit in EDUC 8P71.
Two hours per week.

EDUC 8P67
Accounting - intermediate/senior
Teaching methods and curriculum materials for accounting courses in secondary schools.
Not open to students with credit in EDUC 8P71.
Two hours per week.

EDUC 8P68
Data processing - intermediate/senior
Teaching methods and curriculum materials for courses in data processing in the secondary schools.
Not open to students with credit in EDUC 8P71.
Two hours per week.

EDUC 8P69
Science - physics - intermediate/senior
Teaching physics in secondary schools; Ministry, Board and school curriculum

documents and other resources are examined.
Two hours per week.

EDUC 8P70
Intermediate basics
Specific teaching and evaluation strategies appropriate to selected units of the grades 7 and 8 core curriculum. The principles and perspectives that underlie the curriculum guidelines of the intermediate division (grades 7-10) with emphasis on the transition years and on general and basic levels.
Required.
Two hours per week.

EDUC 8P72
Computer science - intermediate/senior
Implementing computer science skills and methods of instruction in a secondary classroom; integrating use of the computer into any department; detailed look at computer science and technology.
Two hours per week.

EDUC 8P73
Theatre arts - intermediate/senior
The purposes of a theatre program in schools and the practice of skills required for managing a theatre class. Some practical experience in theatre work or some formal training at the post-secondary level is required.
Two hours per week.

EDUC 8P74
English (first language) - intermediate/senior
The development of teaching methodology and a personal philosophy of education through active participation and preparation of course material; may include research on the development of curricular units that deal with poetry, the short story, the novel, use and impact of the media.
Two hours per week.

EDUC 8P75
Family studies - intermediate/senior
The content, methodologies and resources for teaching grades 7-OAC in the areas of food and nutrition, clothing and textiles, management, the family and the child, housing.
Two hours per week.

EDUC 8P76
French as a second language - intermediate/senior
The theory of and approaches to teaching and learning a second language; the methodological approaches involved in teaching French as a second language at the intermediate and senior levels.
Four hours per week.

EDUC 8P77
Geography - intermediate/senior
Development of a working knowledge of the skills, procedures and content involved in teaching geography at the secondary school level. Student participation is a major expectation.
Two hours per week.

EDUC 8P78
German - intermediate/senior
The techniques of teaching German in grades 9-OAC; design, curriculum documents, lesson planning, evaluation of a student's work, and the place of the language teacher in the school system.
Two hours per week.

EDUC 8P80
Italian/Spanish - intermediate/senior
The theory of and approaches to teaching and learning a second language; the methodological approaches involved in teaching Italian/Spanish at the intermediate and senior levels.
Two hours per week.

EDUC 8P81
Mathematics - intermediate/senior
Teaching techniques and curriculum materials in mathematics with some focus on teaching mathematics to general level students.
Two hours per week.

EDUC 8P82
Physical and health education - intermediate/senior
The philosophy of physical and health education in grades 7-OAC; limitations on the physical education program, management in the different learning areas, curriculum and teaching methods, and use of audio-visual aids in health education.
Two hours per week.

Education

EDUC 4F02

Research methodology and project (also offered as TESL 4F02)

Examination of qualitative and quantitative research design options, with special emphasis on the study of language, language policy, and language learning/acquisition. Lectures and seminars to promote research literacy and to provide background for preparation (with a faculty advisor) of a project reflecting the qualities of publishable primary research in the realm of applied language study. Prerequisite: TESL 1F91, 2F60 or permission of the chair.

Co-requisite: TESL 4F01, 4F03, 4F04, 4F05 or permission of the chair. (Does not lead to Ministry of Education qualification to teach in the province of Ontario.) Lectures, seminar, 3 hours per week.

EDUC 4F03

Comprehension and production in second-language acquisition (also offered as TESL 4F03)

Theories and methods related to the teaching of English pronunciation and listening comprehension skills. To be considered are the role of contrastive analysis, error analysis and interlanguage, as well as techniques derived from generative phonology. The comprehension-based approach to second-language teaching and the advantages and limits of the language lab will be discussed.

Prerequisite: TESL 1F91, 2F50 or permission of the chair. Co-requisite: TESL 4F01, 4F02, 4F04, 4F05 or permission of the chair. (Does not lead to Ministry of Education qualification to teach in the province of Ontario.) Lectures, seminar, 3 hours per week.

EDUC 4F04

Curriculum design, methodology and practicum

(also offered as TESL 4F04)
An extension of introductory work in TESL 1F91. Examination of the theoretical and historical factors influential in the development of second-language curricula since 1960. A project in second-language course

design during the first term. Practical application of second-language teaching methods and approaches. Micro-peer teaching sessions, observation and teaching practice in Brock's Intensive English Language program. Prerequisite: TESL 1F91 or permission of the chair.

Co-requisite: TESL 4F01, 4F02, 4F03, 4F05 or permission of the chair. (Does not lead to Ministry of Education qualification to teach in the province of Ontario.) Lectures, seminar, practice teaching, 3 hours per week.

EDUC 4F05

Reading in a second language (also offered as TESL 4F05) (formerly TESL 3F93)

Various methodologies for reading instruction. Fundamental principles and strategies for teaching and studying second-language reading. Opportunities will be provided for students to develop skills in reading assessment, instruction and evaluation. Attention will be devoted to techniques for the analysis and implementation of second-language reading programs.

Prerequisite: TESL 1F91 or permission of the chair. Co-requisite: TESL 4F01, 4F02, 4F03, 4F04 or permission of the chair. Not open to students with credit in TESL 3F93. (Does not lead to Ministry of Education qualification to teach in the province of Ontario.) Lectures, seminar, 3 hours per week.

(Pre-service courses)

Courses designated EDUC 8(alpha) 00 or above are for students enrolled in the BEd Route I program. In addition to the required courses, students must select a minimum number of methods courses according to the level at which they seek certification.

EDUC 8D09

Field studies, individualized instruction, and practicum

Practical experience in observing and teaching in schools. These are inte-

grated with courses, counselling groups, and teaching centre activities. Students will be guided in practice teaching for ten weeks distributed throughout the year. Successful completion of the in-school practice teaching is essential to this course.

Required.

Lectures, seminar, 5 1/2 hours per week, plus practicum.

EDUC 8F08

Teaching techniques for the classroom

The components of the teaching act are identified and presented in a modular format. The student is guided through a series of specified tasks to practise and gain mastery in each of the required teaching skills.

Required.

Lectures, seminar, 4 hours per week, plus practicum.

EDUC 8P06

Classroom dynamics - teaching and learning

Basic principles of child development and learning which guide the teacher in making decisions about classroom performance. Among the topics explored are perception of self, motivation, conditioning, cognition, intelligence and creativity, and general principles of human development and behavior modification. Modular approach with lecture, independent study, seminar simulations, and guided classroom observations.

Required.

Lectures, seminar, practicum, 2 hours per week.

EDUC 8P28

Special topics in junior/intermediate education

Topics selected from year to year on the basis of specific areas of instructional expertise and candidate interest. Two hours per week.

EDUC 8P30

Primary/junior language arts and reading

The objectives, structure and current approaches to the teaching of language and reading at the elementary level.

EDUC 2F01**School learning**

(also offered as CHST 2F01)

The psychological processes involved in learning in a school setting. Current cognitive theories of learning will be applied to examples in each of the major school subject areas with emphasis on the specific nature of the learning associated with each subject. Other topics may include individual differences and problems in evaluating school learning.

Co-requisite: CHST 2F10 or EDUC 1F90 or PSYC 2F12 or 2F20.

Lectures, seminar, 3 hours per week.

EDUC 3F01**The process of teaching**

An introduction to the study of teacher behavior through a systematic exploration of the assumptions, educational purposes, teaching strategies, curricular designs and materials, and the social and psychological theory underlying selected models of teaching. A critical examination of the alternate patterns upon which teachers may model their behavior. Students will be required to familiarize themselves with current educational concepts and recent literature in the field.

Lectures, seminar, 3 hours per week.

(EDUC 3F01 is a recommended prerequisite for EDUC(CHST) 3F50.)

EDUC 3P49**Focus on early childhood education part I**

(also offered as CHST 3P49)

(formerly part of EDUC(CHST)3F50)

Early childhood education programs for children from birth to age eight.

Topics include the historical and societal influences on early childhood education, an examination of program models derived from theories of learning and child development, and research on the effectiveness of these programs.

Open only to BA/BEed students.

Enrolment limited to 65 students. If necessary, further sections may be opened.

Prerequisite: CHST 2F10.

Not open to students with credit in EDUC(CHST) 3F50 or 3P50.

Lectures, seminar, 3 hours per week.

EDUC 3P50**Focus on early childhood education part I**

(also offered as CHST 3P50)

Early childhood education programs for children from birth to age eight.

Topics include the historical and societal influences on early childhood education, an examination of program models derived from theories of learning and child development, and research on the effectiveness of these programs.

Enrolment limited to 65 students. If necessary, further sections may be opened.

Prerequisite: CHST 2F10.

Not open to students with credit in EDUC(CHST) 3F50 or 3P51.

Lectures, seminar, 3 hours per week.

EDUC 3P52**Focus on early childhood education part II**

(also offered as CHST 3P52)

(formerly part of EDUC(CHST) 3F50)

Methods in early childhood education programs for children from birth to age eight. Topics include a detailed examination of curricula, instructional strategies, and evaluative techniques.

Students will be involved in a field placement working with young children in a community setting.

Enrolment limited to 25 students, to be determined by academic standing.

Prerequisite: EDUC(CHST)3P49 or 3P50.

Not open to students with credit in EDUC(CHST)3F50.

Lectures, lab/seminar, 4 hours per week.

EDUC 3F99**Advanced project in educational studies**

Reading, writing and research skills relative to education. A qualifying research paper will be produced in one of several areas such as curriculum theory or design, teacher behavior or educational administration. The paper will be based on a critical examination of educational research accomplished through reviews of educational literature. Some emphasis will be placed upon presentation and discus-

sion of the educational theory presented in the paper.

Prerequisite: approval of the department of Graduate and Undergraduate Studies in Education.

Not available for undergraduate credit

(Not open to students with credit in EDUC 495.)

EDUC 4P01**Mathematical and scientific learning and teaching**

Childrens' mathematical and scientific thinking is examined in relation to developments in cognitive science, together with instructional strategies, materials and evaluation procedures. Topics include developmental perspectives on childrens' scientific reasoning, general vs. domain-specific problem solving, the role of individual differences and learning styles, cognitive process evaluation methods, computer applications in mathematics and science instruction. A school-based practicum is required.

Prerequisite: admission to the BSc/BEed program.

Lectures, seminar, 3 hours per week.

(TESL Courses)**EDUC 4F01****From grammar to writing in a second language**

(also offered as TESL 4F01)

Study of the role of grammar in second-language acquisition; theories and analyses of grammar and their relationship to ESL teaching practices; exploitation of syntactic principles in teaching methodology; study of models for writing and their implications for teaching and learning writing in ESL.

Prerequisite: TESL 1F91 or permission of the chair.

Corequisite: TESL 4F02, 4F03, 4F04, 4F05 or permission of the chair. (Does not lead to Ministry of Education qualification to teach in the province of Ontario.)

Lectures, seminar, 3 hours per week.

Education

Program requirements

Route II

Candidates entering Route II are required to complete a minimum of five credits numbered EDUC 9(*alpha*)00 or above, of which a minimum of three will be in a specialized area of study. Specialized areas of study may be identified in the course descriptions by sequential titling, e.g. EDUC 9F11, Teaching French as a second language, part I; EDUC 9F12, Teaching French as a second language, part II; and EDUC 9F13, Teaching French as a second language, part III. Students who already hold the OTC and who successfully complete courses numbered 9(*alpha*) 00 or above will be recommended to the Ontario Ministry of Education for appropriate endorsement of the OTC.

Normally, candidates in this program will hold an Ontario Teacher's Certificate and an acceptable undergraduate degree. Candidates holding neither of the above qualifications may be admitted as special students. Special students will not receive Ministry recognition for courses taken prior to holding the Ontario Teacher's Qualifications Certificate or Temporary Letter of Standing. University regulations require that a copy of the Ontario Teacher's Qualifications Record Card be on file, and, for those students proceeding toward the BEd Route II degree, an official copy of a transcript showing an appropriate university degree.

Students should note that the number of hours required for successful completion of these courses is in excess of the number of hours normally allocated to a one credit course at Brock. The increase is required to satisfy the practicum component.

N.B. All Continuing Studies courses have minimum and maximum enrolments. Courses with enrolments of fewer than 20 students may be cancelled. Candidates are encouraged to apply early. For further information

and details of Route II programs, candidates should consult the chair, department of Continuing Studies.

BEd as a first degree

(Does not lead to Ontario certification.)

Admission requirements

BEd Route III

Generally speaking, the admission requirements for admission to the BEd (Route III) are the same as those for admission to other undergraduate degrees offered by the University. In addition, the department of Graduate and Undergraduate Studies normally requires that candidates provide evidence of sustained and continuing career interest in an education related occupation. Interested candidates should first contact the chair of the department of Graduate and Undergraduate Studies in the Faculty of Education.

Program requirements

Route III

Programs of study are individually approved by the department of Graduate and Undergraduate Studies and are usually greater than the minimum requirements outlined below, dependent on the applicant's background. The minimum requirement is ten credits including the following:

Five arts and/or science credits beyond introductory or first-year level;

Three credits beyond introductory or first-year level from the Faculty of Education or others as approved by the department of Graduate and Undergraduate Studies; and

EDUC 3F99, study undertaken with the guidance and supervision of an assigned faculty adviser.

Note: Should a student's program include graduate courses in education,

such courses carry credit for the BEd degree only.

Description of courses

Please note that not all courses are offered in every session. Refer to the applicable term timetable for details.

(Undergraduate courses)

EDUC 1F90, 2F00, 2F01, 3F01, 3P49, 3P50, and 3P52 are available either as electives or as part of a general or integrated studies program. Participants need not be teachers nor do they need to take these courses to enter a teacher certification program.

A maximum of five credits towards a pass BA or BSc and seven credits towards an honors BA or BSc degree may be taken from Business, Teaching English as a Second Language or designated Education, Physical Education or Recreation courses.

For a General Studies degree, Education may only be used as a minor concentration (the three credit component) and only in a pass degree.

EDUC 1F90

Introduction to education studies

Major issues and problems in the organization, staffing, and planning of schools and school services today. Lectures, seminars, 3 hours per week.

EDUC 2F00

Curriculum theory and design

Curriculum as a conceptual framework which guides decisions about education purposes, teaching, learning and evaluation. Various traditional and progressive theoretical perspectives will be discussed and opportunities provided to apply the principles of instructional design.

Prerequisite: a course in cognitive or developmental psychology or one year of classroom teaching or an ECE diploma, or permission of the instructor.

Lectures, seminar, 3 hours per week.

(c) Intermediate/senior compulsory -
EDUC 8P70 Intermediate basics

two electives from:

- EDUC 8P72 Computer science - intermediate/senior
- EDUC 8P73 Theatre arts - intermediate/senior
- EDUC 8P74 English (first language) - intermediate/senior
- EDUC 8P75 Family studies - intermediate/senior
- EDUC 8P76 French as a second language - intermediate/senior
- EDUC 8P77 Geography - intermediate/senior
- EDUC 8P78 German - intermediate/senior
- EDUC 8P80 Italian and Spanish - intermediate/senior
- EDUC 8P81 Mathematics - intermediate/senior
- EDUC 8P82 Physical and health education - intermediate/senior
- EDUC 8P83 Science - intermediate/senior
- EDUC 8P84 Visual arts - intermediate/senior

In addition to the above requirements the Faculty offers a number of non-credit elective courses which are mounted in order to meet with student interest and professional need. Typical offerings include: audio visual, computer literacy, drama, guidance, outdoor education, religion (R.C.), religion (other).

Candidates who successfully complete one of the patterns described above will be recommended to the Ministry of Education, Government of Ontario, for the award of an Ontario Teacher's Certificate. For full-time students, these courses are co-requisite and must be taken concurrently. Students will, in consultation with their faculty adviser, choose elective courses as may be appropriate to their academic background and professional plans. An essential part of the pre-service program is visitation to schools for observation and practice teaching. A student whose performance in practice teaching is recorded as seriously inadequate will be assessed by the co-

ordinator of student teaching or his/her designate. The result of this assessment will determine eligibility to proceed with practice teaching. In the interest of the pupils' welfare, the Faculty will exercise the responsibility to remove a student from the classroom where performance so warrants.

Note: Though placements for practice teaching will be arranged by faculty, transportation for these visits, many of which require the use of a car, is the responsibility of the student.

For further information regarding the Route I program, candidates should contact the chair, Pre-Service department.

Continuing studies

Admission requirements

BEd Route II

Candidates for admission are required to hold an undergraduate degree acceptable to Brock University or the OTC. Candidates who hold the OTC but who have not completed the requirements for an undergraduate degree may be admitted to Route II and complete the requirements for the BEd. The conferring of the degree will be withheld until evidence of the attainment of the undergraduate degree is presented to the Office of the Registrar.

Note:

The BEd Route II degree does not lead to the basic teacher certification (OTC) in Ontario. Those interested in obtaining the Ontario Teacher's Certificate should refer to the BEd Route I program.

All candidates admitted to the BEd (Route II) should note, however:

- 1) transcripts showing work completed towards the degree will be available from the Office of the Registrar;
- 2) recommendation to the Ministry of Education for endorsement of the OTC

is not dependent on a candidate's completing the total requirement for the BEd degree;

3) EDUC courses numbered 9(*alpha*)00 and above may not be used for initial basic certification (OTC) purposes.

Advanced standing

Candidates for admission to Route II may be granted advanced standing in one credit at the time of initial application. Advanced standing will be based on the relationship between work already completed and the content of courses required for the Brock degree. Advanced standing will not be granted on the basis of courses credited towards a completed degree or diploma unless such courses have been taken as electives beyond the minimum requirement for the degree or diploma. Students completing continuing studies courses prior to June 30, 1979 cannot count these courses towards the BEd Route II degree. For further information, contact the chair, department of Continuing Studies.

Note Re: QECO

The University has been advised that the Qualifications Evaluation Council of Ontario (QECO) normally accepts each course in the BEd (Route II) program as either a university credit or a Ministry course credit depending upon how the individual wishes the course applied. However, the University cannot guarantee the applicability of any specific course to QECO insofar as salary evaluation is concerned. Students who have concerns in this regard should contact QECO directly.

Where Ministry of Education regulations require documentation of qualifications (i.e., experience, specialized employment), it is the responsibility of the student to provide this documentation to the chair of the department of Continuing Studies in the Faculty of Education. Documentation must be complete before any recommendation can be made to the Ministry.

Education

spoken and written English;

(e) attend an interview, and/or submit a written resume if requested.

Note: An applicant who is not a Canadian citizen or landed immigrant may be admitted to the program for a BEd degree. Such persons are eligible for the OTC program where they show evidence of authorization to work in teaching in Canada. Such persons receive a temporary letter of standing (O. Reg. 222/86).

Because of the highly integrated nature of the program, students who have pre-registered must be present for orientation on registration day.

A few students who have already completed part of their teacher training elsewhere may be accepted for the BEd/OTC on a part-time basis. For regulations and program details, see the department chair.

Program requirements

Route I

The student in Route I is expected to gain competence in the following main fields of study.

(i) a concentrated study of one of the following combinations:

Primary-Junior division
(Grade K-6)
Junior-Intermediate division
(Grades 4-10)
Intermediate-Senior division
(Grades 7-OAC)

A student who wishes to specialize at the junior/intermediate level must select a teachable subject at the junior/intermediate level. Teaching subjects offered are as follows:

Dramatic Arts
English
Environmental Science
French (second language)
Geography
History
Mathematics

Music--vocal
Physical and Health Education
Science--general
Visual Arts.

A student who wishes to specialize at the intermediate/senior level must select two teachable subjects at the intermediate/senior level. Teaching subjects offered are as follows:

Accounting
Data Processing
Marketing and Merchandising
Secretarial Studies
Computer Science
Dramatic Arts
English (first language)
Family Studies
French (second language)
Geography
German
History
Italian
Mathematics
Physical and Health Education
Science--general
Science--biology
Science--chemistry
Science--physics
Spanish
Visual Arts

N.B. For information concerning prerequisites for teaching subjects refer to the section on program admission requirements.

(ii) studies in Education including learning and development throughout the primary, junior, intermediate, and senior division;

(iii) teaching methods designed to meet the individual needs of pupils;

(iv) the acts and regulations respecting Education;

(v) a review of the curriculum guidelines related to all of the divisions and a study of curriculum development;

(vi) ten-weeks of practical experience in schools.

The program requirements may be met

through the successful completion of a combination of compulsory and elective courses.

The following patterns reflect the combination of compulsory and elective courses necessary to meet Ministry certification requirements.

Compulsory core for all students

EDUC 8D09 - Field studies, individualized instruction and practicum
EDUC 8F08 - Teaching techniques for the classroom
EDUC 8Y04 - Current trends and issues in special education
EDUC 8Y05 - The education enterprise
EDUC 8P06 - Classroom dynamics - teaching and learning

Teaching options

Depending on the selected concentration and subject background, each student will select from the following:

a) Primary/junior compulsory -
EDUC 8P30 Primary/junior language arts and reading
EDUC 8Y31 - Primary/junior mathematics
EDUC 8Y32 - Primary/junior social and environmental studies

two electives from:

EDUC 8Y34 Primary/junior art
EDUC 8Y35 Primary/junior music
EDUC 8Y36 Primary/junior physical education

(b) Junior/intermediate compulsory -

EDUC 8Y20 Junior/intermediate language arts
EDUC 8Y21 Junior/intermediate mathematics
EDUC 8Y22 Junior/intermediate social studies
EDUC 8Y23 Junior/intermediate science

two electives from:

EDUC 8Y24 Junior/intermediate art
EDUC 8Y25 Junior/intermediate music
EDUC 8Y26 Junior/intermediate physical education
EDUC 8Y27 Junior/intermediate reading

Year 2

Two credits in chosen science major (See Notes 1 & 2); one-half credit in MATH (MATH 1P94 for Chemistry or Physics majors, or MATH 1P98 for Biology or Geology majors); CHST 2F10; EDUC 8P06; one science elective credit from a department other than that taken in year 1.

Year 3

Two credits at the 2(alpha)90 level or higher in science major (See Notes 1 & 2); one-half credit at the 8Y00-level (8Y21 recommended as one); SCIE 3P91; one science elective credit (other than major area or those taken in years 1 or 2); one credit elective in EDUC at the year 2 or 3 level.

Year 4

EDUC 4P01, 8F08, 8D09; one curriculum credit as necessary for BEd requirements; one elective credit (HIST or ENGL recommended if not taken in year 1). This elective should be taken in the spring or summer session to allow for practice teaching in year 4.

Notes:

1. To select science major courses in years 2 and 3, students are advised to consult the chair of their chosen science major department.
2. Of the fifteen undergraduate credits, 3 credits must be at the 2(alpha)90 level or higher.

Concurrent General Studies BSc in Mathematics and BEd degree**Year 1**

MATH 1P12, 1P93, 1P95; PSYC 1F90; one of BIOL 1F90, CHEM 1P80, 1P81 or CHEM 1P90, 1P91, GEOL 1F95, PHYS 1F20, 1F25 or 1F90; EDUC 8Y04, 8Y05; humanities context credit.

Year 2

MATH 1P66 and 2F92 or 3F92; MATH 1P90, 1P98 or 2F94 (must be taken when offered); CHST 2F10; EDUC 8P06; one science credit from a department other than that chosen in year 1.

Year 3

Whichever of MATH 2F92 or 3F92 was not taken in year 2; whichever of MATH 1P90, 1P98 or MATH 2F94 whichever was not taken in year 2; MATH 3P91; two EDUC credits at the 8Y00-level (EDUC 8Y21 recommended); one science credit from a department not chosen in year 1 or 2; one year 2 or year 3 credit in EDUC.

Year 4

EDUC 4P01, 8F08, 8D09; one curriculum credit as necessary to fulfil BEd requirements; one elective credit (HIST or ENGL recommended if not taken in year 1). This elective should be taken in the spring or summer session to allow for practice teaching in year 4.

Pre-Service program**Admission requirements****BEd Route I**

Candidates are encouraged to have some experience in working with children and youth.

Enrolment in the Faculty of Education is limited to approximately 350 positions. Applicants must have completed the requirements for a bachelor's degree acceptable to Brock University prior to the beginning of classes in September. Selection will be based on the academic average of the best ten university credits and experience as submitted on the Brock Experience Profile form. Only candidates with a minimum B average (75 percent at Brock) on their top ten credits will be considered. The experience profile is a significant part of the selection process so applicants are asked to fill it out with care.

Applications must be received by December 15, 1991 to be considered and documentation should be received by that time for an applicant to be assured of consideration for the first round of offers in March, 1992. All required documentation including official transcripts and experience

profiles must be received by February 1, 1992.

(i) Primary/Junior (Grades K-6).

Candidates must have an area of concentration. Some preference will be given to primary/junior candidates with a major in Child Studies.

(ii) Junior/Intermediate (Grade 4 -10)

Candidates must have at least THREE credits in one of the teachable areas as listed under program requirements.

(iii) Intermediate/Senior (Grade 7-OAC)

Candidates must have at least FIVE credits in one teachable area and THREE credits in a second teachable area as listed under program requirements. Internship tutorials are features of the program.

Note: An extension of the secondary program is offered in cooperation with the University of Waterloo. Admission is limited to students enrolled at the *University of Waterloo with a major in French*. For details see the chair.

In addition to the general requirements outlined above, candidates for the OTC shall submit the following:

- (a) a certificate of birth or baptism, or other acceptable proof of the date and place of birth;
- (b) a certificate of change of name where applicable; in the case of a candidate who is a married woman who wishes to have her certificate issued in her married name, a certificate of marriage or other acceptable proof that she is the person referred to in the certificate or other document submitted under clause (a);
- (c) proof of freedom from active tuberculosis (O. Reg 407/78, s.2).

Candidates must also:

- (d) be able to demonstrate an acceptable level of fluency and accuracy in

Education

Bachelor of Education programs

The Faculty offers three routes leading to the conferring of the BEd degree.

Route I

Pre-Service program

A BEd program leading to Ontario Ministry of Education certification to teach in the province in the form of the Ontario Teacher's Certificate (OTC).

Route II

A BEd program open to educators wishing to further their professional education beyond the basic level in specialized areas. Although the program is designed specifically for those who already hold an undergraduate degree and the OTC, enquiries from those who possess equivalent* background are welcomed.

Under the condition noted in *program requirements*, candidates who hold the OTC at the time of their admission to the program and who successfully complete specified courses in the program will be recommended to the Ministry of Education for the endorsement of their OTC for additional qualifications.

*Equivalence to the OTC will be determined by the chair of the department of Continuing Studies. In general, possession of a teaching qualification valid in a publicly supported school system or a minimum of two years experience teaching in an educational setting for which teacher certification is not a prerequisite for employment would be considered as equivalent.

Route III

A BEd program leading to the awarding of the BEd as a first degree.

Concurrent pass BA/BEd program

Students in the BA/BEd program must

achieve a 75 percent average in their overall standing and must maintain a 75 percent overall average each year in all academic grade-marked courses. Students should also note that practice teaching may have to be scheduled in May and June of year 4.

The program consists of fifteen credits toward the BA and five teacher training courses over a four-year period but because of the structure of the EDUC courses, the credits are not evenly distributed across each year.

Year 1

EDUC 8Y04, 8Y05; PSYC 1F90; SOCI 1F90; one humanities and one science context credit.

Year 2

CHST 2F10; EDUC 8P06; one of MATH 1F92, PSYC 2F23, or SOCI 2F10; two elective credits.

Year 3

CHST 3F21, 3P11; EDUC 2F00 or 3F01; EDUC 8P30, 8Y31, 8Y32; two of EDUC 8Y34, 8Y35, 8Y36; one and one-half elective credits.

Year 4

CHST 3F41, 3P49; EDUC 8D09, 8F08; one and one-half elective credits.

N.B: It is advisable, because of the practice teaching blocks, to have taken the year 4 elective credits during or before year 3.

Students holding an early childhood education diploma with advanced standing in four and one-half credits, will normally take the following program.

Year 2

CHST 2F10; EDUC 2F00 or 3F01; one of MATH 1F92, PSYC 2F23, or SOCI 2F10; one science context credit, one elective credit.

Year 3

CHST 3F21, 3P11; EDUC 8P30, 8Y04, 8Y05, 8Y31, 8Y32; two of EDUC 8Y34, 8Y35, 8Y36; one and

one-half elective credits.

Year 4

CHST 3F41, 3P49; EDUC 8D09, 8F08; one and one-half elective credits.

Suggested electives for Child Studies majors

Recommended science electives are BIOL 1F25 and SCIE 1F20 or 1F30. Suggested non-science electives include CHST 2F01, 2F90, 2P94, 3F35, 3F96, 3P23, 3P36, 3P37, 3P52, 3P56, 3P60, 3P73, 3P74, 3P84, EDUC 2F00, 3F01, ENGL 2F10, EXST 2F50, 2F95, PHED 2P00, 2P02, 2P05, 2P07, 3P04, 3P07, PSYC 2F20, 2P94, RECL 1P00, 1P02, 1P06, SOCI 2P22, 2P52, THEA 2F10, 3F09. Relevant prerequisites must be met.

Concurrent pass BSc/BEd programs

This program is designed for those wishing to teach at the junior/intermediate grade levels. Students intending to teach mathematics and/or science at the secondary level should follow the normal major degree programs offered by the Faculty of Mathematics and Science. Students in the BSc/BEd program must maintain a 75 percent overall average each year in all academic grade-marked courses. Students should also note that practice teaching may have to be scheduled in May and June of year 4.

Concurrent General Studies BSc and BEd degrees

Year 1

One credit in chosen science major (BIOL 1F90, CHEM 1P80, 1P81 or CHEM 1P90, 1P91, GEOL 1F95, or PHYS 1F90); one-half credit in MATH (MATH 1P93 for Chemistry or Physics majors; MATH 1P97 for Biology or Geology majors); PSYC 1F90; EDUC 8Y04 and 8Y05; humanities context elective; one science elective credit (other than major area) chosen from BIOL 1F90, CHEM 1P80, 1P81 or CHEM 1P90, 1P91, GEOL 1F95, PHYS 1F20 or 1F90.

Faculty of Education

Officers of instruction

Dean

R. Terrance Boak

Department of Continuing Studies

Chair

Victor D. Cicci

Members of this department are selected from the departments of Graduate and Undergraduate Studies in Education and Pre-service Education.

Department of Graduate and Undergraduate Studies in Education

Chair

John M. Novak
Kristian Kirkwood (as of July 1, 1991)

Professors

Peter J. Atherton
R. Terrance Boak
Ronald W. Common
Patricia A. Cranton
Robert Knoop
John M. Novak
G. Patrick O'Neill

Associate professors

Allan C. Bennett
Kristian Kirkwood
Leonard A. Popp
Cecilia Reynolds
James Wagner
Alan E. Wheeler

Assistant professors

Richard Bond
Susan M. Drake
Michael Kompf
Rosemary Young

Professor emeritus

Reginald B. Moase

Department of pre-service education

Chair

Donald H. Dworet

Professors

Ralph D. Connelly
Anthony S. Mollica
Sybil E. Wilson

Associate professors

Joyce Castle
Raymond T. Chodzinski
Victor D. Cicci
W.L. Roger Crane
Donald H. Dworet
Lynette Fast
Robert C. Henderson
James H. Love
William B. MacDonald
Wallace B. Poole
Merle Richards
Adele Thomas

Assistant professors

John Kearns
Marian R. Walsh

Lecturers

Sharon Abbey
Suzanne Arnedt
Anne Elliott
James W. Kerr
Helen J. Stewart

Special lecturers

Susan E. Ward
Judith Wilkinson
Margaret Willett

General information

The Faculty of Education is a fully integrated part of the University occupying its own building on campus. It has its own gymnasium and instructional resource centre including a well equipped microcomputer lab.

The Faculty offers programs and courses leading to BEd and MEd degrees on both the Brock campus and Dundas campus (located in Central Public School, Dundas) with some selected Continuing Studies and MEd courses offered in Mississauga and Hamilton. The Faculty also provides courses which can be used as electives in undergraduate programs in the University.

Bachelor of Education programs are field-oriented and are based on an approach unique in Ontario. Much of the orientation to and instruction in professional practice takes place under the supervision of counsellors working with small groups of students in teaching centres located in schools throughout the Niagara Peninsula and the regions of Hamilton-Wentworth and Halton. Students who are accepted into the BEd program to teach in secondary schools are assigned to work with specialized subject area tutors in high schools throughout this same area.

Those interested in a teaching career in Ontario are advised to read Ministry of Education regulations with respect to teachable subjects as outlined below.

A four-year concurrent program in Child Studies leading to combined BA/BEd and BSc/BEd degrees and teacher certification is also available.

A program in Teaching English as a Second Language is also available. It should be noted that this program does not lead to Ontario teacher certification. Students who wish to prepare themselves for Teaching English as a Second Language in the public schools of Ontario should first pursue the BEd (Route I) program. Those interested in TESL should consult the Applied Language Studies entry in the calendar.

Graduate programs

The Faculty of Education offers a Master of Education degree in curriculum studies, foundations of learning and teaching behavior, and educational administration. For further information and course listings, refer to the *Graduate Calendar* or contact the Office of the Registrar.

Undergraduate courses

Undergraduate courses for those interested in obtaining a greater understanding of the field of education are offered for both full- and part-time students. Undergraduate degree credit may be given for EDUC 1F90, 2F00, 2F01, 3F01, 3P49, 3P50, 3P52.

Economics

ECON 2P22 and MATH 1P97.

Not open to students majoring in Mathematics or in General Studies programs with a five-credit concentration in mathematics.

Lectures, 3 hours per week.

ECON 3P92

Forecasting in economics

Forecasting methods in business and economics such as: time series extrapolative methods, Box-Jenkins, and econometric model based approaches. Combined forecasting methods and their evaluation. Practical applications in business and economics will be emphasized.

Prerequisite: ECON 2P21 or 2P23; ECON 2P22 and 2P90.

Lectures, 3 hours per week.

ECON 3P95

Topics in applied econometrics

Econometric techniques in the specification, estimation and testing of economic models with emphasis on practical issues and problems. Possible topics are: estimation of household demand systems, production and cost functions, input demand systems, demand for money, macroeconomic models, demand for consumer durables, rational expectations models, capital asset price models and money-income causality analysis.

Prerequisite: ECON 3P90, 3P91.

Lecture, 3 hours per week.

ECON 4F90

Research topic

A program of semi-independent reading and research under the supervision of a member of the staff on a topic acceptable to the department.

Prerequisite: restricted to students in year 4 who are taking an honors degree in Economics.

ECON 4P13

Advanced macroeconomics

Advanced macro theory supplemented with readings and discussions of recent periodical literature.

Prerequisite: fourth-year honors standing or permission of the department.

Lectures, 3 hours per week.

ECON 4P14

Advanced microeconomics

Advanced micro theory with emphasis on mathematical presentation. Topics covered will include theory of consumer behavior, theory of the firm market equilibrium, imperfect competition, welfare economics, input-output analysis, game theory and linear programming.

Prerequisite: fourth-year honors standing or permission of the department.

Lectures, 3 hours per week.

ECON 4P15

Advanced public finance

Selected topics in taxation and public expenditure will be discussed. Topics in taxation such as incentive effects of taxation on labor supply, saving and risk-taking, analysis of tax incidence and theory of optimal taxation; topics in public expenditure such as theory of public goods, public enterprises, cost-benefit analysis, intergovernmental fiscal relations and theory of social choice.

Prerequisite: ECON 2P31, 2P32 and 3P91 or permission of the department.

Lectures, 3 hours per week.

ECON 4P21

Advanced international economics

Selected topics in international trade and finance. Topics in international trade may include recent theories of trade, strategic behavior in trade policy, tariff and non-tariff barriers and the theory of economic integration; topics in international finance may include the recent theories of balance of payments and exchange rate determination, exchange rate dynamics, currency substitutions and international monetary arrangements.

Prerequisite: ECON 2P31, 2P32 and 3P91 or permission of the department.

Lectures, 3 hours per week.

ECON 4P26

Advanced monetary economics

The role of money in the macroeconomy: money demand and supply, multi-asset models, the theory of stabilization policy, rational expectations, rules versus discretion, recent

Canadian monetary policy, inflation and real interest rates, and money and economic growth.

Prerequisite: ECON 2P31, 2P32 and 3P91 or permission of the department.

Lectures, 3 hours per week.

ECON 4P58

Operations research applications A

(also offered as MATH 4P58 and MGMT 4P59)

Practice of operations research, investment, and applications of LP to project selection; capital growth; further dynamic programming; location problems; inventory problems; cash flow as an inventory problem; personnel planning, actuarial problems; discussion and analysis of selected cases.

Prerequisite: ECON 3P58 or permission of the instructor.

Lectures, 4 hours per week.

ECON 4P59

Operations research applications B

(also offered as MATH 4P59 and MGMT 4P59)

Applications of modeling; game theory (Nash equilibrium; two player NZS games, Nash co-operative solution and others); Shapley value, voting power; values of non-atomic games; advertising and sales forecasting in heterogeneous markets; information theory, encoding, cryptography, security and reliability; classification and clustering; models of biological competition and military combat; discussion and analysis of selected cases.

Prerequisite: ECON 3P59 or permission of the department.

Lectures, 4 hours per week.

cycles in Canada.
Prerequisite: ECON 2P22.
Lectures, 3 hours per week.

ECON 3P18

Urban economics

Theories of location, city formation and urban spatial structure. Selected urban problems, e.g. housing, transportation, poverty, financing of municipal governments and the economics of city size. Social welfare implications of problems and policies are stressed.
Prerequisite: ECON 2P21 or 2P23.
Not open to students with credit in ECON 308.
Lectures, 3 hours per week.

ECON 3P19

Regional economics

Theories of regional income determination; classical and other theories of regional growth; regional business cycles. Canadian regional disparities and the nature of the 'Canadian Economic Union'. Regional development policies in Canada, the U.K. and France.
Prerequisite: ECON 2P22.
Not open to students with credit in ECON 308.
Lectures, 3 hours per week.

ECON 3P24

Labor economics

(also offered as LABR 3P24)
Introduction to the economics of the labor market. Topics include the demand for labor; the supply of labor; investment in human capital. Policy applications are stressed.
Prerequisite: ECON 2P21 or 2P23.
Not open to students with credit in ECON 205.
Lectures, 3 hours per week.

ECON 3P25

Topics in labor economics

(also offered as LABR 3P25)
Topics may vary from year to year, but examples are as follows: the economics of trade unions; discrimination in the labor market; unemployment; labor migration; unemployment and inflation.
Prerequisite: ECON 2P21 or 2P23.

(ECON 3P24 is recommended.)
Not open to students with credit in ECON 205.
Lectures, 3 hours per week.

ECON 3P26

Monetary theory

Theories of the role of money in the determination of output and the price level, starting from the controversies of the banking and currency schools. Other topics include the quantity theory of money, interpretations of Keynes, as well as the quantity theory in the form of Rational Expectations. Emphasis on contemporary issues such as government deficit-financing and money neutrality.
Prerequisite: ECON 2P22.
Not open to students with credit in ECON 4P26.
Lectures, 3 hours per week.

ECON 3P27

The economics of natural resources

The application of economic analysis to the management of natural resources; market failure, environmental efforts and conservation policies; both non-renewable resources such as minerals and oil, and renewable resources such as fisheries will be considered.
Prerequisite: ECON 2P21 or 2P23.
Lectures, 3 hours per week.

ECON 3P58

Operations research methods A

(also offered as MATH 3P58 and MGMT 3P58)
Principles of operations research; Lagrange multipliers, with applications to LP; network models and generalized network models; elements of dynamic programming; scheduling (criteria and algorithms); integer programming (theory and practice); elements of quadratic programming; optimization and quasi-Newton methods; discussion and analysis of selected cases.
Prerequisite: MATH 2P60.
Lectures, 4 hours per week.

Note: ECON 3P58, 4P58 and 3P59,

4P59 are offered in alternate years.

ECON 3P59

Operations research methods B

(also offered as MATH 3P59 and MGMT 3P59)
Principles of modeling; decision theory, subjective probability, and Bayesian statistics; simulation; sampling theory; design and analysis of experiments; discussion and analysis of selected cases.
Prerequisite: MATH 2P60 or permission of the instructor.
Lectures, 4 hours per week.

ECON 3P90

Intermediate econometrics

Specification, estimation, hypothesis testing and prediction with the classical linear regression model. Relaxation of some of the standard assumptions of the regression model pertinent to economic modelling such as autocorrelation, heteroscedasticity, stochastic regressors will be studied. An introduction to simultaneous equations modeling. Course blends theory and application with examples taken from many different areas of economics.
Prerequisite: ECON 2P21 or 2P23, 2P22, and 2P90, or permission of the department.
Not open to students with credit in ECON 4P12.
Lectures, 3 hours per week.

ECON 3P91

Mathematical economics

The application of quantitative techniques to economic theory and business problems. Quantitative techniques will include differential calculus, integral calculus, differential and difference equations and matrix algebra. Applications of quantitative techniques to business and economics will include inventory control, maximizing tax revenues, utility maximization, producer and consumer surplus, growth theory, etc. Wherever possible the application of the quantitative techniques will be explained in an economic context.
Prerequisite: ECON 2P21 or 2P23,

Economics

ECON 2P23

Managerial economics

The application of fundamental microeconomic concepts to business decision making. Topics include consumer theory, production theory and the various market structures.

Prerequisite: ECON 1P91.

Not open to students with credit in ECON 201, 203, 2P21.

This course is primarily designed for students in the honors Business Administration program.

Lectures, seminar, 4 hours per week.

ECON 2P31

Intermediate microeconomics II

A continuation of ECON 2P21. Topics include the models of market structure such as monopoly, duopoly, oligopoly and monopolistic competition; the demand and supply of factors of production under perfect and imperfect markets; and an introduction to the general equilibrium model and welfare theory. Applications of theory are emphasized.

Prerequisite: ECON 2P21 or 2P23.

Not open to students with credit in ECON 201, 203.

Lectures, 3 hours per week.

ECON 2P32

Intermediate macroeconomics II

A continuation of ECON 2P22 with an extension of the macroeconomic model to include the price level. Both aggregate demand and aggregate supply are studied. Topics will include money supply, inflation, unemployment, and the effectiveness of monetary and fiscal policy in an open economy.

Prerequisite: ECON 2P22.

Not open to students with credit in ECON 202, 203.

Lectures, 3 hours per week.

ECON 2P90

Introduction to econometrics

Probability, random variables and density functions; correlation analysis; estimation and hypothesis testing in the classical linear regression model.

Practical applications to different areas of economics and business.

Prerequisite: MATH 1F92 or 1P98; ECON 1P91, 1P92.

Not open to mathematics majors, or students who have taken or are taking MATH 2F96.

Lectures, seminar, 4 hours per week.

ECON 3F02

History of economic thought

The development of economic analysis including mercantilism, the classical school, Marx, marginalism, Keynes, and others.

Prerequisite: ECON 2P21 or 2P23.

Lectures, 3 hours per week.

ECON 3F03

Money and banking

Topics include the flow of funds, a detailed analysis of the demand for and supply of money, the level and structure of interest rates, the behavior of financial institutions and issues in monetary policy.

Prerequisite: ECON 2P21 or 2P23, ECON 2P22.

Lectures, 3 hours per week.

ECON 3F06

Industrial organization

The structure, conduct and performance of industrial markets with readings on the role of government in maintaining effective competition.

Prerequisite: ECON 2P21 or 2P23.

Lectures, 3 hours per week.

ECON 3F07

Comparative economic systems

Alternative economic systems, including centrally directed economies, with emphasis on planning as a substitute for markets.

Prerequisite: ECON 2P21 or 2P23.

Lectures, 3 hours per week.

ECON 3P11

International trade

The pure theory of international trade and commercial policy.

Prerequisite: ECON 2P21 or 2P23.

Not open to students with credit in ECON 301 or 4P21.

Lectures, 3 hours per week.

ECON 3P12

International payments

Foreign exchange markets and the balance of payments, adjustment in the

balance of payments and international monetary institutions.

Prerequisite: ECON 2P22.

Not open to students with credit in ECON 301 or 4P21.

Lectures, 3 hours per week.

ECON 3P13

Economics of the multinational enterprise

Economic theory of, and public policy towards, the multinational enterprise.

Topics include: theories of foreign direct investment, macroeconomic and microeconomic effects of direct investment in host countries, home country issues, industry studies, public policy towards multinationals.

Prerequisite: ECON 2P21 or 2P23.

ECON 3P11 is recommended).

Lectures, 3 hours per week.

ECON 3P14

Public sector economics: expenditure

The role and nature of the government sector; economics of public expenditure with reference to equity and efficiency considerations; techniques of public expenditure analysis; intergovernmental fiscal relations and economics of public debt.

Prerequisite: ECON 2P21 or 2P23.

Not open to students with credit in ECON 304 or 4P15.

Lectures, 3 hours per week.

ECON 3P15

Public sector economics: taxation

An introduction to the theory of taxation; economic consequences of various federal and provincial taxes. Theory of optimum taxation; analysis of Canadian tax system.

Prerequisite: ECON 2P21 or 2P23.

(ECON 3P14 is recommended).

Not open to students with credit in ECON 304 or 4P15.

Lectures, 3 hours per week.

ECON 3P16

Economic growth and business cycles

The features of business cycles as well as the main theories that attempt to explain the cyclical fluctuation of total output and employment. Attention will also be given to postwar business

Year 3

Two year 3 ECON credits; two year 3 POLI credits; one elective credit.

Honors program**Years 1, 2 and 3**

As in pass program with the exception that POLI 2F90 is recommended. Students who expect to enrol in year 4 are encouraged to take ECON 3P91 in year 3. If POLI 2P01 is taken, one of POLI 3P04, 4P01 and 4P02 is required by the end of year 4.

Year 4

ECON 3P90, 3P91, 4P13, 4P14; two year 4 POLI credits (including POLI 3P91(or 3P81)); one elective credit.

Economics and Urban and Environmental Studies

See Urban and Environmental Studies.

Bachelor of Business Economics

See separate calendar entry for Bachelor of Business Economics degree requirements and for transition to the honors Economics degree.

Description of courses

Please note that not all courses are offered in every session. Refer to applicable term timetable for details.

ECON 1P91**Principles of microeconomics**

An introduction to microeconomics. Topics include the nature of economics, the price system, demand, production and cost, markets and pricing, factor pricing and the distribution of income.

Not open to students with credit in ECON 190.
Lectures, seminar, 4 hours per week.

ECON 1P92**Principles of macroeconomics**

An introduction to macroeconomics. Topics include the nature of economics, the determination and control of national income, money, banking and monetary policy, macroeconomic policy and the balance of payments. Not open to students with credit in ECON 190.

Lectures, seminar, 4 hours per week.

ECON 2F95**Canadian economic policy**

(also offered as LABR 2F95)

Canadian economic and business problems and policies. Specific topics will vary from year to year and may include stabilization policies, competition policies, tax policies, foreign trade and exchange policies, etc.

Prerequisite: ECON 1P91, 1P92.

Lectures, 3 hours per week.

ECON 2P09**Canadian economic history**

(also offered as LABR 2P09)

The economic development of Canada.

Prerequisite: ECON 1P91, 1P92.

Lectures, 3 hours per week.

ECON 2P10**United States economic history**

The economic development of the United States.

Prerequisite: ECON 1P91, 1P92.

Lectures, 3 hours per week.

ECON 2P11**European economic history**

The economic history of the Western World including an analysis of the factors explaining the Industrial Revolution.

Prerequisite: ECON 1P91, 1P92.

Lectures, 3 hours per week.

ECON 2P15**The economics of unions**

(also offered as LABR 2P15)

The study of labor unions in the marketplace. Typical topics: the labor legislation covering unions; the effects

of unions on wages, fringes, turnover, inequality and the productivity and profitability of firms; union behavior; the certification process; strikes; interest arbitration; public-sector unionism.

Prerequisite: ECON 1P91, 1P92.

Lectures, 3 hours per week.

ECON 2P17**Economic development**

The economic factors affecting the growth of developing countries.

Topics examined include growth models, inequality and poverty, education, urbanization, agriculture, international trade, and the historical emergence of today's underdeveloped nations.

Prerequisite: ECON 1P91, 1P92.

Not open to students with credit in ECON 317hc.

Lectures, 3 hours per week.

ECON 2P21**Intermediate microeconomics I**

The fundamental demand and supply model including individual consumer and producer theory, the basic market structure of a perfectly competitive industry and an introduction to imperfectly competitive markets. Applications of theory are emphasized throughout the course.

Prerequisite: ECON 1P91.

Not open to students with credit in ECON 201, 203, 251hc or 2P23.

Lectures, seminar, 4 hours per week.

ECON 2P22**Intermediate macroeconomics I**

The main determinants of aggregate output and national income in an open economy with the basic IS-LM model. Topics will include money and interest, trade and capital flows under different exchange rate regimes.

Prerequisite: ECON 1P92.

Not open to students with credit in ECON 202, 203, 252hc.

Lectures, seminar, 4 hours per week.

Economics

one science or humanities context credit.

Year 2

ECON 2P21 or 2P23 (with permission of the department); ECON 2P22, 2P90, ACTG 2P11, 2P12; MGMT 1P94, 3P50; MATH 1P98; one science or humanities context credit (whichever was not taken in year 1).

Year 3

ECON 2P31, 2P32, one other ECON credit; FNCE 3P92, 3P93; MGMT 3P41, 3P42; MKTG 3P22, 3P24. Students who expect to enrol in year 4 are encouraged to take ECON 3P91 in year 3.

Year 4

ECON 3P90, 3P91, 4P13, 4P14; MGMT 2P40, 3P30; one credit in ACTG, FNCE, MGMT, MKTG; one elective credit.

Economics and Computer Science

Honors program

Year 1

ECON 1P91, 1P92; COSC 1P01, 1P04; MATH 1F65, 1P97, 1P98; one science context credit.

Year 2

ECON 2P21, 2P22, 2P31, 2P32; COSC 2F00, 2P03, one-half credit from 2Y04, 2Y05, 2Y06 or 2Y07; one humanities context credit (see Note 1.).

Year 3

ECON 2P90; one and one-half year 3 or year 4 level ECON credits; COSC 3P02, 3P04; one COSC credit; one elective credit. Students who expect to enrol in year 4 are encouraged to take ECON 3P91 in year 3.

Year 4

ECON 3P90, 3P91, 4P13, 4P14; COSC 3F00; one COSC credit numbered 3(alpha)90 or above; one elective credit.

Note 1.

ENGL 1F99 is strongly recommended;

it is a preferred prerequisite for COSC 3F00.

Economics and Geography

Pass program

Year 1

ECON 1P91, 1P92; GEOG 1F90; MATH 1P60, 1P97; one humanities and one science context credit.

Year 2

ECON 2P21, 2P22, 2P31, 2P32; MATH 1P98, ECON 2P90 or GEOG 2P07, 2P08; GEOG 2P02, 2P03, 2P06 and one-half credit in GEOG.

Year 3

Two year 3 credits in ECON; GEOG 3P57; one one-half year 3 credits in GEOG from group A (see Geography section of the calendar) excluding GEOG 2P90, 2P91 and 2P92; one elective credit. Students who expect to enrol in year 4 are encouraged to take ECON 3P91 in year 3.

Honors program

Years 1, 2 and 3

As in pass program.

Year 4

ECON 3P90, 3P91, 4P13, 4P14; GEOG 4F99; one year 4 credit in GEOG from group A; one elective credit.

Economics and Labor Studies

Pass Program

Year 1

LABR 1F90; two credits from ECON 1P91, 1P92, POLI 1F90, or SOCI 1F90; one science and one humanities context elective.

Year 2

ECON 2P15, 2P21, 2P22, 2P31, 2P32, 2P90; MATH 1P98; one-half credit from LABR; one elective credit.

Year 3

ECON 3P24, 3P25; LABR 3F00; two credits from LABR; one elective credit.

Economics and Mathematics

Pass program

Year 1

ECON 1P91, 1P92; MATH 1P12, 1P93; MATH 1P94 or 1P95; one humanities and one science context credit; one-half elective credit.

Year 2

ECON 2P21, 2P22, 2P31, 2P32; MATH 1P98 and ECON 2P90 or MATH 2F96 (the latter is the prerequisite for MATH 4F21 in the honors program); MATH 2F95, 2P20, 2P60.

Year 3

ECON 3P58, 4P58 or 3P59, 4P59; two year 3 ECON credits; MATH 2F10; one elective credit.

Honors program

Years 1, 2 and 3

As in pass program.

Year 4

ECON 3P58, 4P58 or 3P59, 4P59 (whichever was not taken in year 3), 3P90, 4F90, 4P13, 4P14; MATH 4F21; one-half elective credit.

Note:

MATH 2F96 is a prerequisite for MATH 4F21 and must be taken for the honors program.

Economics and Politics

Pass program

Year 1

ECON 1P91, 1P92; MATH 1P60, 1P97; POLI 1F90; one humanities and one science context credit.

Year 2

ECON 2P21, 2P22, 2P31, 2P32; MATH 1P98, ECON 2P90; two POLI credits including POLI 2P01 and 2P80(or 2P81).

Economics

Officers of instruction

Chair

Isidore J. Masse

Professors

Mohammed H. Dore
Joseph Kushner
Isidore J. Masse

Associate professors

Robert W. Dimand
Zisimos Koustas
Felice F. Martinello
Roberta E. Robb
Lewis A. Soroka
William Veloce

Assistant professors

Hafiz Akhand
Diane P. Dupont
Hasan Imam
Thomas A. Peters
Steven J. Renzetti
Anthony J. Ward

Professor emeritus

Maurice F. Perkins

General information

Taro Building 465

Economics is the study of how people and society choose to employ scarce resources to produce various goods and services over time and distribute them for consumption among various groups in society. The basic theoretical framework in Economics is divided into two parts: micro-economic theory, where the focus of analysis is on the determination of prices and the allocation of scarce resources among competing uses; and macro-economic theory, which focuses on the level of utilization of resources--especially the level of employment and the general level of prices. The basic theoretical

tools are then applied to the analysis of problems with respect to the labor market, industrial organization, international trade, economic development, urban studies, public finance, etc. From these analyses, theoretical predictions emerge which are often used as a basis for the formulation of economic policy.

ECON 1P91 and 1P92 are prerequisites for all other ECON courses.

All students in Economics, especially those proceeding to graduate work or to a career in the civil service, will be encouraged to become proficient in a language other than English (normally French).

A knowledge of the other social sciences is advisable for all students in Economics programs. Students are encouraged to consider courses in Business, Sociology, Politics and History.

Mathematics is an important analytical tool for professional economists. Students intending to pursue graduate work are strongly advised to take additional Mathematics courses and should consult the department regarding appropriate choices.

Students who wish to qualify for the civil service ES1 classification are reminded that the minimum requirement for such classification is eight credits in ECON.

Pass program

Seven and one-half credits are required for a pass degree in ECON.

Year 1

ECON 1P91, 1P92; MATH 1P60, 1P97; one humanities and one science context credit; one elective credit.
Please note: Students having two or more OAC mathematics credits with an average mark of at least 75 percent, or

Economics

(for Dramatic Literature see page 132/
for Dutch see page 168)

who have completed MATH 1P97 without completing MATH 1P60 may be exempted from MATH 1P60. MATH 2P60 or an ECON course in proper sequence must be substituted for MATH 1P60 in such cases.

Year 2

ECON 2P21, 2P22, 2P31, 2P32, 2P90; one ECON credit; MATH 1P98; one elective credit.

Year 3

Three year 3 ECON credits; two elective credits.

Honors program

Years 1, 2 and 3

As in pass program. Students who expect to enrol in year 4 should take ECON 3P91 in year 3.

Year 4

ECON 3P90, 4F90, 4P13, 4P14; one and one-half year 3 or year 4 level ECON credits; one elective credit. Students who have not completed ECON 3P91 prior to year 4 must take it in year 4.

Combined major programs

Students may take Economics as part of a combined major pass or honors program. The programs for combined degrees in Business Administration, Computer Science, Geography, Mathematics, and Politics are listed below. Other combinations are available; students may consult the department about these programs.

Economics and Business Administration

Honors program

Year 1

ECON 1P91, 1P92; MGMT 1P91, 1P92; MATH 1P60, 1P97; POLI 1F90;

Computer Science and Information Processing

COSC 4P32

Personal computing systems

An investigation of a modern micro-computer system, primarily from the perspective of the operating system; programming to interact with the operating system. Topics include: memory management, file management, windows, menus, events and graphics. (Knowledge of C and PASCAL assumed.)

Prerequisite: COSC 3P02.

Lectures, 3 hours per week.

COSC 4P75

Compiler construction

An introduction to the study of compilers; topics include: lexical, syntactic and semantic analysis of high-level languages; symbol table organization; code generation and optimization.

Prerequisite: COSC 2F00 and 2P03.

Not open to students with credit in COSC 395hc.

Lectures, 3 hours per week.

COSC 4P77

Discrete event simulation

(also offered as MATH 3P57)

Classification of simulation problems; discrete, continuous, Monte Carlo, general discrete modeling concepts, discrete system models; basic analysis techniques: sampling, estimation, inductive inference, random number generators, queuing theory, time series analysis; simulation experiments: variance reduction techniques, optimization procedures, sample size and stopping rules; modeling techniques for system inputs; verification and validation procedures; a critique of the simulation approach.

Prerequisite: COSC 1P04, MATH 1P97, 1P98, 3F65.

Lectures, 3 hours per week.

COSC 4P78

Robotics

Computer control aspects of robots with special emphasis on some applicable artificial intelligence techniques; topics include robot sensors, end effectors, actuators, vision and tactile sensing, voice synthesis and recogni-

tion, expert systems and robot programming.

Prerequisite: COSC 2F00(2P02 and 2P12), 3P71(4P71), MATH 3F65.

Lectures, 3 hours per week, lab, 1 hour per week.

COSC 4P79

Expert systems

Development of expert systems.

Topics include: recognition of problems solvable by an expert system; knowledge engineering; languages for expert systems development. Students will experiment with expert system development using an expert system shell and expert system building tool. (Knowledge of LISP and PROLOG assumed.)

Prerequisite: COSC 2P03 and 3P71(4P71).

Lectures, 3 hours per week, lab, 2 hours per week.

COSC 4P98

Computing project II

A half-year project course under the supervision of a faculty member from the department.

Prospective students should contact the project course co-ordinator, prior to registration, for further details of requirements and available projects.

Prerequisite: COSC 4P07.

COSC 4V90-4V99

Computing topics II

Selected topics in computer science and information processing.

Prerequisite: permission of the chair.

computer installation; a discussion of the physical installation of a computer: layout, site preparation, environmental control, fire protection, insurance, and security of the installation; other topics include: usage accounting, system balancing and tuning, staffing, contracts, and the implications of federal and provincial regulations.

Prerequisite: COSC 3P02.

Not open to students with credit in COSC 4P31.

Lectures, 3 hours per week.

COSC 3P92

Computer architecture (formerly COSC 3P21)

Variations in computer architectures including: different data types and operations, instruction sets, addressing spaces, store structures and I/O facilities of various machines. Autonomous processors and specialized computers.

Prerequisite: COSC 2F00.

Not open to students with credit in COSC 3P21 or 392hc.

Lectures, 3 hours per week, lab, 3 hours per week for 6 weeks.

COSC 3P93

Introduction to parallel computing

Introduction: origins of parallelism, classification of designs, characterization of performance. Pipelined computers: selection and comparison, case studies. Processor arrays: switching networks, case studies. Parallel languages: general principles, parallel constructs, vectorizing compilers, issues of portability. Practical exposure to OCCAM and transputer networks. Parallel algorithms: general principles, recurrences, parallel approach to data structures and computational structures. Future trends: technology, design limitations, future supercomputers.

Prerequisite: COSC 3P02.

Lectures, 3 hours per week.

COSC 3V90-3V99

Computing topics I

Selected topics in computer science and information processing.

Prerequisite: permission of the chair.

COSC 4F70

Introduction to cognitive science (also offered as PHIL 4F70 and PSYC 4F70)

An overview of the modern study of the mind from a computational, psychological and philosophical perspective. Computer models of human information processing are examined in three ways: as a branch of computer science related to artificial intelligence, as psychological theories of human functioning, and as a source of philosophical puzzles about minds. The interdisciplinary nature of cognitive science is stressed.

Note: a previous knowledge of computer programming is not necessary for registration in the course.

Prerequisite: permission of the instructor.

Lectures, 3 hours per week, lab, 1 hour per week.

COSC 4F90

Computing project

A full-year project course under the supervision of a faculty member from the department. Prospective students should contact the project co-ordinator, prior to registration, for further details of requirements and available projects.

Prerequisite: COSC 3F00.

Not open to students with credit in COSC 4P07.

COSC 4P13

Operating systems: design and implementation

The design and implementation of operating systems including user interface, process management, I/O device control, memory management and file systems. The practical component will involve the extension and/or modification of an existing operating system. (Knowledge of C assumed.)

Prerequisites: COSC 2F00 (2P12) and 3P02.

Not open to students with credit in COSC 412hc.

Lectures, 3 hours per week.

COSC 4P14

Computer networks

The principles of computer network design and implementation with the OSI reference model as framework. Topics include: functional layers of the OSI model, subnetwork design for local and wide-area communication, methods and protocols for provision of network services.

Prerequisite: COSC 3P01, 3P02, MATH 3F65.

Lectures, 3 hours per week.

COSC 4P21

Computer logic design

Review of basic logic concepts; mixed logic, algorithmic state machines; top-down design of logic systems using integrated circuit elements; design of a small computer.

Prerequisite: COSC 2F00.

Not open to students with credit in COSC 393hc.

Lectures, 3 hours per week.

COSC 4P22

Real-time computing systems

Computer systems used to observe and control a physical process or object, typically sensor or clock driven. A structured approach to real-time systems development based on a rigorous model for system behavior. Implementation using appropriate hardware and software.

Prerequisite: COSC 3P02.

Lectures, 3 hours per week.

COSC 4P27

Microprocessor systems

Historical development of microprocessors; microprocessors and their operations, system support components, microprocessor systems, low-level programming, software support, interfacing to the real world, systems development, advanced microprocessors.

Prerequisite: COSC 2F00 (2P02 and 2P12).

Not open to students with credit in COSC 322hc or COSC 394hc.

Lectures, 3 hours per week, lab, 2 hours alternate weeks.

Computer Science and Information Processing

COSC 2Y07

Programming languages

(formerly part of COSC 2P07)

An advanced introduction to an additional programming language; syntax, semantics, control, I/O application. Actual language to be specified each year; consult the department.

Prerequisite: COSC 1P04 or permission of department chair.

A student may not hold major credit for more than 2 of COSC 2Y04, 2Y05, 2Y06 and 2Y07.

Not open to students with credit in COSC 2P07, 3P77 or 4P17.

Lectures, 1 1/2 hours per week, lab, 2 hours per week.

COSC 3F00

Project organization and management

An introduction to the development of medium to large scale software projects and discussion of professional issues in computing; topics include: systems analysis, the software development cycle, analysis, design, coding, testing, integration, installation, maintenance; project teams, project management; legal, ethical, moral and social issues.

The class will be involved in the development of a major project in a team environment. (Knowledge of MODULA-2 is assumed.)

Prerequisite: COSC 2P03, one-half credit from COSC 2Y04, 2Y05, 2Y06 or 2Y07 and preferably ENGL 1F99. Lectures, 3 hours per week.

COSC 3P01

Data communications

An introduction to data communications with emphasis on computer communications networks; topics include: basic concepts of data communications, transmission media, multiplexing and switching techniques, error recovery, network architecture and topology, communications protocols, local area networks and public data networks.

Prerequisite: COSC 2F00 (2P02 and 2P12), MATH 1P66, 1P67 or 1F65.

Not open to students with credit in COSC 314hc.

Lectures, 3 hours per week.

COSC 3P02

Principles of operating systems

An introduction to computer operating systems from a user's viewpoint.

Emphasis is on the functionality of operating systems rather than their implementation. Topics include: file, processor, input/output, and memory management; concurrent processes.

Prerequisite: COSC 2F00.

Not open to students with credit in COSC 312hc.

Lectures, 3 hours per week.

COSC 3P04

Introduction to user interfaces

Introduction to the study of design of human/computer interfaces. Topics include: human factors (design and support of systems for human use), command languages, grammars, menu and window systems, user documentation and on-line help systems.

Prerequisite: COSC 2P03.

Not open to students with credit in COSC 4V97.

Lectures, 3 hours per week.

COSC 3P13

Principles of programming languages

The fundamental concepts of high-level programming languages are discussed with references to both traditional and modern languages. The various programming language paradigms (i.e. imperative, applicative, object oriented) will be discussed.

Prerequisite: COSC 2F00 (2P12) and one half-credit from COSC 2Y04, 2Y05, 2Y06 or 2Y07.

Not open to students with credit in COSC 295hc or COSC 303hc.

Lectures, 3 hours per week.

COSC 3P32

Database management

Fundamental data base concepts: specification and design of data bases and applications; the relational model and processing with SQL; microcomputer data bases; the CODASYL DBTG model; data base administration; fundamentals of distributed data bases. (Knowledge of C or COBOL assumed.)

Prerequisite: COSC 2P03.

Not open to students with credit in

COSC 342hc.

Lectures, 3 hours per week.

COSC 3P71

Artificial intelligence

(formerly COSC 4P71)

An introduction to the study of artificial intelligence. Topics include: heuristic programming, analysis of solution space, searching, pattern recognition, artificial learning, decision making, and problem solving. Problem areas discussed include: game playing, text recognition, natural language translation, and question answering.

Prerequisite: COSC 2P03.

Not open to students with credit in COSC 4P71(470 or 472hc).

Lectures, 3 hours per week.

COSC 3P75

Introduction to human factors

(also offered as PSYC 3P75)

The effect of machines on individuals and groups. Key questions include: How does the design of a machine affect the quality of life of the machine user? How does automation affect group interaction? The physical, mental and sensory characteristics of human beings with an emphasis on how these characteristics should influence the design of machines and systems.

Prerequisite: permission of the instructor.

Lectures, 3 hours per week.

COSC 3P78

Interactive computer graphics

Line and raster graphics, display processors, display files, graphical transformations, graphics hardware, interactive techniques, graphics languages, introduction to curved surfaces and the hidden line problem. (Knowledge of C and PASCAL assumed.)

Prerequisite: COSC 2P03.

Not open to students with credit in COSC 376hc or 380hc.

Lectures, 3 hours per week, lab, 2 hours per week.

COSC 3P91

Computer system management

(formerly COSC 4P31)

An introduction to management of a

Description of courses

Please note that not all courses are offered in every session. Refer to the applicable term timetable for details.

Most courses involve hands-on programming experience.

COSC 1P01

Computer programming

An introduction to computers and programming; topics include: computer organization, algorithms, problem solving, and structured programming in a high-level language (currently MODULA-2).

Not open to students with credit in COSC 103hc or COSC 195hc.
Lectures, 3 hours per week, lab, 2 hours per week, tutorial, 1 hour per week.

COSC 1P04

Programming methodology and data structures

An introduction to software engineering and intermediate-level data structures; topics include: top-down design, modular decomposition, abstraction, information hiding, program testing and debugging; strings, files, stacks, queues, lists; advanced programming language features. (Knowledge of MODULA-2 is assumed.)

Prerequisite: COSC 1P01 or one-half credit chosen from COSC 2Y04, 2Y05, 2Y06 or 2Y07.

Not open to students with credit in COSC 230hc.
Lectures, 3 hours per week, lab, 2 hours per week, tutorial, 1 hour per week.

COSC 1P90

Computer applications

An introduction to computers and their use. This course introduces word processing, spreadsheets, data management and statistical analysis on micro-computers. This is a non-programming course.

A Computer Science major or combined major may not hold major credit for this course.

May not normally be taken concurrently with or after receiving credit for COSC 1P01.

Not open to students with credit in COSC(MGMT)194hc taken in 1985/86 or 1986/87 or MGMT 1P95.
Lectures, 2 hours per week, lab, 2 hours per week, tutorial 1 hour per week.

COSC 1P91

Introduction to computing
(also offered as MGMT 1P94)

Computers and computer programming for students not intending to major in computer science. Students will study a particular programming language (currently BASIC). Students will develop a number of computer programs.

Lectures, 2 hours per week, lab, 2 hours per week.

A Computer Science major or combined major may not hold major credit for this course.

May not normally be taken concurrently with or after receiving credit for COSC 1P04.

Not open to students with credit in MGMT 1P94 taken in 1987-88 or subsequently.

COSC 2F00

Computer systems

An introduction to computer architecture and assembly language programming, emphasizing a specific machine architecture (currently the VAX computer). Topics include: assembly language programming, macros, microprogramming, elementary logic circuits, basic computer architecture.

Prerequisite: COSC 1P04 and MATH 1P66, 1P67 or 1F65.

Not open to students with credit in COSC 2P02 and/or 2P12(200).
Lectures, 3 hours per week, lab, 2 hours per week.

COSC 2P03

Advanced data structures

Advanced data structures and an introduction to file structures; the implementation and usage of data structures; topics include: trees, graphs, advanced list structures, introduction to file organizations and data base structures. (Knowledge of MODULA-2

is assumed.)

Prerequisite: COSC 1P04 and MATH 1P66, 1P67 or 1F65.

Lectures, 3 hours per week, lab, 2 hours per week

COSC 2Y04

Programming languages: COBOL
(formerly part of COSC 2P07)

An advanced introduction to the COBOL programming language: syntax, semantics, control, IO application.

Prerequisite: COSC 1P04 or permission of department chair.

A student may not hold major credit for more than 2 of COSC 2Y04, 2Y05, 2Y06 and 2Y07.

Not open to students with credit in COSC 2P04, 2P07, 3P77 or 4P17.

Lectures, 1 1/2 hours per week, lab, 2 hours per week.

COSC 2Y05

Programming languages: C
(formerly part of COSC 2P07)

An advanced introduction to the C programming language: syntax, semantics, control, I/O application.

Prerequisite: COSC 1P04 or permission of department chair.

A student may not hold major credit for more than 2 of COSC 2Y04, 2Y05, 2Y06 and 2Y07.

Not open to students with credit in COSC 2P07, 3P77 or 4P17.

Lectures, 1 1/2 hours per week, lab, 2 hours per week.

COSC 2Y06

Programming languages: LISP
(formerly part of COSC 2P07)

An advanced introduction to the LISP programming language: syntax, semantics, control, I/O application.

Prerequisite: COSC 1P04 or permission of department chair.

A student may not hold major credit for more than 2 of COSC 2Y04, 2Y05, 2Y06 and 2Y07.

Not open to students with credit in COSC 2P07, 3P77 or 4P17.

Lectures, 1 1/2 hours per week, lab, 2 hours per week.

Computer Science and Information Processing

Note:

12. ENGL 1F99 strongly recommended; it is a preferred prerequisite for COSC 3F00.

Computer Science and a humanities or a social science

Year 1

COSC 1P01, 1P04; MATH 1P66, 1P67; one credit in other discipline; one science and one social science context credit (see Note 13.).

Year 2

COSC 2F00, 2P03; one-half credit from COSC 2Y04, 2Y05, 2Y06 or 2Y07; two credits in other discipline; one humanities context credit (see Note 14.).

Year 3

COSC 3P02, 3P04; one other COSC credit; MATH 1P97, 1P98; two credits in other discipline.

Year 4

COSC 3F00; one other COSC credit numbered 3(alpha)90 or above; two credits in other discipline numbered 3(alpha)90 or above; one elective credit.

Notes:

13. One context credit and one elective credit if the required course in the other discipline is a social science context credit.

14. ENGL 1F99 strongly recommended; it is a preferred prerequisite for COSC 3F00

Computer Science and Economics

Year 1

ECON 1P91, 1P92; COSC 1P01, 1P04; MATH 1P66, 1P67, 1P97, 1P98; one science context credit.

Year 2

ECON 2P21, 2P22, 2P31, 2P32; COSC 2F00, 2P03; one-half credit from COSC 2Y04, 2Y05, 2Y06 or 2Y07;

one humanities context credit (see Note 15.).

Year 3

ECON 2P90; one and one-half year 3 or year 4 level ECON credits; COSC 3P02, 3P04; one COSC credit; one elective credit.

Year 4

ECON 3P90, 3P91, 4P13, 4P14; COSC 3F00; one COSC credit numbered 3(alpha)90 or above; one elective credit.

Note:

15. ENGL 1F99 is strongly recommended; it is a preferred prerequisite for COSC 3F00.

BA Computer Science and Geography

Honors program only (see Note 16).

Year 1

COSC 1P01, 1P04; GEOG 1F90; MATH 1P66, 1P67; one science and one humanities context credit. (see Note 17).

Year 2

COSC 2F00, 2P03, one-half credit from COSC 2Y04, 2Y05, 2Y06, 2Y07; GEOG 2P07, 2P08; one credit from GEOG 2P02, 2P03, 2P06; MATH 1P97, 1P98.

Year 3

COSC 3F00, 3P02, 3P04; GEOG 3P57; one and one-half year 3 credits in GEOG from group A; one elective credit.

Year 4

One credit at the 3(alpha)90 level or above in COSC; one other credit in COSC; GEOG 4F99; one other year 4 credit in GEOG from group A; one elective credit.

Note:

16. For students with a special interest in geographical information systems the following courses are strongly

recommended as GEOG and COSC elective credits: GEOG 3P03, 3P05, 3P07; COSC 3P32, 3P78.

17. ENGL 1F99 is strongly recommended; it is a preferred prerequisite for COSC 3F00.

BSc Computer Science and Geography

Honors program only (see Note 18).

Year 1

COSC 1P01, 1P04; GEOG 1F91; MATH 1P66, 1P67; one social science and one humanities context credit. (see note 19).

Year 2

COSC 2F00, 2P03, one-half credit from COSC 2Y04, 2Y05, 2Y06 or 2Y07; GEOG 2P07, 2P08; one credit from GEOG 2P04, 2P05, 2P09; MATH 1P97, 1P98.

Year 3

COSC 3F00, 3P02, 3P04; GEOG 3P56; one and one-half year 3 credits in GEOG from group B; one elective credit.

Year 4

One credit at the 3(alpha)90 level or above in COSC; one other credit in COSC; GEOG 4F99; one other year 4 credit in GEOG from group B; one elective credit.

Note:

18. For students with a special interest in geographical information systems the following courses are strongly recommended as GEOG and COSC elective credits: GEOG 3P03, 3P05, 3P07; COSC 3P32, 3P78.

19. ENGL 1F99 is strongly recommended; it is a preferred prerequisite for COSC 3F00.

Artificial intelligence option

Year 3

COSC 3F00, 3P02, 3P04, 3P71, one other COSC half credit (see Note 6.); MATH 3F65; one elective credit.

Year 4

COSC 4F90, 4P78, 4P79, one COSC credit (see Note 6.); one MATH credit (see Note 7.); one elective credit.

Notes:

6. For an honors degree, University regulations require 6 credits numbered 2(alpha)90 or above, including 3 credits numbered 3(alpha)90 or above.

7. To be selected from MATH 1P98, 2P20, 2P60, 4P19 or 4P20.

Computer Science as a second degree

A student holding a pass or honors degree other than a Brock BSc may obtain a pass BSc in Computer Science by completing a minimum of five credits. A student holding an honors degree may obtain an honors degree in computer science by completing a minimum of ten credits. Previous or transfer credits may be used to satisfy some of the requirements. The normal prerequisite structure must be fulfilled. Students should refer to the University regulations concerning second degrees for further information.

The additional courses taken for a second degree in Computer Science must include a minimum of three Brock COSC credits.

Required courses:

Pass program

COSC 1P01, 1P04, 2F00, 2P03; one-half credit from COSC 2Y04, 2Y05, 2Y06 or 2Y07; COSC 3F00, 3P02, 3P04; one other COSC credit; MATH 1P66, 1P67, (1P12 or 1P98), 1P97.

Honors program

In addition to the requirements for a second pass degree:

Three COSC credits numbered 3(alpha)90 or above.

Combined honors programs

The COSC requirements for combined honors programs with all other disciplines are outlined below. For the requirements in the other discipline, consult that section of the calendar.

Computer Science and another science

Year 1

COSC 1P01, 1P04; MATH 1P66, 1P67; one MATH credit (see Note 8.); one credit in the other discipline; one social science context credit.

Year 2

COSC 2F00; one additional science credit (see Note 9.); two credits in other discipline; one humanities context credit (see Note 10.).

Year 3

COSC 2P03; one-half credit from COSC 2Y04, 2Y05, 2Y06 or 2Y07; one COSC credit; MATH 1P12; two credits in other discipline; one-half credit elective.

Year 4

COSC 3F00, 3P02, 3P04; one COSC credit numbered 3(alpha)90 or above; two credits in other discipline numbered 3(alpha)90 or above.

Notes:

8. MATH 1P97, 1P98 for Geology. MATH 1P93, 1P94 for Physics and Chemistry.

9. MATH 2F95 for Physics. PHYS 1F20 or 1F90 for Chemistry and Geology.

10. ENGL 1F99 strongly recommended; it is a preferred prerequisite for COSC 3F00.

Computer Science and Mathematics

Year 1

COSC 1P01, 1P04; MATH 1P66, 1P67, 1P93, 1P95; one science and one social science context credit.

Year 2

COSC 2F00, 2P03; one-half credit from 2Y04, 2Y05, 2Y06 or 2Y07; MATH 1P12, 2F95, 2P60; one humanities context credit (see Note 11.).

Year 3

COSC 3F00, 3P02, 3P04; MATH 2F96, 2P20, 3F65; one-half credit elective.

Year 4

Two COSC credits numbered 3(alpha)90 or above; MATH 2F10 or 3F10; MATH 4P19, 4P20; one elective credit.

Note:

11. ENGL 1F99 strongly recommended; it is a preferred prerequisite for COSC 3F00.

Computer Science and Physics

Year 1

PHYS 1F20, 1F25 or 1F90 (preferred); COSC 1P01, 1P04; MATH 1P66, 1P67, 1P93, 1P94; one social science context credit.

Year 2

PHYS 2P20, 2P21; PHYS 2P30, 2P31 (or 2P41, 2P42); COSC 2F00; MATH 2F95; one humanities context credit (see Note 12.).

Year 3

PHYS 3P20; and one and one-half credits from PHYS 3F95, 3P50, 3P70; COSC 2P03; one-half credit from COSC 2Y04, 2Y05, 2Y06 or 2Y07; one COSC credit numbered 2(alpha)90 or above; MATH 1P12; one-half elective credit.

Year 4

Two credits from PHYS 4F50, 4F90, 4P41, 4P70; COSC 3F00, 3P02, 3P04; one COSC credit numbered 3(alpha)90 or above.

Computer Science and Information Processing

Officers of instruction

Chair

Jack M. Miller

Professors

F. Raymond Skilton

Associate professors

Jerzy Barchanski

James Bradford

David J.F. Hughes

David McCarthy

John Mitterer

Jonathan E. Radue

Vladimir Wojcik

Technical assistant

David Bockus

General information

Mackenzie Chown, B305

The department of Computer Science and Information Processing offers courses leading to pass and honors BSc degrees in single major programs and BSc honors degrees in combined major programs. The honors program consists of two streams: software and artificial intelligence.

Department facilities

The main computing facilities available to computer science students consist of a Digital Equipment Corporation VAX 11/780, and a Burroughs B7900 computer as described on page 10. In addition to the terminals in the junior laboratory (F-317), there are further terminals (including graphics terminals) housed in the senior software laboratory (B304).

The department has two microcomputer labs: B309 containing Macintosh

personal computers and B304A containing SUN workstations. In addition, there are a robot and robot arm and a number of PCs available for senior courses.

Options for honors program

A student in the honors computer science program must select one of the two streams prior to registration for year 3. Students should consider their desired stream when selecting elective courses in years 1 and 2.

Prerequisite courses

A grade of C is desirable in all prerequisites for computer science courses. A student who does not achieve a C in a prerequisite course is strongly advised to upgrade the mark in the course before proceeding.

Non-computer science prerequisites

Some courses have prerequisites in other departments. Students are advised to plan their programs so that all prerequisites will be satisfied.

Service courses

COSC 1P90 and 1P91 may not be held for major credit by students enrolled in the major or combined major programs.

Students with high school computer science credit

Students with 2 high school computer science credits may be eligible for exemption from COSC 1P01 and may request in its place permission to enrol in one-half credit from COSC 2Y04, 2Y05, 2Y06 or 2Y07. Please consult with the department chair.

Pass program

Year 1

COSC 1P01, 1P04; MATH 1P66, 1P67; one humanities context credit (see Note 1.); one science context

credit; one elective credit (see Note 2.).

Year 2

COSC 2F00, 2P03, one-half credit from COSC 2Y04, 2Y05, 2Y06 or 2Y07 (see Note 3.); MATH 1P12, 1P97; one social science context credit; one elective credit (see Note 2.).

Year 3

COSC 3F00, 3P02, 3P04, 3P32; one other COSC half-credit (see Note 4.); one MATH credit (see Note 5.); one elective credit (see Note 2.).

Notes:

1. ENGL 1F99 strongly recommended; it is a preferred prerequisite for COSC 3F00.

2. A student intending to pursue data processing should select MGMT 1P91, 1P92 (in year 1, 2 or 3).

3. COSC 2Y04 required for pass degree, COSC 2Y05 is required for software systems option and COSC 2Y06 is required for artificial intelligence option.

4. For a pass degree, University regulations require three credits numbered 2(alpha)90 or above.

5. To be selected from MATH 1P98, 2P20, 2P60, 3F65 (recommended because it is required in the honors program), 4P19, 4P20.

Honors program

Years 1 and 2

As in pass program.

Software systems option

Year 3

COSC 3F00, 3P01, 3P02, 3P04; one other COSC half credit (see Note 6.); MATH 3F65; one elective credit.

Year 4

COSC 4F90, 4P13, 4P14; one COSC credit (see Note 6.); one MATH credit (see Note 7.); one elective credit.

COMM 4F99 thesis.

Prerequisite: admission to year 4 of the program.

Hours as arranged with supervisor, plus seminar, 1 hour bi-monthly.

COMM 4F99

Honors thesis

A thesis to be based on individual study and research carried out under the supervision of a faculty adviser. Prior to registration in the honors year, the student must consult the director about topics and regulations and about the selection of an adviser.

Prerequisite: admission to year 4 of the program.

COMM 4P23

Research on popular culture

(also offered as SOCI 4P23)

Topics relevant to the mass media and popular culture. Students will design their own reading lists and projects, and work in a largely self-directed manner. The methodological range of the projects will vary with the interests of instructor and students, but is likely to include content analysis, political economy, semiology, discourse analysis, audience receptivity, and poststructuralism.

Prerequisite: COMM 1F90, 2P23, or permission of the instructor.

Seminar, 3 hours per week.

COMM 4P32

Comparative mass media

(also offered as POLI 4P32)

A critical examination of selected problems concerning the mass media and the political process in Canada and other states.

Prerequisite: POLI 3F30 and year 4 honors standing or permission of the instructor.

Not open to students with POLI 435 taken between Summer 1979 and Winter 1982.

Not open to students with credit in COMM(SOCI) 396hc.

Seminars, 3 hours per week.

COMM 4V50-4V59

Research in communications studies

Theory and methodology in social science based approaches to communications studies.

1991-92:(4V50)

Topic to be determined. Consult the program director.

Prerequisite: year 4 standing or permission of the instructor.

Seminar, 3 hours per week.

1991-92:(4V51)

Topic to be determined. Consult the program director.

Prerequisite: year 4 standing or permission of the instructor.

Seminar, 3 hours per week.

Communications Studies

Topics may include the media's use for socialization, reproduction of the social structure, and social change.

Not open to students with credit in COMM(SOCI) 248hc.

Lectures, seminar, 3 hours per week.

COMM 2P50

Communication theory

Consideration of a range of theories and perspectives including semiotics, critical theory, qualitative and quantitative analysis, theories based on approaches such as systems theory, constructivism and symbolic interaction, persuasion theory, mass media theories, and organizational communication theory.

Prerequisite: COMM 1F90 or permission of the instructor.

Lectures, seminar, 3 hours per week.

COMM 2P55

Interpersonal communication

(also offered as SOCI 2P55)

Perspectives on human communication including both verbal and non-verbal communication.

Not open to students with credit in COMM(SOCI) 247hc.

Lectures, lab, 3 hours per week.

COMM 3F08

Psychology of language

(also offered as APLI 3F08 and PSYC 3F08)

Psychological processes involved in language including the study of meaning, language development in children, language and thought, listening, as well as special interest topics such as bilingualism and written language.

Lectures, seminar, 3 hours per week.

COMM 3F10

Psychology of television

(also offered as PSYC 3F10)

Psychological aspects of the visual, auditory and content dimensions of television will be examined. The applicability to television of several psychological theories, such as cognitive and information processing, perceptual and attentional theories, social learning, interpersonal communication, mass communication and

developmental perspectives will be evaluated.

Lectures, seminar, 3 hours per week.

COMM 3F50

Theory and criticism of television

(also offered as FILM 3F50) (formerly COMM 3F05 and FILM 3F05)

The aesthetics of television. Historical and international perspectives and alternative practices will be considered.

Prerequisite: COMM 2F24 or FILM 2F24 or permission of the instructor.

Lectures, seminar, 3 hours per week plus weekly lab.

COMM 3F60

Practicum in communications

Practical application of communication theory; the study of the attributes and capacities of various communications media; effective communication; promotional and analytic writing. Includes research projects with written and oral reports.

Prerequisite: COMM 2P50 and admission to the Communications Studies program.

Not open to students with credit in COMM 3P60.

Lectures, seminar, 3 hours per week.

COMM 3P17

Politics and the mass media in Canada

(also offered as POLI 3P17)

The Canadian mass media and their relationship to the political process. Lectures, seminar, 3 hours per week.

COMM 3P77

Politics and literature

(also offered as POLI 3P77)

Politics in literature, especially in selected novels and plays with emphasis on political issues and insights drawn from literary works. Some attention is given to the differing expectations of authors, literary critics, and students of politics.

Not open to students with credit in COMM(POLI) 376hc.

Seminars, 3 hours per week.

COMM 3P94

Interpersonal communication in recreation

(also offered as RECL 3P94)

The interpersonal qualities, abilities and insights that play an important role in facilitating a recreation experience.

Special emphasis placed on self-concept, perception/values, language, non-verbal communication, listening, disclosure, relationships and resolving conflicts in the recreation setting.

Prerequisite: COMM 2P50 or permission of the instructor.

Not open to students with credit in COMM 2P55 or SOCI 2P55.

Lecture, lab, 3 hours per week.

COMM 3P95

Organizational communication

Critical examination of the theories and practices relating to the process of communication in various organizational contexts.

Prerequisite: COMM 2P50 or MGMT 3P42.

Lectures, seminar, 3 hours per week.

COMM 4F30

Cultural theory

Central 20th century developments in issues such as language, representation and cultural construction and their relevance to the field of communications. The emphasis and the theorists featured may vary from year to year.

Prerequisite: year 4 standing or permission of the instructor.

Seminar, 3 hours per week.

COMM 4F80

Directed reading

Directed individual or group reading, in an area of communications studies.

Students are responsible for arranging their course with a faculty member, in consultation with the program director, and must submit a written proposal signed by the faculty member to the director before registration. In addition to their reading and written work, students in the course will be required to attend bi-monthly course seminars and to participate in staging an annual communications colloquium. The reading may not be on the topic or with the faculty member of the student's

2F54, 2F92, 2F97, 3F08, 3F10, 3F50, DRAM 2F97, ENGL 2F91, 3F60, FILM 3M20-29; one elective credit.

Honors program

Years 1, 2 and 3
As in pass program.

Year 4

COMM 4F99; one credit from COMM 4F30, 4F80; two credits from COMM 2F54, 2F92, 2F97, 3F08, 3F10, 3F50, 3P94, 3P95, 4F30, 4F80, 4P23, 4P32, 4V50-59, FILM 3M20-29, PSYC 3P82, 4P92; one elective credit.

All honors programs must contain at least three credits numbered 3(*alpha*) 90 or above.

Communications: business communication

Year 1

COMM 1F90; ENGL 1F91; MGMT 1P91, 1P92, 1P94; MATH 1P98; POLI 1F90.

Year 2

COMM 2F24, 2P23, 2P50; MKTG 3P22, 3P24; one science context credit (see Note 1.); one elective credit (MGMT 2P40 recommended).

Year 3

COMM 3F60, 3P17, 3P95; MGMT 3P41, 3P42, 3P50, 3P65; one credit from COMM 2F92, 2F97, 3F10, 3F50, DRAM 2F97, ENGL 2F91, 3F60, FILM 3M20-29.

Honors program

Years 1, 2 and 3
As in pass program.

Year 4

One credit from COMM 4F30, 4F80, 4F99, 4P32, 4V50-59; one credit from COMM 2F92, 2F97, 3F10, 3F50, 4F30, 4F80, 4F99, 4P23, 4P32, 4V50-59; two credits from MGMT/MKTG at the Year 4 level; one elective credit.

BIOL 1F25, SCIE 1F20 or 1F30 is recommended.

Description of courses

Please note that not all courses are offered in every session. Refer to applicable term timetable for details.

COMM 1F90

Introduction to communications
Basic approaches and issues in communications from both humanities and social science perspectives. Topics will include non-verbal communication, the cultural use of symbols and signs, qualitative and quantitative mass media analysis, critical analysis of texts, the cultural character of the Canadian media and the impact of the media and media institutions upon public attitudes and social problems.
Lectures, seminar, 3 hours per week.

COMM 1F94

Introduction to linguistics
(also offered as LING 1F94 and TESL 1F94)
Language and language use. Concepts related to disciplines in the humanities, social sciences and education will be discussed. Not limited to any specific language; questions common to all tongues. Open to students in any year of study.

COMM 2F24

Canadian popular culture
(also offered as FILM 2F24)
A critical survey of the media in Canada. Studies in the popular arts, with special reference to the ways in which institutions (e.g. CBC, NFB) and selected artists identify and express a Canadian cultural imagination.
Prerequisite: COMM 1F90 or CANA 1F91 or FILM 1F94 or permission of the instructor.

Not open to students with credit in DRAM 224.
Lectures, seminar, 4 hours per week.

COMM 2F54

Documentary film
(also offered as FILM 2F54 and SOCI 2F54)
The documentary film from its beginnings in photography and the actualités of the Lumières through

traditions and developments in documentary practice. The history, theory and aesthetics of documentary film and its cultural implications.
Prerequisite: COMM 1F90 or FILM 1F94 or SOCI 1F90 or permission of the instructor.
Lectures, seminar, 3 hours per week; plus weekly film lab.

COMM 2F92

Popular narrative
(formerly COMM 2M92)
Exploration of the archetypal and mythic dimensions of works which reflect and inform the imagination of the culture and attract widespread readership. Prominent examples of popular genres such as the detective novel, Gothic fiction, speculative ('science') fiction, the western, the romance novel, the 'horror' story, and the novel of international intrigue will be studied. Focus of the course will be printed texts written in English; other media may be studied in conjunction with the printed texts for purposes of comparison and clarification.
Prerequisite: one course in DRAM, ENGL or FILM or permission of the instructor.
Lectures, seminars, 3 hours per week.

COMM 2F97

Canadian cinema
(also offered as FILM 2F97)
(formerly COMM 3F24 and FILM 3F24)
A critical history of the Canadian cinema and a study of the work of major directors.
Prerequisite: FILM 1F94 or DRAM 2F97 or permission of the instructor.
Lectures, seminar, 3 hours per week plus weekly film lab.

COMM 2M90-2M99

Special studies in communications
Topics selected from year to year on the basis of specific areas of instructional expertise and student interest.

COMM 2P23

Mass media
(also offered as SOCI 2P23)
The organization of the mass media, with special emphasis on the Canadian media and their unique difficulties.

Extrdepartmental Studies

Director

Cecil A. Abrahams, Dean
Faculty of Humanities

General information

Schmon Tower 401D

Students' programs can be enriched by the inclusion of certain degree credit courses which do not fall under the auspices of existing academic departments. Such courses may be taken for credit as electives in any degree program.

Description of courses

Please note that not all courses are offered in every session. Refer to the applicable term timetable for details.

EXST 1P01

Introduction to Mohawk, part I
Using audio-lingual methods, students will learn common sentence forms and vocabulary. Stories recorded by native speakers will be used for listening, reading and writing. Taped exercises will be provided for individual practice. Materials will be chosen for cultural as well as linguistic content. About one-third of class time will be devoted to study of Mohawk culture. Lectures, lab, 4 hours per week.

EXST 1P02

Introduction to Mohawk, part II
Part II extends the language skills developed in part I. In particular, extended dialogues and storytelling will increase fluency in speech and reading. Transcription of and response to recorded language samples will provide opportunities for extended writing in the Mohawk language.

Prerequisite: EXST 1P01.
Lectures, lab, 4 hours per week.

EXST 1P03

Introduction to Cayuga, part I
Using audio-lingual methods, students will learn common sentence forms and vocabulary. Stories recorded by native speakers will be used for listening, reading and writing. Taped exercises will be provided for individual practice. Materials will be chosen for cultural as well as linguistic content. About one-third of class time will be devoted to study of Iroquois culture. Lectures, lab, 4 hours per week.

EXST 1P04

Introduction to Cayuga, part II
Part II extends the language skills developed in part I. In particular, extended dialogues and storytelling will increase fluency in speech and reading. Transcription of and response to recorded language samples will provide opportunities for extended writing in the Cayuga language. Prerequisite: EXST 1P03
Lectures, lab, 4 hours per week.

EXST 2F20

Comparative religion
Studies in the world's major religions, their founders, teachings, scriptures and development, with readings from primary sources. Not open to students with credit in REST 190 or 220. Lectures, seminar, 3 hours per week.

EXST 2F50

Aspects of human sexuality
(formerly offered as EXST 1F50)
Studies in the biological, psychological and cultural aspects of human sexuality. Not open to students with credit in EXST 1F50. Lectures, seminar, 3 hours per week.

EXST 2F60

Old Testament studies
Such themes as covenant, promise, messiah and sacred signs will be traced in their development through Hebrew

history from the perspective of the historical, prophetic and wisdom books of the Old Testament. Lectures, seminar, 3 hours per week.

EXST 2F70

New Testament studies
A critical examination of New Testament thought, using selected passages from the Gospels and Acts. Lectures, seminar, 3 hours per week.

EXST 2F80

Yoga: Theory and practice
The philosophical-psychological-religious system called Yoga. Drawing from its original bases as formulated and oriented in the Indic tradition, the integral discipline of body, mind and self is studied, with a focus on its contemporary relevance, and practical application in psychological and neuro-physiological areas. Prerequisite: any 1(alpha)90 level credit in Philosophy, Psychology, Physical Education or Asian Studies or permission of the instructor. Lectures, seminar, 3 hours per week.

EXST 2F95

Introduction to speech-language pathology and audiology
(also offered as APLI 2F95)
The development and disorders of human communication: normal speech, language and hearing development, and clinical disorders from the newborn to the aged. Approaches to assessment and remediation. Topics include articulation, language, voice, adult language disorders, fluency and stuttering, neurological and auditory disorders. This course is of interest to students in education, behavioral and social sciences, health professionals, and students intending to pursue subsequent professional training in speech pathology or audiology. Enrolment may have to be limited (by grade standing) due to space limitations. Prerequisite: PSYC 1F90 or permission of the instructor. Lectures, seminar, 3 hours per week.

Extrdepartmental Studies

EXST 2P03

Cayuga, Intermediate, part I

Application of literacy skills, and extension of vocabulary and listening skills by reading taped stories and legends, and responding orally to audiotaped exercises and in writing to printed exercises.

Prerequisite: EXST 1P03 and EXST 1P04.

Lectures, lab, 4 hours per week.

EXST 2P04

Cayuga, Intermediate, part II

Development of communication abilities and acquisition of the grammatical forms of future, aorist, indefinite and perfect tenses; transitive pronouns, noun incorporation and locatives.

Prerequisite: EXST 1P03 and EXST 1P04.

Lectures, lab, 4 hours per week.

Film Studies, Dramatic and Visual Arts

Officers of instruction

Chair

Warren Hartman

Film Studies

Director

Barry K. Grant

Professors

James C.M. Leach

Mary Jane Miller

Associate professor

Barry K. Grant

Assistant professor

Joan Nicks

Lecturer

Jeannette M. Sloniowski

Dramatic Literature and Theatre

Director

Peter Feldman

Professors

James C. M. Leach (Dramatic Literature)

Mary Jane Miller (Dramatic Literature)

Associate professors

Peter Feldman (Theatre)

Warren Hartman (Theatre)

Robert C. Nunn (Dramatic Literature)

Assistant professors

Margaret Burke (Drama in Education)

Glenys McQueen-Fuentes (Theatre)

Instructors

Mary Katherine Newman (Voice)

Barbara Plater-Szaflarski (Drafting)

Alan Titley (Stage Management)

Resident Company, *Theatre Beyond Words*

Terry Judd

Harrow Maskow

Robin Patterson
David Satterthwaite
C. Schott

Visual Arts

Director

MeriJean Morrissey-Clayton

Associate professors

Warren Hartman (Art History)

MeriJean Morrissey-Clayton (Studio Art)

Assistant professors

Derek Knight (Studio Art, Art History)

Murray Kropf (Studio Art)

Visiting artist

Yvonne Singer

Technical director

Adrian Palmieri

Wardrobe director

Ivy Verhoeckx

Slide librarian

Lesley Bell

Film technician

Robert MacMorine

General information

Thistle west 135

At Brock the study of the arts is concerned with their nature, function, and history, from the classics to popular culture, from primitive drawings and rituals to the avant-garde. Through critical analysis of classic works and personal creative development, the student will gain an awareness of the ways in which the artistic media function. Our aim is to contribute to the vitality of the arts by developing sensitive, creative and articulate artists, teachers and audiences.

The department of Film Studies, Dramatic and Visual Arts offers pass, honors, single and combined major programs in four fields of study: dramatic literature, film, theatre, and

Film Studies, Dramatic and Visual Arts

visual arts. These four majors represent the student's choice of concentration within the department. Single pass and honors programs are also offered in Contemporary Cultural Studies.

CANA 1F91: *Introduction to Canadian studies*, and CANA 2F91: *Canadian culture and society: interdisciplinary studies*, are recommended electives.

Facilities

The film program uses *The Studio*, Brock Centre for the Arts, which is a fully equipped film screening space. Senior students have access to a film and video study room.

The theatre program uses the many facilities of the Brock Centre for the Arts, including the 543 seat *Theatre* and its experimental stage, *The Studio*, *The Playhouse* and *The Space*. Scenery, properties and construction workrooms are part of the Centre for the Arts complex.

Visual arts facilities include a slide collection and an art studio.

Extra-curricular activities

The department presents and sponsors theatre productions, film series, exhibitions, public lectures, and an annual spring festival of student work. The University regularly hosts mime performances and workshops by its resident company, the internationally acclaimed *Theatre Beyond Words*.

Brock Centre for the Arts presents a professional season of international and Canadian artists in theatre, dance, and music, family and children's events. In addition, Brock's Fine Arts Committee arranges for a variety of visiting artists and events, and a program of art exhibitions.

Context electives

The following departmental offerings may be taken for core and context credit by science and social science majors:

Film Studies, Dramatic and Visual Arts

DRAM 1F93	Introduction to drama
FILM 1F94	Introduction to film studies
VISA 1F90	Introduction to the history of art

The department offers the following courses for teachers or those planning to become teachers:

FILM 2F04	Screen education
THEA 2F10	Drama in education I
THEA 3F09	Drama in education II
THEA 3F11	Theatre in education
THEA 3F12	Theatre in education: the school play

Contemporary Cultural Studies

This program is designed for students who wish to gain a critical view of contemporary culture from a number of different perspectives.

Note: Students are required to discuss their program with the department chair.

Year 1

FILM 1F94; COMM 1F90 or CANA 1F91; DRAM 1F93 or VISA 1F90; one second language credit; science or social science context credit.

Year 2

FILM 2F24; DRAM 1F93 or VISA 1F90; two credits from CANA 2F91, COMM 2F23, 2P50, DRAM 2F97, FILM 2F54, 3F24, VISA 2F20, 2F50, 3F05; science or social science context credit.

Year 3

FILM 3F50 or one of FILM 3M20-3M29; two credits from DRAM 3F93, FILM 3F95, VISA 3F95; one credit from CANA 3M90-99, COMM 3F10, DRAM 2F97, FILM 2F54, 3F24, VISA 2F50, 3F05; one elective.

Year 4

DRAM, FILM or THEA 4F90 and 4F94; three credits from CANA 3F90-99, COMM 3F10, DRAM 3F99, FILM 2F54, 3F24, 3F99, VISA 2F50, 3F05, 3F99.

Language requirement for humanities majors

Contemporary Cultural Studies majors are required to complete one credit in a language other than English. It is recommended that students fulfil this requirement by year 2.

Description of courses

Please note that not all courses are offered in every session. Refer to the applicable term timetable for details.

Abbreviation:

** FAPA Fine and Performing Arts course which is cycled every two years.

**FAPA 2F16

Introduction to theatre administration

Practical problems in the operation of a professional theatre, dance or music company in Canada. Topics may include basic administration, the role of boards of directors, complexities of provincial and national grant systems, publicity and promotion techniques principles of staffing, tax and copyright regulations, and the mechanics of touring in Canada and abroad. Lectures, seminar, 3 hours per week.

FAPA 2F98

Approaches to dance

Dance as an art form. The course aims to develop a vocabulary of movement specific to dance, examine dance choreography and its principles, explore various theoretical issues such as historical survey, dance in society, dance analysis, and dance criticism;

dance as it relates to other art forms and the role of dance in education. Limited practical component. Lectures, lab (studio), seminar, 3 hours per week.

FAPA 2M90-2M99

Special studies in fine arts

Studies in a selected area involving a number of artistic media. Topics to be announced by the department. Lectures, seminar, 3 hours per week.

FAPA 3F90

Fine arts studies abroad

Faculty conducted tour of theatre, film and art activities in a major centre abroad. The course will comprise one month of preparatory classes at Brock and four weeks abroad. A fee will be charged to cover expenses.

FAPA 3P82

Psychology of the arts

(also offered as PSYC 3P82)

Psychological responses to art. Topics include: color, form, motion, rhythm, space and their relationships; proportion and balance; empathy and aesthetic distance; abstraction and symbols. The relation of aesthetic behavior to other aspects of psychological functioning will also be considered.

Prerequisite: PSYC 1F90 and third-year standing, or permission of the instructor.

Lectures, seminar, 3 hours per week.

FAPA 4F99

Honors thesis

A critical, historical or creative project in fine arts of mutual interest to the student and the instructor. Students are urged to arrange and plan their projects in the spring for the following year. A written proposal must be approved by the program director before registration.

Dramatic literature

The dramatic literature program is an interlocking series of courses, with the objective of helping the student to develop a critical awareness of drama

both as text and as performance; and to recreate the play imaginatively from a study of the text itself and from the context of its conventions, traditions and current stage history.

Pass program

Eight credits are required: DRAM 1F93; four of DRAM 2F95, 2F97, 2F98, 3F10, 3F93; ENGL 1F91; two additional FAPA credits.

Honors program

Students seeking admission to the honors program must have a minimum grade average of 70 percent in their major. Twelve credits are required: ENGL 1F91, DRAM 1F93, 2F95, 2F97, 2F98, 3F10, 3F93, 4F90, 4F94; three more Film Studies, Dramatic and Visual Arts credits.

Combined pass and honors programs

A pass program must include DRAM 1F93 and four of DRAM 2F95, 2F97, 2F98, 3F10, 3F93. An honors program must include all of the above and DRAM 4F90 and 4F94. DRAM and THEA combined majors must have at least five credits from each discipline.

Dramatic literature and English

The student must (i) meet the requirements of each department for a combined major, (ii) take at least ten credits in English and dramatic literature for a pass degree, fourteen for an honors degree, and (iii) take at least five credits from each department for a pass degree and seven for an honors degree.

CLAS 3P02 and 3P03 are recommended electives.

Year 3 courses are normally restricted to students with at least three second-year credits or special permission of the instructor.

Language requirement for humanities majors

Students in the dramatic literature stream are required to complete one credit in a language other than English. It is recommended that students fulfil this requirement by year 2.

Description of courses

Please note that not all courses are offered in every session. Refer to the applicable term timetable for details.

Abbreviations:

*DRAM Dramatic literature course that may be taken for credit in English.

†DRAM Dramatic literature course which is cycled every two years.

*DRAM 1F93

Introduction to drama

Fundamentals of dramatic criticism. Study of selected dramatic texts from the ancient Greeks to the present; emphasis on genre, convention and historical context. Lectures, seminar, 3 hours per week.

†DRAM 2F95

The forms of comedy

Comedy and related dramatic forms (e.g. farce) will be analysed in their theatrical and social contexts and in relation to the development of ideas about comedy. Some attention may be paid to parallel forms in the drama of the orient.

Prerequisite: DRAM 1F93 or permission of the instructor.

Lectures, seminar, 3 hours per week.

†DRAM 2F97

Canadian drama

The Canadian experience as expressed by Canada's playwrights on stage, in radio and on television, using both English plays and French plays in translation.

Not open to students with credit in DRAM 291hc.

Lectures, seminar, 3 hours per week.

†DRAM 2F98

The forms of tragedy

Two major periods in the development of the genre: the Classical period and the Renaissance; and the modern dramatic response to the problems of the tragic vision.

Prerequisite: DRAM 1F93 or permission of the instructor.

Not open to students with credit in DRAM 315.

Lectures, seminar, 3 hours per week.

DRAM 2M90-2M99

Special studies in drama

Studies in a specialized area of drama. Topics to be announced by the department.

Prerequisite: DRAM 1F93 or permission of the instructor.

Lectures, seminar, 3 hours per week.

†DRAM 2P91

Canadian radio and television drama

The aesthetics and distinctive characteristics of Canadian radio and television anthology drama.

Not open to students with credit in DRAM 2F97.

Lectures, seminar, 3 hours per week.

†DRAM 3F10

Shakespeare

A critical study of Shakespeare's works in their literary and theatrical context. Available for credit as ENGL 2F97.

Not open to students with credit in DRAM 296, DRAM 397, ENGL 296, ENGL 2F97.

Lectures, seminar, 3 hours per week.

Film Studies, Dramatic and Visual Arts

†DRAM 3F93

20th century drama

Major dramatic and theatrical movements of the period, with special attention to expressionism and theatricalism, the absurdists and contemporary dramatists.

Prerequisite: DRAM 1F93 or permission of the instructor.

Lectures, seminar, 3 hours per week.

DRAM 3F99

Special honors tutorial

Advanced study in an area of mutual interest to the student and the instructor.

A written proposal must be approved by the program director before registration.

DRAM 4F90

Critical theory and practice

(also offered as FILM 4F90 and THEA 4F90)

An advanced study of critical theory, its roots, and its application to theatre, dramatic literature, film, television and popular culture.

Prerequisite: year 4 honors standing or permission of the instructor.

Not open to students with credit in DRAM, FILM 402.

Seminars, 3 hours per week.

DRAM 4F94

Honors thesis in applied critical theory

(also offered as FILM 4F94 and THEA 4F94)

A critical, historical or contemporary thesis. Subject and supervision must be approved by the faculty supervisor before October 15.

Co-requisite: DRAM 4F90.

Film studies

The film program is a sequence of critical and historical courses which examines a variety of critical approaches to film. The courses explore the nature of film language and develop a critical perspective on film as both an art and a medium. Other courses explore issues and theories in popular culture.

Pass program

Eight credits are required: FILM 1F94, 2P91, 2P92, 3P91, 3P92; three of FILM 2F24, 2F54, 2F93, 2F94, 2F97, 3F54; two other credits from the preceding group or from DRAM 1F93, 2F97, FILM 2F04, 2M20-29, 2M90-99, 3F27, 3F50, MUSI 1F00, VISA 1F90, 1F95, 2F20, 2F50.

Honors program

Twelve credits are required: FILM 1F94, 2F24, 2F54, 2F93, 2F94, 2P21, 2P92, 3P91, 3P92, 4F90, 4F94; three credits from DRAM 1F93, 2F97, FILM 2F04, 2M90-99, 2F97, 3F27, 3F50, 3F54, 3F92, 3F93, 3M20-29, MUSI 1F00, VISA 1F90, 1F95, 2F20, 2F50.

Combined pass program

Five credits are required: FILM 1F94, 2P91, 2P92, and 2F93 or 2F94; two credits from FILM 2F04, 2F24, 2F54, 2F93, 2F94, 2F97, 2M90-99, 3F27, 3F50, 3P91, 3P92, 3F54.

Combined honors program

Eight credits are required: FILM 1F94, 2P91, 2P92, 2F93 or 2F94, 3P91, 3P92, 4F90; three credits from FILM 2F04, 2F24, 2F54, 2F93, 2F94, 2F97, 2M90-99, 3F27, 3F50, 3F54.

Notes:

1. Students should consult with the department for recommended electives.

2. Year 3 courses are normally restricted to students with at least three second-year credits or special permission of the instructor.

3. Students should normally take FILM 2P91 and 2P92 in the second year.

Language requirement for humanities majors

Students in the film program are required to complete FREN 1F80 or 1F90. It is recommended that students

fulfil this requirement by year 2.

Description of courses

Please note that not all courses are offered in every session. Refer to the applicable term timetable for details.

Abbreviation:

**FILM Film course which is cycled every two years.

FILM 1F94

Introduction to film studies

The history of film and principles of criticism from the early silents to the modern experimental.

Lectures, seminar, 3 hours per week plus weekly film lab.

FILM 2F04

Screen education

Principles of critical analysis in the study of film and television. Introduction to media theory and screen studies for the secondary school level. The use of film and television analysis in the context of various subjects of study (e.g. English, history, art, social studies).

Lectures and films, 3 hours per week.

FILM 2F24

Canadian popular culture

(also offered as COMM 2F24)

A critical survey of the media in Canada. Studies in the popular arts, with special reference to the ways in which institutions (e.g. CBC, NFB) and selected artists identify and express a Canadian cultural imagination.

Prerequisite: FILM 1F94 or COMM 1F90 or CANA 1F91 or permission of the instructor.

Lectures, seminar, 4 hours per week.

**FILM 2F54

Documentary film

(also offered as COMM 2F54 and SOCI 2F54)

The documentary film from its beginnings in photography and the actualités of the Lumières through traditions and

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developments in documentary practice. The history, theory and aesthetics of documentary film and its cultural implications.

Prerequisite: FILM 1F94 or SOCI 1F90 or COMM 1F90 or permission of the instructor.

Lectures, seminar, 3 hours per week; plus weekly film lab.

**FILM 2F93

National cinema

Intensive study of a national cinema with emphasis on its relationship to national cultural traditions.

Prerequisite: FILM 1F94 or permission of the instructor.

Lectures, seminar, 3 hours per week; plus weekly film lab.

**FILM 2F94

Directors' cinema

Study of the technique, thought, and development of selected directors.

Prerequisite: FILM 1F94 or permission of the instructor.

Lectures, seminar, 3 hours per week; plus weekly film lab.

**FILM 2F97

Canadian cinema

(also offered as COMM 2F97) (formerly FILM 3F24)

A critical and historical study of Canadian cinema and selected directors.

Prerequisite: FILM 1F94 or DRAM 2F97 or permission of the instructor. Not open to students with credit in FILM 3F24.

Lectures, seminar, 3 hours per week plus weekly film lab.

FILM 2M90-2M99

Special studies in film

Studies in a specialized area of film. Topics to be announced by the department.

Prerequisite: FILM 1F94 or permission of the instructor.

Lectures, seminar, 3 hours per week.

FILM 2P91

Film theory I

The origins and development of theoretical approaches to film, including montage theory, concepts of realism and expressionism, auteur and genre theory.

Prerequisite: FILM 1F94.

Lectures, seminar, lab, 4 hours per week.

FILM 2P92

Film history

Approaches to film history, with emphasis on classical Hollywood cinema and European art cinema.

Prerequisite: FILM 1F94, 2P91.

Lectures, seminar, lab, 4 hours per week.

FILM 3F27

Basic production

Introduction to the theory and practice of film and, or video techniques: specific assignments, viewing of films and, or video works, and production work.

Students seeking permission of the instructor should contact the department prior to registration. Enrolment will be limited to 15.

Prerequisite: 2 FILM courses or permission of the instructor.

Not open to students with credit in FILM 394 or COMM 327.

Workshops, seminar, 3 hours per week; additional production time as required.

**FILM 3F50

Theory and criticism of television

(also offered as COMM 3F50) (formerly FILM 3F05)

A critical study of the aesthetics of television. Historical and international perspectives and alternative practices will be considered.

Prerequisite: COMM 2F24 or FILM 2F24.

Not open to students with credit in FILM 3F05.

Lectures, seminar, 3 hours per week, plus weekly lab.

FILM 3F54

Screened women

(also offered as WISE 3F54)

A critical study of woman's representation as aesthetic and cultural subject, from classical Hollywood cinema to contemporary women's cinema, in the context of feminist film theories and including other popular media (i.e. music videos, television).

Prerequisite: FILM 1F94, 2P91 and 2P92, or WISE 1F90 and 2F91, or permission of the instructor.

Lectures, seminar, 3 hours per week, plus weekly film lab.

**FILM 3F94

Directors' cinema II

(formerly FILM 3F92)

Further study of the technique, thought and development of selected directors. Students will be expected to produce a major piece of research.

Prerequisite: FILM 2F94.

Not open to students with credit in FILM 3F92.

Lectures, seminar, 3 hours per week; plus weekly film lab.

**FILM 3F93

National cinema II

Further study of a national cinema. Students will be expected to produce a major piece of research.

Prerequisite: FILM 2F93.

Lectures, seminar, 3 hours per week; plus weekly film lab.

FILM 3F99

Special honors tutorial

Advanced study in an area of mutual interest to the student and the instructor.

A written proposal must be approved by the program director before registration.

**FILM 3M20-3M29

Advanced studies in popular culture

Specialized studies in popular culture. Analysis of a selected genre as developed in different media or of the role of different media in a specific social or historical context.

Prerequisite: FILM 1F94 or 2F24 or permission of the instructor.

Lectures, seminar, 4 hours per week.

FILM 3P91

Contemporary film theory

Studies in recent film theory, including semiotic, psychoanalytic and feminist theory.

Prerequisite: FILM 2P91 and 2P92.

Not open to students with credit in FILM 3F95.

Lectures, seminar, lab, 4 hours per week.

FILM 3P92

Avant-garde cinema

Critical and theoretical analyses of

Film Studies, Dramatic and Visual Arts

avant-garde films and movements.
Prerequisite: FILM 3P91.

Not open to students with credit in FILM 3F95.

Lectures, seminar, lab, 4 hours per week.

FILM 4F90

Critical theory and practice
(also offered as DRAM 4F90 and THEA 4F90)

An advanced study of critical theory. Its roots and its application to theatre, dramatic literature, film, radio, television and popular culture. Students will be expected to produce a major piece of research.

Prerequisite: year 4 honors standing or permission of the instructor.

Seminar, 3 hours per week.

FILM 4F94

Honors thesis in applied critical theory
(also offered as DRAM 4F94 and THEA 4F94)

A thesis on a topic of mutual interest to the student and the instructor, with a critical, historical, or contemporary focus. Subject and supervision must be arranged by October 15.

Corequisite: FILM 4F90.

Theatre

The premise of the theatre program is that the study and practice of theatre is a significant discipline adding to the resources of a liberally-educated person. The program offers a comprehensive introduction to all aspects of theatre. Each year's work includes study of dramatic and theatre theory, and opportunities to explore this theory in practice and to develop the skills and awareness necessary to apply it.

Production is to the theatre student what laboratories are to the science student; therefore the program includes a major production in each term as well as various minor productions and projects such as participation in the spring arts festival.

The THEA 1F99 class will work on small-scale productions. Students in upper year courses will have the opportunity to work on the two major productions in capacities determined by their particular course choices.

Students of all years participate in the spring festival according to the demands of their particular courses and their own need for varied experience.

Apart from THEA 2P98 and 3P00, theatre courses are not normally available to auditors.

Pass program

Eight credits are required:

DRAM 1F93; THEA 1F99, 2F40, 2F50, 2P98, 3P00; one of FAPA 2F16, THEA 3F11, 3F40, 3F41, 3F50, 3F52; two of DRAM 2F95, 2F97, 2F98, 3F10, 3F93. DRAM 1F93 must be taken in year 1 or 2.

Notes:

1. Students must satisfy the core and context requirement before year 3.
2. In year 2 or 3, students will take five and one-half credits since both THEA 2P98 and 3P00 are required and are co-requisites of other THEA courses.

Honors program

Students seeking admission to the honors program must have a minimum grade average of 70 percent in their dramatic literature courses as well as in their theatre credits as a whole.

Twelve credits are required:

DRAM 1F93; THEA 1F99, 2F40, 2F50, 2P98, 3P00, 4F90; two of THEA 3F11, 3F40, 3F41, 3F50, 3F52; one of FAPA 2F16, THEA 4F40, 4F41, 4F56 or 4F94; three of DRAM 2F95, 2F97, 2F98, 3F10, 3F93. DRAM 1F93 must be taken in year 1 or 2.

Combined pass and honors programs

Five credits are required for a pass

program: DRAM 1F93; THEA 1F99, 2F40, 2F50; and at least one other credit from the following: THEA 2P98, 3P00, 3F11, 3F40, 3F41, 3F50, 3F52, DRAM 2F95, 2F97, 2F98, 3F10, 3F93, FILM 1F94, or other Film Studies, Dramatic and Visual Arts courses are recommended as elective credits. THEA and DRAM combined majors must have at least five credits from each discipline.

Note: three credits numbered 2(*alpha*) 90 or above must be included in all pass programs.

Seven credits are required for an honors program: DRAM 1F93; THEA 1F99, 2F40, 2F50, 4F90; at least one of THEA 4F56 or 4F94; at least one of FAPA 2F16, THEA 2P98, 3P00, 3F11, 3F40, 3F41, 3F50, 3F52, DRAM 2F95, 2F97, 2F98, 3F10 or 3F93.

Notes:

3. At least three credits numbered 3(*alpha*) 90 or above must be included in all honors programs.
4. Students must satisfy the core and context requirement before year 3.
5. Year 3 courses are normally restricted to students with at least three second year credits or special permission of the instructor.

Language requirement for humanities majors

Students in the theatre stream are required to complete one credit in a language other than English. It is recommended that students fulfil this requirement by year 2.

Description of courses

Please note that not all courses are offered in every session. Refer to the applicable term timetable for details.

THEA 1F99

Introductory theatre practice

Basic theories of practical theatre and their application. Fundamentals of acting and theatre production. Students will also have the opportunity to develop their potential in production situations.

Materials fee: \$25.00

Prerequisite: interview, audition before registration. Telephone the department office for details. Prospective technical theatre students will be interviewed only.

Not open to students with credit in DRAM 199.

Lectures, seminar, workshops, voice, 5 hours per week; additional production and rehearsal time as required.

THEA 2F02

Introduction to mime for teachers

History and theories of non-verbal theatre; critical analysis; practical work on mime techniques, expressive masks and improvisation in silent situations for both a practical and theoretical understanding of this theatre form.

Prerequisite: THEA 2F10 or permission of the instructor.

Not open to students with credit in THEA 2F01 or 2F03.

Lectures, workshops, 4 hours per week; additional rehearsal time as required.

Offered summer 1990.

THEA 2F03

Introduction to mime for theatre students

A practical study of mime techniques, physical comedy and slapstick, expressive masks and improvisation in silent situations. The course aims to give a practical exploration of non-verbal theatre forms. Theoretical work will focus on developing the student actors' "visual vocabulary" to enable them to articulate their perceptions.

Prerequisite: THEA 1F99 or permis-

sion of the instructor.

Not open to students with credit in THEA 2F01 or THEA 2F02.

Lectures, seminar, workshops, 4 hours per week; additional rehearsal time as required.

THEA 2F10

Drama in education I

Drama in education is a means of self-discovery and expression, and a method for integrating and enhancing learning in the classroom. Each student will be required to undertake field studies.

Enrolment is limited to 30 students per section.

Preference will be given to students with year 2 standing; others will be considered if numbers permit. Preference will be given to classroom teachers for the evening class.

Not open to students with credit in DRAM 210.

Lectures, workshops, 3 hours per week.

THEA 2F40

Stage production I

The theory and practical application of the various elements which comprise theatrical productions are examined through lectures and through labs and crew assignments. Two sections are offered. Students to choose one, with permission of the instructor.

Materials fee: \$25.00

Prerequisite: THEA 1F99 or permission of the instructor.

Co-requisites for theatre majors:

THEA 2P98 or THEA 3P00 and THEA 2F50.

Not open to students with credit in DRAM 240.

Lectures, workshops, 5 hours per week; additional production time as required.

THEA 2F50

Acting I

Acting and the principles of dramatic action. Emphasis is on developing an increased understanding of the active process and personal technique though both group and individual exercises.

Prerequisite: THEA 1F99 or permission of the instructor.

Co-requisites for theatre majors:

THEA 2P98 or 3P00 and THEA 2F40.

Not open to students with credit in

DRAM 250.

Lectures, workshops, voice, movement, 5 hours per week.

THEA 2M90-2M99

Special studies in theatre

Studies in a specialized area of theatre. Topics to be announced by the department.

Prerequisite: THEA 1F99 or permission of the instructor.

Lectures, seminar, 4 hours per week; additional lab and performance time as required.

1991-92: (2M91) Drama in education: the socio-dramatic process

A three-week intensive course in modern drama in education techniques and theory, applicable to junior high, secondary, and special education teachers, Sociology majors and students of theatre.

3 week duration, 5 hours per day, 5 days per week.

1991-92: (2M92) East European theatre

History, organization, aesthetics and current changes in the theatre of Eastern Europe. Influence of politics, censorship, culture. Survey of theatrical elements: acting, direction, writing, design. Managing and financing. Influence of multicultural elements. Reaction to Existentialism and Western theatre. New directions in post-Marxist theatre.

Lecture, seminar, 3 hours per week.

1991-92: (2M93) Storytelling from the traditional to the modern

Historical and practical study of storytelling as a mode of theatre activity. Researching and writing on the traditions. Practical applications including abstract puppetry (finding the inherent character in found objects), creating or adapting stories. Applicable to teachers (all levels), performers, children's librarians, puppeteers and similar story weavers.

Lecture, seminar, 3 hours per week.

THEA 2P98

Social development of the theatre

The interchange between audience and actor throughout history, including

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theatrical conventions, performance spaces and machinery, in relationship to the changing intellectual and social milieu. Links between theatre studio courses and dramatic literature. Research projects, and performance projects investigating historical staging problems and essays. Open only to students with credit in THEA 3P00. Prerequisite: THEA 1F99(199) or permission of the instructor. Lectures, seminar, 3 hours per week.

THEA 3F01

Advanced mime

A study of the creation of material for non-verbal theatre. Includes practical exploration of how visually defined characters are developed through improvisation; the process of finding plot and story; methods of writing and recording visual theatre. Study of the neutral mask is also included. Prerequisite: THEA 2F01 or 2F02 or 2F03 and permission of the instructor. Lectures, workshops, 4 hours per week; additional production time as required.

THEA 3F09

Drama in education II

An advanced course specializing in drama as both a teaching method for all subjects in the school curriculum and as a subject in its own right. Students will take part in workshops, research, and write a paper in an area of special interest. Enrolment limited to 16 students per section, to be determined by academic standing. Prerequisite: THEA 2F10. Not open to students with credit in DRAM 309. Lectures and workshops, 3 hours per week.

THEA 3F11

Theatre in education

The role of theatre in education as an art form created and presented for children and young people and as a medium for educational communication. Students will participate in practical projects.

Prerequisite: THEA 2F10 or permission of the instructor. Admission limited to 24 students. Not open to students with credit in DRAM 311. Lectures and workshops, 3 hours per week; additional rehearsal time as required.

THEA 3F12

Theatre in education: the school play
Practical problems of theatrical presentation within the school year; emphasis on alternate forms of presentation; play-building from a theme; planning the production; the art of presentation and the sharing of production responsibilities. Students will design a production suitable to their individual requirements. Enrolment limited to 24 students. Prerequisite: THEA 2F10 or permission of the instructor. Lectures, workshops 6 hours per week (two sections in spring).

THEA 3F40

Stage production II

Advanced studies in stage craft and theatre management which may take the form of internships. Prerequisite: THEA 2F40 and, or permission of the instructor. Co-requisite for theatre majors: THEA 2P98 or 3P00, as available, and if not taken previously. Not open to students with credit in DRAM 340 and 350 (Production), or THEA 342. Lectures, seminar, workshops, 5 hours per week; additional production time as required.

THEA 3F41

Design I

Specialist studies in design. Prerequisite: THEA 2F40 or permission of the instructor. Co-requisite for theatre majors: THEA 2P98 or 3P00, as available, and if not taken previously. Not open to students with credit in DRAM 340 and 350 (Design). Lectures, seminar, workshops, 5 hours per week; additional production time as required.

THEA 3F50

Acting II

Further studies in acting technique. Emphasis is on the creation of character in dramatic situations. Prerequisite: THEA 2F50 or permission of the instructor. Co-requisite for theatre majors: THEA 2P98 or 3P00, as available, and if not taken previously. Not open to students with credit in DRAM 340 and 350 (Acting), or THEA 351. Lectures, seminar, workshops, 5 hours per week.

THEA 3F52

Directing I

Specialist studies in directing. Prerequisite: THEA 2F50, DRAM 1F93 and one other DRAM course, or permission of the instructor. Co-requisite for theatre majors: THEA 2P98 or 3P00, as available, and if not taken previously. Not open to students with credit in DRAM 340 and 350 (Directing). Lectures, seminar, workshops, 5 hours per week; additional production time as required.

THEA 3F91

Writing for stage, screen and radio

Theory and practice. Workshops on scripts in progress. Selected scripts may be produced in the department's annual spring festival. Prerequisite: DRAM 1F93 and, or permission of the instructor. Materials fee: \$25.00. Not open to students with credit in DRAM 4F91. Seminars, workshops, 3 hours per week.

THEA 3F99

Special honors tutorial

Advanced study of an independent nature in an area of mutual interest to the student and the instructor. A written proposal must be approved by the program director before registration.

THEA 3P00

Trends in modern theatre

The impact of innovative theorists on contemporary performance and the place of the modern actor in society. Group creations, documentary drama, street theatre, guerilla theatre and other experimental forms as well as modern approaches to traditionally scripted material and the influences of other theorists. Research projects, performance projects, essays.
Prerequisite: THEA 1F99 or permission of the instructor.
Lectures, seminar, 3 hours per week.

THEA 4F40

Stage production III

Further studies in stage craft and theatre administration. Such study may take the form of tutorials and will include working closely with instructors on special projects.
Prerequisite: THEA 3F40 and permission of the instructor.
Not open to students with credit in DRAM 440 and 450 (Production), or THEA 442.
Lectures, seminar, workshops, 5 hours per week; additional production time as required.

THEA 4F41

Design II

Further studies in design. Such study may take the form of tutorials and will include working closely with the instructor on special projects.
Prerequisite: THEA 3F41 and permission of the instructor.
Not open to students with credit in DRAM 440 and 450 (Design).
Lectures, seminar, workshops, 5 hours per week; additional production time as required.

THEA 4F56

Advanced study in acting and directing

Students will work together as a small theatre company, collaborating on one or more productions. Acting and directing are taught in tandem as facets of the same analytical technique, and then extended into production work.
Prerequisite: THEA 3F50 or 3F52 and permission of the instructor.
Not open to students with credit in

THEA 4F40, 451, 4F42, DRAM 440 or 450 (Acting or Directing).

Lectures, seminar, 3 hours per week; workshops, additional production time as required.

THEA 4F90

Critical theory and practice
(also offered as DRAM 4F90 and FILM 4F90)

An advanced study of critical theory, its roots, and its application to theatre, dramatic literature, film, television and popular culture.
Prerequisite: year 4 honors standing or permission of the instructor.
Not open to students with credit in DRAM(FILM) 402.
Seminars, 3 hours per week.

THEA 4F94

Honors thesis in applied critical theory
(also offered as DRAM 4F94 and FILM 4F94)

A critical, historical or contemporary thesis. Subject and supervision must be approved by the faculty supervisor before October 15.
Corequisite: THEA 4F90.

Visual arts

The program consists of studio and art history courses which provide a practical and critical understanding of the visual arts so that the student will develop a personal vision as well as theoretical awareness. Historical, theoretical, critical and cultural documents are investigated, and students are encouraged to extend their experience through exposure to courses in the other fine arts programs and to departmental events.

Studio activities include several intuitive, analytical, and experimental approaches. Students are assisted by artist-teachers who have professional experience and standing in the disciplines they teach.

The art history courses examine the historical development of artistic styles

as well as the critical and aesthetic issues that these styles bring into play. Major artists and movements are related to their cultural contexts, and artistic traditions from the ancient to the modern are explored to develop an awareness of the possibilities open both to the visual artist and to the well-informed critic.

Pass program

Eight credits are required: VISA 1F90, 1F92, 1F95, 2F92; one of VISA 2F03, 2F04, 2F05; two of VISA 2F94, 2F96, 2M95-2M99, 3F03, 3F04; one of VISA 2F20, 2F40, 2F50, 2F90, 3M00-3M04, 3F05, 3F20, 3F21, 3F95, or FAPA 3P82.

Notes:

1. VISA 1F90 must be taken in year 1. Visual arts majors should also take VISA 1F92 or 1F95 in year 1.
2. FILM 1F94 is a recommended elective for VISA students.

Honors program

Twelve credits are required: VISA 1F90, 1F92, 1F95, 2F92, 3F92, 4F06; one of VISA 2F03, 2F04, 2F05; two of VISA 2F94, 2F96, 2M95-2M99, 3F03, 3F04; two of VISA 2F20, 2F40, 2F50, 2F90, 3M00-3M04, 3F05, 3F20, 3F21, 3F95, or one of these courses and both FAPA 3P82 and VISA 4P11; one other VISA studio credit.

3. VISA 3F95 is especially recommended for honors VISA majors.

Combined pass program

Five credits are required: VISA 1F90, and any four VISA credits.

4. Three credits numbered 2(alpha)90 or above must be included in all pass programs.

Combined honors program

Seven credits are required: VISA 1F90, 1F92, 1F95, and any other four VISA credits.

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Notes:

5. Three credits numbered 3(alpha)90 or above must be included in all honors programs.

6. From the following list no more than two VISA credits may be counted toward a pass degree, single or combined major, and no more than three for an honors degree: VISA 3F20, 3F21, 4M00-4M09, 4P11, 4P12, 4P13 and 4P14.

7. Students who do not have the necessary prerequisites for studio courses (VISA 1F92, 1F95, 2F03, 2F04, 2F05, 2F92, 2F96, 3F03, 3F04, 3F92, 4F06) may be admitted by portfolio. Details are available from the departmental secretary. Enrolment in these courses will be limited to fifteen students; participation as an auditor is not permitted.

8. Year 3 courses are normally restricted to students with at least three second-year credits or permission of the instructor.

Language requirement for humanities majors

Students in the visual arts stream are required to complete one credit in a language other than English. It is recommended that students fulfil this requirement by year 2.

Description of courses

Please note that not all courses are offered in every session. Refer to the applicable term timetable for details.

Abbreviation:

**VISA

Visual arts course which is cycled every two years.

VISA 1F90

Introduction to the history of art
A critical survey of major styles in architecture, sculpture, and painting from antiquity to the 20th century. No studio work.

Not open to students with credit in FAPA(VISA) 191.
Lectures, seminar, 3 hours per week.

VISA 1F92

Drawing I

Exploration of the fundamental principles of drawing. Creative expression, graphic notation, and the study of the figure will be included, with emphasis on observation and analysis. Students must supply their own materials.

Prerequisite: a portfolio must be submitted before registration, unless the student already has credit for VISA(FAPA) 195 or VISA 1F95.
Not open to students with credit in VISA(FAPA) 202.
Lectures, studio work, 5 hours per week.

VISA 1F95

Foundation studio

A studio course in the principles of composition and design which form the basis of all visual art. Form, structure, space, line, color, proportion, rhythm, etc. will be explored, using a variety of drawing and modelling materials. Students must supply their own materials.

Prerequisite: a portfolio must be submitted before registration unless the student already has credit for VISA 1F92 or 202.

Not open to students with credit in FAPA 201.

Lectures, studio work, 5 hours per week.

VISA 2F03

Painting I

Developing painting skills; introduction to color theory; explorations of technique. Students must supply their own materials.

Prerequisite: VISA 1F90, 1F92 or 1F95 and/or permission of the instructor.
Not open to students with credit in FAPA 203.
Lectures, studio work, 5 hours per week.

VISA 2F04

Printmaking I

Introduction to techniques of etching, silkscreen and relief printmaking, with an emphasis on exploring the technical aspects of each technique. Students must supply their own materials.

Prerequisite: VISA 1F90, 1F92 1F95 and/or permission of the instructor.
Lectures, studio work, 5 hours per week.

VISA 2F05

Sculpture

Fundamentals of sculpture, exploring form, structure, space, weight, plane, tension, rhythm, etc. Instruction in the handling and care of basic modelling materials (clay, plaster, cement), the building of armatures, the rudiments of plaster casting from waste molds. Models, maquettes and drawings will be made; subject matter will include first-hand studies from life. Students must supply their own materials.

Prerequisite: VISA 1F90, 1F92 or 1F95 and/or permission of the instructor.
Lectures, studio work, 5 hours per week.
Offered every summer.

VISA 2F20

The aesthetics of photography

The history of photography from its beginnings to current technological innovations; the principles of critical analysis and the theory of photography

Prerequisite: VISA 1F90 or permission of the instructor.
Lectures, seminar, lab, 3 hours per week.

VISA 2F40

Renaissance art and architecture

The classical resurgence of 1400-1600; individual works and artists in the social and intellectual context of the time, including Alberti, Brunelleschi, Donatello, Michelangelo, Raphael, Leonardo, etc.

Prerequisite: VISA 1F90 or permission of the instructor.
Lectures, seminars, 3 hours per week.

**VISA 2F50

Canadian art

The history of Canadian art and architecture from Confederation to the

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present day, including folk art, Native art, and the avant-garde.

Prerequisite: VISA 1F90 or permission of the instructor.

Not open to students with credit in FAPA 250.

Lectures, seminars, 3 hours per week.

**VISA 2F90

Art and architecture, 1789-1914

Thematic examination of individuality, contemporaneity, and progress in the context of the period's cultural, political, and technological changes.

Prerequisite: VISA 1F90 or permission of the instructor.

Not open to students with credit in VISA (FINA) 291.

Lectures, seminars, 3 hours per week, museum visits.

VISA 2F92

Drawing II

Further exploration of the various media and modes of drawing, with an emphasis on the development of the student's personal imagery and techniques. Students must supply their own materials.

Prerequisite: VISA 1F90, 1F92, 1F95 and permission of the instructor.

Not open to students with credit in VISA 302.

Lectures, studio work, 5 hours per week.

VISA 2F94

Art studies abroad

Studies in the artistic heritage of France at two bases: the mediaeval city of Angers in the Loire Valley, and Paris. Brock visiting instructor, Guy Ducornet, a French artist, will conduct the visits, lectures and seminars and guide the students through their French experience. A command of French is useful but not necessary as the course will be conducted in English. Students must apply to the director by April 1, 1991. To be offered in summer session, 1991.

Prerequisite: a VISA course or permission of the instructor.

**VISA 2F96

Interdisciplinary workshop

An exploration of the concepts and processes of non-traditional media, including the relation of sound,

language, movement and time to visual space. Work will proceed individually and collectively.

Prerequisite: one course in the department of Film Studies, Dramatic and Visual Arts, preferably VISA 1F95, and permission of the instructor.

Lectures, studio work, 5 hours per week.

VISA 2M95-2M99

Special studies in studio

Studies in a specialized area of the visual arts.

1991-92: (2M99) From landscape to inscape

For intermediate or advanced students in drawing and painting to enhance their personal style by exploring multiple aspects of landscape. Wild or formal, from medieval Chinese art to Romanticism, from de Chirico to land art and post-Modern architecture.

Informed by both rural and urban Ontario landscape, students will be expected to develop their own inscapes and complete projects in various media.

Prerequisite: VISA 1F92 and 2F03, or permission of the instructor.

Lectures, studio and field work.

VISA 3F03

Painting II

Further studies in the painting process and in the development of a personal mythology. Students must provide their own materials.

Prerequisite: VISA 2F03 and permission of the instructor.

Lectures, studio work, 5 hours per week.

VISA 3F04

Printmaking II

Further exploration of printmaking techniques, including inking, multi-plate and multi-media printing. There will be an emphasis on personal imagery. Students must provide their own materials.

Prerequisite: VISA 2F04 and permission of the instructor.

Lectures, studio work, 5 hours per week.

**VISA 3F05

Modern art: 1914-1970

A detailed study of 20th century art:

the role and function of the artist in relation to the European and North American avant-garde movements.

Prerequisite: VISA 1F90 and, or permission of the instructor.

Not open to students with credit in VISA 390 or 391.

Lectures, seminar, 3 hours per week and museum visits.

VISA 3F20

Greek art and architecture

(also offered as CLAS 3F20)

Greek art and architecture from the Bronze Age through the Hellenistic period within the framework of historical and cultural change.

Prerequisite: VISA 1F90 or two of CLAS 1P91, 1P92, 1P95, 1P97.

Not open to students with credit in VISA(CLAS) 298.

3 hours per week.

VISA 3F21

Roman art and architecture

(also offered as CLAS 3F21)

Roman art and architecture from the Early Iron Age through the Late Empire within the framework of historical and cultural change with attention to the influence of the Classical heritage on early Christian, Byzantine art.

Prerequisite: VISA 1F90 or two of CLAS 1P91, 1P92, 1P95, 1P97.

Not open to students with credit in VISA(CLAS) 299.

3 hours per week.

VISA 3F92

Expressive drawing

Advanced drawing as a means of expression. Students must supply their own materials.

Prerequisite: VISA 1F90, 2F92 and permission of the instructor.

Lectures, studio work, 5 hours per week.

**VISA 3F95

Contemporary art and ideas

A critical evaluation of the major trends in contemporary art, with an emphasis on the interrelationship between art and ideas about art.

Prerequisite: VISA 1F90 and one other art history credit and permission of the instructor.

Film Studies, Dramatic and Visual Arts

Not open to students with credit in VISA 310
Lectures, seminar, 3 hours per week.

VISA 3F99

Special honors tutorial

Advanced study in an area of mutual interest to the student and the instructor.

A written proposal must be approved by the program director before registration.

VISA 3M00-3M04

Special studies in art history

Studies in a selected area of art history.

Prerequisite: VISA 1F90 and permission of the instructor.

Lectures, seminar.

VISA 4F06

Honors studio

An advanced course in studio concepts and practices. Students will realize personal studio projects, under supervision in a group context. Each student must submit a written project proposal for program approval before registration. Students should contact the director for further information. Students must supply their own materials.

Prerequisite: honors standing in VISA and permission of the program director. Studio work, 5 hours per week.

VISA 4F99

Honors thesis

A critical, historical or creative project in the visual arts of mutual interest to the student and the instructor. Students are urged to arrange and plan their projects in the spring for the following year.

A written proposal must be approved by the program director before registration.

Prerequisite: honors standing in VISA and permission of the program director.

VISA 4M00-4M09

Study in Mediterranean lands

(also offered as CLAS 4M00-4M09)

First-hand topographical investigations

of ancient sites and monuments. Study tours of the great cities and museums of the Mediterranean world with emphasis on the art and architecture of the Prehistoric, Classical and later periods. Offered in the summer session for approximately three or four weeks of intensive study abroad.
Prerequisite: permission of the instructor.

VISA 4P11

The art and architecture of the ancient Near East

(also offered as CLAS 4P11)

The art and architecture of Egypt, the Levant, Mesopotamia, Iran and eastern Anatolia from the Neolithic period through the Early Iron Age.

Prerequisite: VISA or CLAS credit numbered 2(*alpha*)90 or above or permission of the instructor.

Not open to students with credit in VISA(CLAS) 389hc.

Lectures, seminar, 3 hours per week.

VISA 4P13

The art and archaeology of Cyprus

(also offered as CLAS 4P13)

The cultural history of Cyprus from the Neolithic period through the Early Byzantine period, based on the archaeological record, and of the role of Cyprus in the civilization of the eastern Mediterranean.

Prerequisite: VISA 1F90 or a CLAS credit numbered 2(*alpha*)90 or above or permission of the instructor.

Not open to students with credit in VISA(CLAS) 398hc.

3 hours per week.

VISA 4P14

The Aegean Bronze Age

(also offered as CLAS 4P14)

The development of the Bronze Age cultures of the Aegean Basin from 3000 to 1100 BC. The art and architecture of the Minoans on Crete and the Mycenaeans on the Greek mainland will be stressed.

Prerequisite: VISA 1F90 or a CLAS credit numbered 2(*alpha*)90 or above or permission of the instructor.

Not open to students with credit in VISA (CLAS) 395 or 402hc.
3 hours per week.

French, Italian and Spanish

Officers of instruction

Chair

Alexandre L. A. Amprimoz

French section

Professors

Alexandre L.A. Amprimoz,
co-ordinator

Leonard A. Rosmarin

Associate professors

Sandra L. Beckett
Leslie A. Boldt-Irons
Barbara J. Bucknall
Dennis F. Essar
Barbara A.R. McEwen

Italian section

Associate professor

Corrado J.A. Federici, co-ordinator

Assistant professor

Ernesto J. Virgulti

Spanish section

Associate professor

Juan A. Fernández

Assistant professor

Carlos J. Garcia-Gil, co-ordinator

General information

Schmon Tower 1132

The department of French, Italian and Spanish aims to provide students with a thorough and comprehensive coverage of language (spoken and written), literature, and culture. Students are given encouragement and help to visit the language environment in which they are interested. Through a program offered by the department in collabora-

tion with Dalhousie University, third year students in French have the opportunity of spending one academic year at the University of Provence in Aix-en-Provence, France. In addition, the department favors and facilitates participation by French students at all levels in French immersion programs offered in France (Tours and Angers) and Québec. For students of Italian, the department collaborates with the University of Toronto and York University which offer programs in Italy. Brock University credit can often be obtained for work completed in many of these programs.

Notes:

1. Students who have OAC standing or its equivalent in the language take the course numbered 1F90; others take courses numbered 1F00, 1F10 or 1F80 (see individual course descriptions). FREN 1F80 is taken by students who have completed between two and four years of Ontario high school French (i.e. grade 10, 11 or 12). FREN 1F00 is taken by students who have little or no background in the language (i.e. Ontario grade 9 or less).

2. Courses numbered 1F00 are taught partly in English; those numbered 1F80 or 1F90 are taught in the language whenever possible; all courses numbered 2F00 and up are taught in the language.

3. Language courses numbered 1F00, 1F10 and 1F80 may not be taken by those who have OAC standing or its equivalent in the language unless special authorization is obtained from the department. Such authorization is granted only in the most exceptional cases.

4. Prerequisites for FREN, ITAL, and SPAN 1F90: OAC standing or its equivalent in the language, or a 1F00, 1F10 or 1F80 course in the language, or permission of the department. Prerequisites for courses numbered 2F00 and above are specified in the individual course descriptions.

5. French-speaking students who have OAC in Français are excluded from French courses in the 1(alpha)00 series. They normally take FREN 2F00 in their first year. Similarly, French immersion graduates normally proceed directly to FREN 2F00.

6. FREN 1F00 is a degree credit; however, it may not be used to meet the departmental requirements for a single or combined program in French. Similarly ITAL 1F00 and SPAN 1F00 may be counted towards a degree, but may not be used to meet requirements for single or combined programs in the respective languages.

7. Only one of FREN 1F80 or 1F90 may be used to meet the departmental requirements for a French major.

8. It is to be noted that courses numbered 1F00, 1F10, 1F80, 1F90 and 2F00 constitute a sequence. Once credit has been obtained in one of these courses, students are not allowed to take for credit a course in the sequence with a lower number. French students may not take two courses at different levels of the above sequence during the same session. Students admitted to any FREN course numbered 2(alpha)00 or higher may not concurrently or subsequently take a FREN course at the 1(alpha)00 level.

Pass program in a single major

French

Year 1

FREN 1F90; one science and one social science context credit; two elective credits.

Year 2

FREN 2F00; FREN 2F01 or 2F05; one further course from among FREN 2F01, 2F05, 2F42, 2F50 or courses numbered 2F90 or higher with permission of the department; two elective credits.

French, Italian and Spanish

Year 3

Three FREN credits numbered 2(*alpha*) 90 and above; two elective credits.

Italian

Year 1

ITAL 1F90; one science and one social science context credit; two elective credits.

Year 2

ITAL 2F00, 2F90, 2P40, 2P92; two elective credits.

Year 3

Three ITAL credits numbered 2(*alpha*)90 and above; two elective credits.

Spanish

Year 1

SPAN 1F90; one science and one social science context credit; two elective credits.

Year 2

SPAN 2F00; two of SPAN 1F95, 1F96, 2F10, 2F90; two elective credits.

Year 3

Three of SPAN 3F92 to 4F10; two elective credits.

Honors program in a single major

French

Years 1, 2 and 3

As in pass program.

Year 4

Five of FREN 2F90 to 4F99. Honors students must take FREN 3F90 in either year 3 or 4. Three credits numbered 3(*alpha*) 90 or above must be included in all honors degrees.

Italian

In combination with any other language as part of a combined major, see below; other combinations of programs

are possible subject to departmental approval.

Spanish

Years 1, 2 and 3

As in pass program.

Year 4

Five of SPAN 2F10 to 4F25. It should be noted that three credits numbered 3(*alpha*)90 or above must be included in all honors degrees.

Pass program in two languages

(applicable to all languages)

Year 1

One credit in language A; one credit in language B; one science and one social science context credit; one elective credit.

Year 2

Two credits in language A; two credits in language B; one elective credit.

Year 3

Two credits in language A numbered 2(*alpha*)90 or above; two credits in language B numbered 2(*alpha*) 90 or above; one elective credit.

Honors program in two languages

(applicable to all languages)

Years 1, 2 and 3

As in pass program.

Year 4

Two credits in language A; three credits in language B. Three credits numbered 3(*alpha*) 90 or above must be included in each honors program.

Combined major programs

Pass

Year 1

One credit in the chosen language.

Year 2

Two credits in the chosen language.

Year 3

Two credits in the chosen language numbered 2(*alpha*) 90 or above.

Honors

Years 1, 2 and 3

As in pass program.

Year 4

Three credits in the chosen language numbered 3(*alpha*) 90 or above. Three credits numbered 3(*alpha*)90 or above must be included in each honors program.

Description of courses

Please note that not all courses are offered in every session. Refer to the applicable term timetable for details.

French section

FREN 1F00

Language (introductory)

Essentials of grammar, emphasis on idiomatic expression. Extensive practice in reading, writing and speaking.

This course may be taken *only* by students who have limited or no background in the language (i.e. Ontario grade 9 French or equivalent or less).

Lectures, 3 hours per week; plus language lab.

FREN 1F80

Practical language

Basic skills of written and oral expres-

sion. Emphasis on communication for general purposes. Selected texts. Prerequisite: FREN 1F00 or, at the high school level, a minimum of two years but no more than four years of French (i.e. Ontario grade 10, 11 or 12 or equivalent). Lectures, 3 hours per week; plus language lab.

FREN 1F90

Language and literature

Practice in speaking, reading, and writing; self-expression through discussion. Selected literary texts. Prerequisite: FREN 1F00 or 1F80 or OAC French (not in Français or immersion programs) or equivalent. Lectures, 3 hours per week; plus language lab.

FREN 2F00

Language (intermediate)

Literary and idiomatic expression. Composition, critical written and oral expression through discussion of general and literary topics. Transposition into French. Prerequisite: FREN 1F90 or OAC Français or OAC French Immersion. Lectures, 3 hours per week.

FREN 2F01

Literary and cultural movements of France

Introduction to the literature of France: analysis of significant works in their historical and cultural context. Introduction to *dissertation* and *explication de texte*. Recommended preparation for all further courses in French literature. Prerequisite: FREN 1F90 or OAC Français or OAC French immersion. Lectures, 3 hours per week.

FREN 2F05

Literary and cultural movements of French Canada

Introduction to the literature of French Canada: analysis of significant works in their historical and cultural context. Introduction to *dissertation* and *explication de texte*. Recommended preparation for all further courses in French-Canadian literature.

Prerequisite: FREN 1F90 or OAC Français or OAC French immersion. Not open to students with credit in FREN 216. Lectures, 3 hours per week.

FREN 2F31

Culture and civilization in France

A day-by-day field exploration in France, of French culture, past and present, concentrating on the culture and the people. The course takes place in July in Angers and Paris and immerses students in the life of the country as well as in the French language. Prerequisite: FREN 1F90.

FREN 2F42

Children's literature

A selection of texts for children from the 17th century to the present day. Authors studied include: La Fontaine, Perrault, Verne, Daudet, Maurois, Aginé, Prévert, Jacob, Ionesco and Tournier. Prerequisite: FREN 1F90. Lectures, 3 hours per week.

FREN 2F50

Introduction to the comparative phonetics of English and French (given in English)

(also offered as TESL 2F50 and APLI 2F50) A comparative analysis of distinctive phonological features of the English and French languages. Prerequisite: FREN 1F90. Co-requisite: TESL 2F60 (no co-requisite for French majors). Lectures, seminar, 3 hours per week.

FREN 2F85

Francophone feminists of the 20th century

(also offered as WISE 2F85) (formerly FREN 3F91) Women writers in France and Quebec who are rethinking traditional women's roles and who have some very different solutions to this basic issue. Prerequisite: FREN 1F90 or higher or permission of the instructor. Not open to students with credit in FREN 3F91 or 3F81. Lectures: 3 hours per week.

FREN 2F90

19th century novel

Its evolution from the Romantic era to the Catholic revival. Naturalism and realism. Authors studied include: Constant, Stendhal, Balzac, Flaubert, Maupassant, Zola and Huysmans. Prerequisite: any FREN course numbered 2F00 or higher. Lectures, 3 hours per week.

FREN 2F91

Contemporary literature of Africa and the Caribbean

(formerly FREN 2F41) Contemporary poetry, theatre and novels of the French-speaking countries of Africa and the Caribbean in the context of their historical, social, and ideological background. Authors studied include: Césaire, Kateb, Dadié, Kourouma, Oulougem, Senghor and Glissant. Prerequisite: any FREN course numbered 2F00 or higher. Not open to students with credit in FREN 291 or 2F41. Lectures, 3 hours per week.

FREN 2F92

18th century literature

Enlightenment, sensibility and the *philosophes*. Analysis of significant works in their cultural and ideological context. Authors studied include: Montesquieu, Prévost, Marivaux, Voltaire, Diderot, Rousseau, Beaumarchais and Laclos. Prerequisite: any FREN course numbered 2F00 or higher. Not open to students with credit in FREN 211. Lectures, 3 hours per week.

FREN 2F93

20th century French literature to 1945

Analysis of tendencies and major works in several genres. Authors studied include: Claudel, Gide, Alain-Fournier, Proust, Romains, Giraudoux, Saint-Exupéry, Malraux, Bernanos and Montherlant. Prerequisite: any FREN course numbered 2F00 or higher. Not open to students with credit in FREN 391. Lectures, 3 hours per week.

French, Italian and Spanish

FREN 2F95

French-Canadian novel and short story

Evolution and tendencies from the 19th century to the present day. Authors studied include: Aubert de Gaspé, Ringuet, Langevin, Roy, Blais, Hébert, Aquin and Ducharme.
Prerequisite: any FREN course numbered 2F00 or higher. FREN 2F05 is recommended.

Not open to students with credit in FREN 396.

Lectures, 3 hours per week.

FREN 2F99

Translation I

An introduction to comparative stylistics and a preparation for FREN 4F01 (Translation II). Questions presented and studied include fundamental linguistic terminology, basic principles of translation, structural and semantic contrasts between French and English as well as cultural implications in language studies; pragmatic exercises stressing stylistic analysis of texts and their translations, lexical exactitude and problem-solving in terminology.

Prerequisite: FREN 2F00.

Not open to students with credit in FREN 2F49.

Lectures, 3 hours per week.

FREN 3F90

Stylistics

Fundamental principles of stylistics and the related disciplines of rhetoric and poetics; the study of semantics with particular emphasis on French idiomatic expressions; advanced composition.

Prerequisite: FREN 2F00.

Lectures, 3 hours per week.

FREN 3F97

17th century literature

The ideal of French classicism. Assessment of conflicting religious, philosophical, artistic, and moral currents. Authors studied include: Corneille, Molière, Racine, Pascal, Mme de Lafayette, Saint-Simon, La Fontaine.

Prerequisite: any FREN credit numbered 2F00 or higher.

Lectures, 3 hours per week.

FREN 3F98

19th century poetry and theatre

Romanticism, symbolism, and decadence. Authors studied include: Lamartine, Vigny, Hugo, Nerval, Baudelaire, Rimbaud, Mallarmé, Becque.

Prerequisite: any FREN course numbered 2F00 or higher.

Lectures, 3 hours per week.

FREN 3P95

French-Canadian theatre

Contemporary French-Canadian theatre: background and traditions, analysis of selected plays, international influences, and current directions.

Authors may include: Gélinas, Dubé, Hébert, Loranger, Tremblay, Barbeau, Germain, Maillet, Laberge, Chaurette, Dubois, Bouchard.

Prerequisite: any FREN course numbered 2F00 or higher. FREN 2F05 is recommended.

Not open to students with credit in FREN 3F85, 3F95 or 426.

Lectures, 3 hours per week.

FREN 3P96

French-Canadian poetry (formerly FREN 4F85)

Evolution and tendencies from the late 19th century to the present day.

Authors may include: Nelligan, Saint-Denys Garneau, Grandbois, Miron, Brossard, Brault.

Prerequisite: any FREN course numbered 2F00 or higher. FREN 2F05 is recommended.

Not open to students with credit in FREN 4F85 or 426.

Lectures, 3 hours per week.

FREN 4F00

History of the language

The origins of French, dialectal and provincial variations since the Middle Ages, social influences upon language, lexicology and idiomatology, the impact of other languages on French, assessment of French as a vehicle of thought through the ages.

Lectures, 3 hours per week.

FREN 4F01

Translation II

Building on the basis of FREN 2F99,

this course will stress both the cultural and technical implications of problem solving in translation. The theory and history of the discipline will be presented in order to demonstrate the constant terminological retraining necessary for professional translators.
Prerequisite: FREN 2F99.
Lectures, 3 hours per week.

FREN 4F10

Language and literature of the Middle Ages

From the *chansons de geste* to the 15th century. *Romans courtois*, satire, history and theatre. Grammar and syntax of old French. Authors studied include: Bérout, Bodel, Villon.
Lectures, 3 hours per week.

FREN 4F20

Literature, 16th century

Humanism within the French Renaissance. Pléiade poetry. Authors studied include: Rabelais, DuBellay, Ronsard, D'Aubigné, Montaigne.

Lectures, 3 hours per week.

FREN 4F93

20th century literature from 1945 to the present day

Analysis of tendencies and major works in several genres, including those of the theatre of the absurd and the *nouveau roman*. Authors studied include: Sartre, Camus, Duras, Genet, Ionesco, Beckett, Robbe-Grillet, Sarraute, Butor, Le Clézio.
Not open to students with credit in FREN 391.

Lectures, 3 hours per week.

FREN 4F95

Advanced French for teachers

For advanced students presently teaching or intending to teach French. The course includes a review of grammar from the teaching point of view, a series of discussions stressing correct pronunciation and expression. Half of the course will be devoted to the study of various Francophone cultures.

Prerequisite: FREN 2F00 and permission of department.

Lectures, seminar, 3 hours per week.

FREN 4F98

Critical theory and methodology

Contemporary critical theories and advanced bibliographical research in the various areas of French literature. Assignments will consist of two major projects to be completed in second term.

Prerequisite: two FREN credits numbered 2F90 or higher.

Lectures, 3 hours per week.

FREN 4F99

Research project

A research project carried out with a faculty adviser. Students will establish the topic in consultation with members of the department.

Prerequisite: honors standing and permission of the department.

FREN 4V60-4V65

Special research topics in French literature

These courses are intended to bridge the specific research interests of the members of the department with their teaching at our present most advanced level. From year to year the instructor, as well as the content of the course, will vary.

Lectures, 3 hours per week.

Italian section

Please note that not all courses are offered in every session. Refer to the applicable term timetable for details.

ITAL 1F00

Language (introductory)

A beginner's course for students with no background in Italian. Acquisition of reading and oral skills, elementary grammar. Conversation and composition.

Lectures, 3 hours per week; plus language lab.

ITAL 1F10

Language (introductory, for dialect speakers)

(formerly ITAL 1F80)

A beginner's course for students with limited background in the Italian language or one of its dialects. Acquisition of reading and oral skills, basic

grammar, composition and conversation.

Not open to students with credit in ITAL 1F00 or ITAL 1F80.

Lectures, 3 hours per week; plus language lab.

ITAL 1F90

Language (intermediate)

Grammar review; emphasis on more complex structures; composition and oral practice. Discussions based on selected literary texts.

Prerequisite: any one of ITAL 1F00, 1F10, two or more years of high school Italian, OAC Italian or permission of the instructor.

Lectures, 3 hours per week; plus language lab.

ITAL 1F95

Culture and civilization
(given in English)

The artistic heritage of Italy and the forces--intellectual, political, and social--that have shaped the mentality and way of life of the Italians from the Middle Ages to the present day. Selected texts, slides, records, and films.

Not open to students with credit in ITAL 230.

Lectures, 3 hours per week.

ITAL 2F00

Language and literature

Advanced grammar, oral and written practice. Introduction to the analysis of literary texts and principles of criticism.

Prerequisite: ITAL 1F90 or permission of the department.

Lectures, 3 hours per week.

ITAL 2F90

Translation and advanced grammar

The first part of this course is dedicated to the translation of selected material from business correspondence, magazine articles, essays and literary texts. The second part deals with principles of syntax and style and includes compositions on literary topics.

Prerequisite: ITAL 1F90.

Not open to students with credit in ITAL 290, 299 or 390.

Lectures, 3 hours per week.

ITAL 2P40

Literary and cultural movements in Italy

An overview of the primary theoretical and artistic works that pertain to the following movements: *stilnovismo*, *umanesimo*, *rinascimento*, *barocco*, *illuminismo*, *romanticismo* and *decadentismo*.

Prerequisite: ITAL 1F90.

Lectures, 3 hours per week.

ITAL 2P92

Italian theatre

Italy's major playwrights and their more significant works. Authors include Machiavelli, Goldoni, and Pirandello.

Prerequisite: ITAL 1F90.

Lectures, 3 hours per week.

ITAL 2P93

Petrarca and Boccaccio

(formerly part of ITAL 3F93)
Selected poems from Francesco Petrarca's *Il Canzoniere* and novellas from Giovanni Boccaccio's *Il Decameron*.

Not open to students with credit in ITAL 3F93.

Lectures, 3 hours per week.

ITAL 3F96

Dante

(formerly part of ITAL 3F93)
The major focus is Dante Alighieri's *La Divina Commedia* and selections from *La Vita Nuova* and other works.

Not open to students with credit in 3F93.

Lectures, 3 hours per week.

ITAL 3P90

Italian Romanticism: prose and poetry

Major texts of the Italian Romanticism, including Manzoni, *I Promessi Sposi*; and selections from Leopardi's *Canti* and the works of Foscolo.

Not open to students with credit in ITAL 210.

Lectures, 3 hours per week.

ITAL 3P91

Literature of the 19th and 20th centuries

A study of post-Romantic literature with particular emphasis on Verismo

French, Italian and Spanish

and Decadentismo. Authors include: Verga, Pirandello and Svevo. Not open to students with credit in ITAL 210. Lectures, 3 hours per week.

ITAL 3P94

The modern novel

Representative novels from leading modern and contemporary writers such as Moravia, Pavese, Buzzati, Silone, Vittorini, Calvino, Sciascia. Lectures, 3 hours per week.

ITAL 3P95

Modern Italian poetry

Major poets and currents of the 20th century. Selections from D'Annunzio, Pascoli, the Crepuscolari, the Vociani, the Futurists, Saba, Ungaretti, Montale, Quasimodo, the Hermetics, post-Hermeticism. Lectures, 3 hours per week.

ITAL 4P05

Prose of the Italian Renaissance

Major thinkers and currents of the Italian Renaissance. Prescribed texts include: Machiavelli, *Il Principe*; Castiglione, *Il Cortegiano*. Not open to students with credit in ITAL 4F10. Lectures, 3 hours per week.

ITAL 4P06

Poetry of the Italian Renaissance

Major epic poets of the Italian Renaissance. Prescribed texts include: Ariosto, *Orlando furioso*; Tasso, *Gerusalemme liberata*. Not open to students with credit in ITAL 4F10. Lectures, 3 hours per week.

Spanish section

Please note that not all courses are offered in every session. Refer to the applicable term timetable for details.

SPAN 1F00

Language (introductory)

Essentials of grammar, emphasis on idiomatic expression. Conversation and elementary composition. Lectures, 3 hours per week; plus language lab.

SPAN 1F90

Language and literature

Practice in speaking, reading and writing, composition, self-expression. General background of Spanish literature. Lectures, 3 hours per week; plus language lab.

SPAN 1F95

Spanish culture and civilization (given in English)

Historical, social, and artistic factors fundamental to an understanding of modern Spain. Selected texts, slides, and tapes. Not open to students with credit in SPAN 230. Lectures, 3 hours per week.

SPAN 1F96

Spanish-American culture and civilization (given in English)

Historical, social and political developments from pre-Columbian times to the present day. Selected texts, tapes and slides. Not open to students with credit in SPAN 240. Lectures, 3 hours per week.

SPAN 2F00

Language (intermediate)

Oral and written language practice. Discussion of general literary and linguistic topics. Composition and translation. Selected texts. Lectures, 3 hours per week.

SPAN 2F90

Translation and advanced grammar (formerly SPAN 2F99)

The translation of a wide range of material including articles, literature, essays and business correspondence followed by advanced grammar and stylistics, including compositions on literary topics. Prerequisite: SPAN 1F90 or permission of the instructor. Not open to students with credit in SPAN 2F99 or 3F96. Lectures, seminar, 3 hours per week.

SPAN 2P10

Spanish-American literature (formerly SPAN 2F10)

Chronological coverage from early times to the present day. Anthology readings. Not open to students with credit in SPAN 2F10. Lectures, 3 hours per week.

SPAN 3F98

Literature, 18th and 19th centuries

A general survey of Spanish literature of the period with emphasis on artistic movements and the social, historical, and cultural background of the time. Prescribed texts: Feijoo, *Teatro crítico universal*; Moratín, *El sí de las niñas*; Larra, *Artículos de costumbres*; Zorrilla, *Don Juan Tenorio*; Bécquer, *Rimas, Leyendas*; Pérez Galdós, *Torquemada*; Clarín, *¡ Adiós, Cordera!* Lectures, 3 hours per week.

SPAN 3P92

Miguel de Cervantes

(formerly SPAN 3F92) Humanism and Renaissance in Spain: Cervantes' *Novelas ejemplares* and *D. Quijote de la Mancha*. Not open to students with credit in SPAN 3F92. Lectures, 3 hours per week.

SPAN 3P93

The theatre of the Golden Age (formerly SPAN 3F93)

Major playwrights of the Golden Age; authors include Lope de Vega, Tirso de Molina, Calderon de la Barca, Ruiz de Alarcon. Not open to students with credit in SPAN 3F93. Lectures, 3 hours per week.

SPAN 3P94

20th century Spanish novel (formerly SPAN 4F25)

Representative novels from major contemporary writers of Spain such as Cela, Delibes, Cunqueiro, Sanchez Ferlosio, Martin Santos, Benet. Not open to students with credit in SPAN 4F25. Lectures, 3 hours per week.

SPAN 3P95

20th century Spanish-American novel

(formerly SPAN 3F95)

Major contemporary Spanish-American novelists such as Carpentier, Rulfo, Fuentes, Cortázar, García Márquez, Borges and their main works.

Not open to students with credit in SPAN 3F95.

Lectures, 3 hours per week.

SPAN 3P97

The generation of '98

(formerly SPAN 3F97)

Spanish writers of the beginning of the 20th century. Authors include Unamuno, Baroja, Azorín, A. Machado, Valle Inclán.

Not open to students with credit in SPAN 3F97.

Lectures, 3 hours per week.

SPAN 4F00

History of the language

Origins, approach to phonology, morphology and syntax, dialectal and social influence, evolution in provincial Spanish and Latin America, idiomatology.

Lectures, 3 hours per week.

SPAN 4F10

Language and literature of the Middle Ages

Grammar and syntax of medieval Spanish. Intensive study of major works. Prescribed texts: *Mío Cid*; Don Juan Manuel, *El Conde Lucanor*; Arcipreste de Hita, *Libro de buen amor*; F. Rojas, *La Celestina*.

Lectures, 3 hours per week.

General Studies and Integrated Studies

Students wishing to pursue a pattern of studies which does not coincide with either a single major or a combined major program may choose a General Studies program or an Integrated Studies program.

A General Studies program is offered at both the pass and honors degree levels and must be approved by the dean in whose faculty most of the courses are to be taken. In addition to the normal University requirements, a student must include at least five credits in one subject and three in another as part of the 15 credits required for a pass degree. Of the 20 credits required for an honors degree, at least seven credits must be chosen in one subject and five in another. It should be noted that a maximum of five credits from any combination of Business, Education, Physical Education, Recreation and Leisure Studies can be included in a pass BA or BSc; within an honors BA or BSc a maximum of seven may be taken. Education may only be used for a minor concentration (i.e. the three credit component) and only in a pass degree. An honors degree with Education as a component is not possible.

One credit in a language is required of students who choose a concentration of courses in humanities. All others must include one credit in Mathematics or Computer Science or approved equivalent. If students choose courses from the humanities and any of the other faculties, they should consult the appropriate dean to determine whether one or both of these requirements must be satisfied.

Students electing to pursue a General Studies program should consult with the appropriate dean or the Supervisor, Student Academic Services when choosing courses.

An Integrated Studies program is offered at both pass and honors degree levels for students whose special interests cannot be accommodated by a major, combined major or general studies program. A student choosing an Integrated Studies program must receive prior approval for such a program or any subsequent changes to an approved program from the appropriate dean. An Integrated Studies program which involves only two subject areas for which a combined major is available may not be taken, nor is it possible to pursue an integrated studies program in Education. A student electing to pursue an Integrated Studies program must maintain second class honors standing in order to continue in the program and to graduate. Additionally, an Integrated Studies program must include an appropriate credit in Mathematics or Computer Science if the pattern of studies includes an emphasis in science or social science, or a credit in a language (in accordance with the language requirement of the Faculty of Humanities) if the pattern of studies includes an emphasis in the humanities. Both may be required where circumstances warrant. When choosing a program, students should take care that prerequisites for advanced courses are met and that the schedule for cycled courses is considered.

Students graduating in combined major, General or Integrated Studies programs will receive a BA if the majority of their courses is in the arts, or a BSc if the majority of their courses is in the sciences.

Geography

Officers of instruction

Chair

John McNeil

Professors

John N. Jackson

John Menzies

Clarke W. Thomson

Keith J. Tinkler

Associate professors

Hugh J. Gayler

Alun O. Hughes

John McNeil

Josephine P. Meeker

Anthony B. Shaw

General information

Mackenzie Chown, C322

The department of Geography offers programs leading to BA and BSc degrees at the pass and honors levels and participates in a number of combined major programs.

Geographers study the distribution of phenomena, physical and human, over the earth's surface and the interrelationships of man and the natural environment. Their work ranges from description and mapping, through scientific analysis and explanation, to forecasting and planning for the future.

The discipline of Geography has a broad scope and combines elements of both the social and natural sciences. Two principal divisions of the subject exist--human geography and physical geography--linked by a common background, a mutual concern for the environment and mankind, and a body of related theory and methodology.

Geography majors at Brock may choose from four degree programs: BA Human Geography, BSc Physical Geography, BA Geography and BSc Geography. The first two are relatively specialized, while the last two strike a balance between the physical and human sides of the discipline. These programs are described in detail in subsequent sections.

The courses offered by the department of Geography fall into two groups:

Group A: courses which may be taken for BA credit:

1F90

2P02, 2P03, 2P06, 2P07, 2P08, 2P90, 2P91, 2P92, 2P93, 2P94

3F90, 3P01, 3P03, 3P05, 3P07, 3P40, 3P41, 3P42, 3P43, 3P44, 3P57, 3P60, 3P72, 3P73, 3P82, 3P83, 3P84, 3P85, 3V60-3V69

4F60, 4F62, 4F63, 4F67, 4F69, 4F90, 4F99, 4P01, 4P02

Group B: courses which may be taken for BSc credit:

1F91

2P04, 2P05, 2P07, 2P08, 2P09, 2P94

3F90, 3P01, 3P03, 3P05, 3P07, 3P10, 3P22, 3P23, 3P24, 3P25, 3P31, 3P56, 3P83, 3V60-3V69

4F11, 4F60, 4F90, 4F99, 4P01, 4P02, 4P26, 4P27, 4P28

Notes:

1. Certain courses fall into both group A and group B, and can be taken for either BA or BSc credit.
2. In the case of GEOG 3F90 and 3V60-3V69 the content in a given year determines whether the course yields BA credit or BSc credit.
3. A geography student's major average is computed using all the GEOG

credits completed, whether group A or group B.

4. Students may hold credit for only one of GEOG 3P56 or 3P57.

In most courses there is emphasis on practical work. This involves structured labs and seminars in early years, and progressively more independent work in later years, culminating in an optional honors thesis in year 4. Field work features prominently in many courses. Two field courses, GEOG 3P56 and 3P57, are held during registration week in early September, with follow-up seminars during term. One of these courses is mandatory for students entering year 3; prospective students must register with the department by April of the preceding academic year. An internship program is available as part of GEOG 4F99 in year 4, enabling students to obtain real-world work experience while still at the University.

Laboratories and equipment are available for work in biogeography, geomorphology, climatology, cartography, surveying, remote sensing, geographical information systems and human geography. The University map library, containing an extensive collection of maps, atlases and airphotos, is housed within the Geography department.

Bachelor of Arts in Human Geography

Pass program

Seven and one-half credits in GEOG are required, plus MATH 1F92 and two social science credits other than GEOG.

The normal program sequence is as follows:

Year 1

GEOG 1F90; GEOG 1F91 (may be taken in year 2); MATH 1F92; one

Geography

humanities and one social science context credit.

Year 2

GEOG 2P02, 2P03, 2P06, 2P07, 2P08; one social science credit; one and one-half elective credits (to include GEOG 1F91 if not completed in year 1).

Year 3

GEOG 3P57; two and one-half year 3 credits in GEOG from group A; two elective credits.

Honors program

Eleven and one-half credits in GEOG are required.

Years 1, 2 and 3

As in pass BA program.

Year 4

GEOG 4F99; two year 4 credits in GEOG from group A; one credit in GEOG at year 2 level or above; one elective credit.

Bachelor of Science in Physical Geography

Pass program

Seven and one-half credits in GEOG are required, plus MATH 1P97, 1P98, and three science credits from BIOL/BCHM, CHEM, COSC, GEOL, MATH and PHYS (excluding ASTR 1F00, BIOL 1F25, COSC 1P90, GEOL 1F90, GEOL 2P90 and SCIE 1F20). It is recommended that at least one of these be at year 2 level or above.

The normal program sequence is as follows:

Year 1

GEOG 1F91; GEOG 1F90 (may be taken in year 2); MATH 1P97, 1P98; one humanities and one science context credit.

Year 2

GEOG 2P04, 2P05, 2P07, 2P08, 2P09;

one science credit; one and one-half elective credits (to include GEOG 1F90 if not completed in year 1).

Year 3

GEOG 3P56; two and one-half year 3 credits in GEOG from group B; one science credit; one elective credit.

Honors program

Eleven and one-half credits in GEOG are required.

Years 1, 2 and 3

As in pass BSc program.

Year 4

GEOG 4F99; two year 4 credits in GEOG from group B; one credit in GEOG at year 2 level or above; one elective credit.

Notes:

1. GEOL 3P25 may be taken for GEOG credit as GEOG 3P25.
2. For students with a specific interest in geomorphology and soils the following GEOL courses are recommended as elective credits: GEOL 2P31, 3P52, 3P61, 4P41, 4P42 and 4P61.

Bachelor of Arts in Geography

Pass program

Eight credits in GEOG are required, plus MATH 1F92 and two social science credits other than GEOG.

The normal program sequence is as follows:

Year 1

GEOG 1F90, 1F91; MATH 1F92; one humanities and one social science context credit.

Year 2

GEOG 2P07, 2P08; one credit from GEOG 2P02, 2P03, 2P06; one credit from GEOG 2P04, 2P05, 2P09; one

social science credit; one elective credit.

Year 3

GEOG 3P57; one and one-half year 3 credits in GEOG from group A; one year 3 credit in GEOG from group B; two elective credits.

Honors program

Twelve credits in GEOG are required.

Years 1, 2 and 3

As in pass BA program.

Year 4

GEOG 4F99; two year 4 credits in GEOG; one credit in GEOG at year 2 level or above; one elective credit.

Bachelor of Science in Geography

Pass program

Eight credits in GEOG are required, plus MATH 1P97, 1P98, and three science credits from BIOL/BCHM, CHEM, COSC, GEOL, MATH and PHYS (excluding ASTR 1F00, BIOL 1F25, COSC 1P90, GEOL 1F90, GEOL 2P90 and SCIE 1F20). It is recommended that at least one of these be at year 2 level or above.

The normal program sequence is as follows:

Year 1

GEOG 1F90, 1F91; MATH 1P97, 1P98; one humanities and one science context credit.

Year 2

GEOG 2P07, 2P08; one credit from GEOG 2P02, 2P03, 2P06; one credit from GEOG 2P04, 2P05, 2P09; one science credit; one elective credit.

Year 3

GEOG 3P56; one year 3 credit in GEOG from group A; one and one-half year 3 credits in GEOG from group B;

one science credit; one elective credit.

Honors program

Twelve credits in GEOG are required.

Years 1, 2 and 3

As in pass BSc program.

Year 4

GEOG 4F99; two year 4 credits in GEOG; one credit in GEOG at year 2 level or above; one elective credit.

Combined major programs

The department of Geography participates in the following formal combined major programs:

- BSc Geography and Biological Sciences*
- BA Geography and Computer Science
- BSc Geography and Computer Science
- BA Geography and Economics*
- BSc Geography and Geological Sciences
- BA Geography and Urban and Environmental Studies
- BSc Geography and Urban and Environmental Studies

The requirements for the two programs marked with an asterisk (*) are listed in the Biological Sciences and Economics sections of the calendar. The other programs are described below.

Combined major programs involving other disciplines are also possible; students interested in pursuing one of these should consult the chair of geography and the other department involved.

The minimum GEOG course requirements for a combined major program are as follows.

BA pass degree

GEOG 1F90; GEOG 2P07, 2P08; one year 2 credit from group A; GEOG

3P57; one and one-half year 3 credits from group A.

BA honors degree

As for pass degree, plus: GEOG 4F99; one year 4 credit from group A.

BSc pass degree

GEOG 1F91; GEOG 2P07, 2P08; one year 2 credit from group B; GEOG 3P56; one and one-half year 3 credits from group B; MATH 1P97, 1P98.

BSc honors degree

As for pass degree, plus: GEOG 4F99; one year 4 credit from group B.

Notes:

1. MATH 1P97, 1P98 are mandatory in all BSc combined major programs.
2. All combined major programs require a field course (either GEOG 3P56 or 3P57), held during registration week in early September, with follow-up seminars during term.
3. The combined major programs with Computer Science are honors programs. Students graduating after only three years receive a general studies degree.

BA Geography and Computer Science

Honors program

Year 1

COSC 1P01, 1P04; GEOG 1F90; MATH 1F65; one science and one humanities context credit.

Year 2

COSC 2F00, 2P03; one-half credit from COSC 2Y04, 2Y05, 2Y06 or 2Y07; GEOG 2P07, 2P08; one credit from GEOG 2P02, 2P03, 2P06; MATH 1P97, 1P98.

Year 3

COSC 3F00, 3P02, 3P04; GEOG 3P57; one and one-half year 3 credits in

GEOG from group A; one elective credit.

Year 4

One credit at the 3(alpha)90 level or above in COSC; one other credit in COSC; GEOG 4F99; one other year 4 credit in GEOG from group A; one elective credit.

Note:

For students with a special interest in geographical information systems the following courses are strongly recommended as GEOG and COSC elective credits: GEOG 3P03, 3P05, 3P07; COSC 3P32, 3P78.

BSc Geography and Computer Science

Honors program

Year 1

COSC 1P01, 1P04; GEOG 1F91; MATH 1F65; one social science and one humanities context credit.

Year 2

COSC 2F00, 2P03; one-half credit from COSC 2Y04, 2Y05, 2Y06 or 2Y07; GEOG 2P07, 2P08; one credit from GEOG 2P04, 2P05, 2P09; MATH 1P97, 1P98.

Year 3

COSC 3F00, 3P02, 3P04; GEOG 3P56; one and one-half year 3 credits in GEOG from group B; one elective credit.

Year 4

One credit at the 3(alpha)90 level or above in COSC; one other credit in COSC; GEOG 4F99; one other year 4 credit in GEOG from group B; one elective credit.

Note:

For students with a special interest in geographical information systems the following courses are strongly recommended as GEOG and COSC elective credits: GEOG 3P03, 3P05, 3P07; COSC 3P32, 3P78.

Geography

ENGL is strongly recommended; it is a preferred prerequisite for COSC 3F00.

BSc Geography and Geology

Pass program

Year 1

GEOG 1F91; GEOL 1F95; MATH 1P97, 1P98; one social science context credit (GEOG 1F90 strongly recommended); one humanities context credit.

Year 2

GEOG 2P07, 2P08; one credit from GEOG 2P04, 2P05, 2P09; GEOL 2P01, 2P21, 2P61, 2P64; one-half credit in GEOL; COSC 1P91; one elective half credit.

Year 3

GEOG 3P56; one and one-half year 3 credits in GEOG from group B; GEOL 2P31; one and one-half credits in GEOL at year 2 or year 3 level; one science credit from CHEM, COSC, MATH or PHYS.

Honors program

Years 1, 2 and 3

As in pass program.

Year 4

GEOG 4F99; one year 4 credit in GEOG from group B; two credits in GEOL at year 3 or year 4 level; one elective credit. The courses selected must include either GEOG 4F90 or GEOL 4F90 and at least three credits at the year 4 level.

BA Geography and Urban and Environmental Studies

Pass program

Year 1

GEOG 1F90; UEST 1F90; MATH 1P98; COSC 1P90, 1P91; one humanities context credit; one science context credit (GEOG 1F91 strongly recommended).

Year 2

GEOG 2P07, 2P08; one credit from

GEOG 2P02, 2P03, 2P06; UEST 2F96, 2F97; one elective credit.

Year 3

GEOG 3P57; one and one-half year 3 credits in GEOG from group A (excluding GEOG 2P90, 2P91, 2P92); two year 3 UEST credits including at least one credit from UEST 3V10-3V15, 3V20-3V24, 3V25-3V29 or 3V30-3V34 (excluding UEST 3V80-3V81); one elective credit.

Honors program

Years 1, 2 and 3

As in pass program.

Year 4

GEOG 4F99; one year 4 credit in GEOG from group A; UEST 4F90 and 4F91, or 4F95; one or two elective credits depending on UEST choice. The courses selected cannot include both GEOG 4F90 and UEST 4F90, 4F91.

BSc Geography and Urban and Environmental Studies

Pass program

Year 1

GEOG 1F91; UEST 1F90; MATH 1P97, 1P98; COSC 1P90 or 1P91; one humanities context credit; one-half elective credit.

Year 2

GEOG 2P07, 2P08; one credit from GEOG 2P04, 2P05, 2P09; UEST 2F96, 2F97; one elective credit.

Year 3

GEOG 3P56; one and one-half year 3 credits in GEOG from group B; two year 3 UEST credits including at least one credit from UEST 3V10-3V15, 3V20-3V24, 3V25-3V29 or 3V30-3V34 (excluding UEST 3V80-3V81); one elective credit.

Honors program

Years 1, 2 and 3

As in pass program.

Year 4

GEOG 4F99; one year 4 credit in GEOG from group B; UEST 4F90 and 4F91, or 4F95; one and one-half or two elective credits depending on UEST choice. The courses selected cannot include both GEOG 4F90, and UEST 4F90, 4F91.

Description of courses

Please note that not all courses are offered in every session. Refer to the applicable term timetable for details.

GEOG 1F90

Introduction to human geography

A practical and problem-oriented approach to current issues in economic, urban and cultural geography, including resources, industry and commerce, population and food supplies, and urban and rural landscapes. Lectures, lab/seminar, 3 hours per week.

GEOG 1F91

Principles of physical geography

The interactions of atmosphere, soils, vegetation and landforms occurring at the surface of the earth. The development of natural environments and their impact upon people and their activities. Lectures, lab/seminar, 4 hours per week.

GEOG 2P02

Principles of economic geography

An introduction to the principles and processes underlying the patterns of the agricultural, mineral resource, manufacturing and transportation systems and of regional economic disparity. Prerequisite: GEOG 1F90 or another year 1 social science credit, or permission of the instructor. Lectures, seminar, 4 hours per week.

GEOG 2P03

Principles of urban geography

An introduction to the basic concepts and problems underlying the growth of cities, the urban system, land-use patterns in the city and urban policy-

making.
Prerequisite: GEOG 1F90 or another year 1 social science credit, or permission of the instructor.
Lectures, seminar, 3 hours per week.

GEOG 2P04
An introduction to meteorology
The principles, structure, composition and processes of the atmosphere; its energy budget, moisture balance and motion. Weather forecasting in middle and low latitudes, forecasting techniques and special problems in applied meteorology.
Prerequisite: GEOG 1F91 or permission of the instructor.
Lectures, lab, 3 hours per week.

GEOG 2P05
The earth's natural landscape
An introduction to geomorphology with an emphasis on basic principles and their application, and on local landforms.
Prerequisite: GEOG 1F91 or permission of the instructor.
Lectures, lab, field work, 5 hours per week.

GEOG 2P06
Cultural geography
Interactions of culture and technology. Cultural problems in the modern world.
Prerequisite: GEOG 1F90 or another year 1 social science credit, or permission of the instructor.
Not open to students with credit in GEOG 358hc.
Lectures, lab, 3 hours per week.

GEOG 2P07
Maps and airphotos
Properties and uses of maps and airphotos. Map-making by hand and by computer. Introduction to surveying, remote sensing and geographical information systems.
Prerequisite: GEOG 1F90 or 1F91, or GEOL 1F95, or permission of the instructor.
Lectures, lab, field work, 4 hours per week.

GEOG 2P08
Quantitative methods
Basic mathematical structures underlying

geographical problems. Weekly exercises emphasize applications to typical problems. An introduction is provided to the use of the statistical program MINITAB.
Prerequisite: GEOG 1F90 or 1F91, or permission of the instructor.
Lectures, seminar, 4 hours per week.

GEOG 2P09
Principles of biogeography
Introduction to the principles of biogeography. Autoecological aspects of soils and plants including the impact of mankind at all scales. Study of the patterns of soils and plants and their explanation. Soil and vegetation systems.
Prerequisite: GEOG 1F91 or permission of the instructor.
Lectures, lab, 3 hours per week.

GEOG 2P90
Geography of western Europe
An introduction to the range and character of European urban and rural landscapes, regional problems and issues.
Lectures, seminar, 4 hours per week.

GEOG 2P91
Geography of Canada
The analysis of factors underlying the development of Canada's distinctive regions, with emphasis on its major metropolitan areas, resource regions, and areas of decline.
Lectures, seminar, 4 hours per week.

GEOG 2P92
Geography of the United States
Selected aspects of the regional geography of the United States.
Lectures, seminar, 4 hours per week.

GEOG 2P93
Geography of Africa
Selected aspects of the regional geography of Africa.
Lectures, seminar, 4 hours per week.

GEOG 2P94
Environmental and developmental problems in the Third World
Interrelationships between physical and human factors and development; natural resource exploitation and

sustainable development; mankind as an agent of change in desertification, deforestation, soil erosion and environmental pollution, and their impacts on climate, the hydrologic cycle and nutrient cycling processes. Selected studies of regions that are marginal in terms of carrying capacity and ecological fragility.
Prerequisite: GEOG 1F90 or 1F91, or permission of the instructor.
Lectures, lab, seminar, 4 hours per week.

GEOG 3F90
Selected field studies
The application of geographical principles and techniques to the analysis of field data and problems; background preparation on a selected area, a two week visit to that area and the compilation of reports on the topics studied.
Prerequisite: completion of all year 1 and 2 requirements in GEOG, or permission of the instructor.

GEOG 3P01
Topographic surveying
Principles and techniques of topographic surveying, emphasizing applications in the earth sciences. Use of tape, compass, clinometer, level, plane table alidade, transit, theodolite, tacheometer and electronic distance meter. Introduction to CADD software.
Prerequisite: GEOG 2P07 or permission of the instructor.
Lectures, lab, field work, 5 hours per week.

GEOG 3P03
Computer cartography
Theory and practice of map-making by computer, with emphasis on thematic maps. Overview of computer hardware and software. Geographical data, class intervals and statistical mapping methods. Aspects of map design. Use of mapping and general graphics software on the microcomputer.
Prerequisite: GEOG 2P07 or permission of the instructor.
Not open to students with credit in GEOG 302hc.
Lectures, lab, 5 hours per week

Geography

GEOG 3P05

Geographical information systems

The principles and use of computer-based systems for acquiring, storing, manipulating, analyzing and displaying data relating to the earth's surface.

Practical work on the microcomputer using raster and vector methods.

Prerequisite: GEOG 2P07 or permission of the instructor.

Lectures, lab, 5 hours per week.

GEOG 3P07

Remote sensing and photogrammetry

Theory of remote sensing. Photographic, thermal, multispectral and radar imaging from aircraft and satellites. Traditional and digital methods of interpretation and analysis. Photogrammetric mapping. Applications in the earth sciences.

Prerequisite: GEOG 2P07 or permission of the instructor.

Lectures, lab, 4 hours per week.

GEOG 3P10

Applied climatology

Studies in selected topics from the fields of bioclimatology, climatic change, hydrometeorology, synoptic climatology. Mankind's impact on the climate will be an important theme.

Prerequisite: GEOG 2P04 or permission of the instructor.

Lectures, lab, 3 hours per week.

GEOG 3P22

Principles of geomorphology

Principles of geomorphology as exemplified by field examples in the Niagara peninsula. The course is organized around a series of field trips undertaken in laboratory periods. Lectures discuss the field sites visited, review the published literature, and develop a chronology of late Quaternary events in the Peninsula.

Prerequisite: GEOG 2P05 and 2P08, or permission of the instructor.

Lectures, lab, field work, 5 hours per week.

GEOG 3P23

Advanced and applied geomorphology

Selected topics in geomorphology using maps, aerial photographs and the

modern journal literature. The application of geomorphological principles to environmental management is developed wherever possible.

Prerequisite: GEOG 2P05 or permission of the instructor.

Lectures, lab, 4 hours per week.

GEOG 3P24

Glacial geomorphology/geology (also offered as GEOL 3P24)

Introduction to glaciology; glacial processes, glacial deposits: their genesis and sedimentology. Relationship of glacial processes to landforms and surface topography. Glacial systems and facies associations.

Applied aspects of glacial geology, e.g., drift exploration.

Prerequisite: GEOG 2P05 or GEOL 2P42, or permission of the instructor.

Lectures, lab, field work, 5 hours per week.

GEOG 3P25

Pleistocene geology

(also offered as GEOL 3P25)

Glaciations in the geological record; causes of glaciations; sea level and climate changes; isostatic crustal movements; Quaternary stratigraphy and correlation of glacial and non-glacial events; economic and environmental relationships.

Prerequisite: GEOG(GEOL) 3P24 or permission of the instructor.

Not open to students with credit in GEOL 342hc.

Lectures, lab, 5 hours per week.

GEOG 3P31

Soil science

Pedogenesis; processes of profile development. Weathering and soil evolution. Major world soil types, soil taxonomy. Soils of Canada.

Prerequisite: GEOG 2P09 or permission of the instructor.

Lectures, lab, 5 hours per week.

GEOG 3P40

The urban system

The city in space, the Canadian urban system, the determinants of growth and change. City size, central and non-central functions. The urban hierarchy and spatial relationships between cities. Urban-regional policies.

Prerequisite: GEOG 2P03 or permission of the instructor.

Lectures, seminar, 4 hours per week.

GEOG 3P41

Urban form and structure

The city as space. The range and pattern of urban land uses, and the form and quality of urban environments. The central business district, commercial and industrial land uses, residential areas, and the rural-urban fringe.

Prerequisite: GEOG 2P03 or permission of the instructor.

Lectures, seminar, 4 hours per week.

GEOG 3P42

The evolution of urban space: the European city

The foundations of urbanization. The changing expression of form, function, and townscape, up to and including the industrial city, based on case studies of selected urban environments.

Prerequisite: GEOG 2P03 or HIST 1P92 and 1P93, or HIST 1F95, or permission of the instructor.

Lectures, seminar, 4 hours per week.

GEOG 3P43

The evolution of urban space: the Canadian city

The process, form and achievement of urban development in Canada, including an appreciation of urbanization in the Niagara Peninsula.

Prerequisite: GEOG 2P03 or HIST 1P92 and 1P93, or HIST 1F95, or permission of the instructor.

Lectures, seminar, 4 hours per week.

GEOG 3P44

Urban social geography

Spatial patterns and social processes relating to individual, group and institutional behavior in the city. Topics to be discussed include housing, residential mobility, transportation, employment and consumer behavior and their relationship to social class, family status and ethnicity.

Prerequisite: GEOG 2P03 or permission of the instructor.

Lectures, seminar, 4 hours per week.

GEOG 3P56

Physical geography field course

The application of geographical principles and field techniques to problems in physical geography. The course involves field work during registration week in early September, with follow-up readings, seminars and report writing during term. Prospective students must register with the department by April of the preceding academic year.

Prerequisite: three credits in GEOG from group B, including two of GEOG 2P04, 2P05 and 2P09, or permission of the department.

Not open to students with credit in GEOG 359hc.

GEOG 3P57

Human geography field course

The application of geographical principles and field techniques to problems in human geography. The course involves field work during registration week in early September, with follow-up readings, seminars and report writing during term. Prospective students must register with the department by April of the preceding academic year.

Prerequisite: three credits in GEOG from group A, including two of GEOG 2P02, 2P03 and 2P06, or permission of the department.

Not open to students with credit in GEOG 359hc.

GEOG 3P60

Geography of transportation

Geographical aspects of transportation, with particular emphasis on the bases for spatial interaction, networks, and flows. The transportation planning process and transportation policy analysis.

Prerequisite: GEOG 2P02 or permission of the instructor.

Lectures, seminar, 3 hours per week.

GEOG 3P72

Industrial geography

The spatial patterns of manufacturing industry and the processes which generate those patterns. The study of the locational and structural components of industrial geography.

Prerequisite: GEOG 2P02 or permission of the instructor.

Not open to students with credit in GEOG 370hc or 371hc.

Lectures, seminar, 4 hours per week.

GEOG 3P73

The geography of regional disparity

Spatial aspects of regional disparity in manufacturing and resource industries at the world and national scales: their role in the development of regions, in regional problems and problem regions; evaluation of selected policies to reduce regional disparity.

Prerequisite: GEOG 2P02 or permission of the instructor.

Not open to students with credit in GEOG 370hc or 371hc.

Lectures, seminar, 4 hours per week.

GEOG 3P82

Geography of recreational resources

The geographical aspects of recreation, including the pattern of recreational activities and the spatial implications of factors affecting the use and development of resources for recreation.

Prerequisite: GEOG 2P02 or 2P03 or permission of the instructor.

Lectures, seminar, 4 hours per week.

GEOG 3P83

Geography of water resources

Physical and human factors affecting patterns of use and development of water resources. Emphasis will be on patterns of supply and demand, approaches to development and management of the resource, problems and alternative strategies.

Prerequisite: GEOG 2P02 and 2P03, or 2P04 and 2P05, or permission of the instructor.

Lectures, seminar, 4 hours per week.

GEOG 3P84

Political geography

Development of politico-geographic thought. Political organization of space at the local, national, and international levels. Regional blocs and supra-national blocs. Strategic areas. Disputed zones and resources. Conflicts of ownership and control.

Prerequisite: GEOG 2P06 or POLI 1F90, or permission of the instructor.

Lectures, seminar, 4 hours per week.

GEOG 3P85

Population geography

Data sources and methodology in population geography and demography. Spatial variations in the distribution, composition, migrations and growth of populations and their relations with physical, cultural and economic phenomena. Population theories and processes in the spatial context.

Prerequisite: GEOG 2P06 or permission of the instructor.

Lectures, lab, 4 hours per week.

GEOG 3V60-3V69

Special topics in geography

Topics selected from year to year on the basis of faculty expertise.

GEOG 4F11

Advanced climatology

Microclimatological investigations in the field and guided reading and discussion of important climatological issues and problems.

Prerequisite: GEOG 3P10 and second class honors standing in geography; or permission of the instructor

Seminars, lab, field work, 3 hours per week.

GEOG 4F60

Resource analysis

The application of analytical techniques to spatial problems in resource evaluation and development. Topical emphasis will be in the fields of water and outdoor recreation resources.

Prerequisite: GEOG 3P82 or 3P83, and second class honors standing in geography, or permission of the instructor.

Seminars, lab, 3 hours per week.

GEOG 4F62

Advanced population geography and demography

Research themes in population geography and demography with practical applications using Canadian problems.

Prerequisite: GEOG 3P85 and second class honors standing in geography, or permission of the instructor.

Seminars, 3 hours per week.

Geography

GEOG 4F63

Applied urban geography

Individual or collective examination of a selected spatial example of urbanization, emphasizing either the process of evolution and/or details of modern character. Background reading and field investigation are required.

Prerequisite: one year 3 half credit in urban geography, and second class honors standing in geography, or permission of the instructor.
Seminars, 3 hours per week.

GEOG 4F67

Research themes in industrial geography

Selected topics and research themes in industrial geography.

Prerequisite: GEOG 3P70 or 3P71, and second class honors standing in geography, or permission of the instructor.
Seminars, 3 hours per week.

GEOG 4F69

Research themes in urban social geography

Examination, by means of individual student projects, of aspects of urban social geography and of the spatial behavior of urban residents.

Prerequisite: one year 3 half credit in urban geography, and second class honors standing in geography, or permission of the instructor.
Seminars, 3 hours per week.

GEOG 4F90

Honors thesis

An individual research project carried out at the discretion of the department and under the direction of a faculty adviser.

Open only to students in year 4 with second class honors standing. Students contemplating a thesis should consult with the department at the end of year 3 and must submit a detailed proposal in writing before May 15, prior to entering year 4.

Prerequisite: second class honors standing in geography, and permission of the department.

GEOG 4F99

Honors seminar with internship option

Part I: Seminar in methodology and theory in geography. Research design and techniques.

3 hours per week.

Part II: Either (a) a research problem under the direction of a faculty member, or, (b) internship in a government or private agency working under the supervision of that agency on a specific problem.

Prerequisite: completion of year 3 geography requirements with second class honors standing.

Seminars, lab, 8 hours per week for 15 weeks.

GEOG 4P01

Cartographic design and production

The map as a medium of communication. Advanced aspects of map design. The preparation of maps for four-color reproduction by traditional and computer methods. Compilation, drafting, reprographics and printing.

Prerequisite: GEOG 2P07 and second class honors standing in geography, or permission of the instructor.

Not open to students with credit in GEOG 302hc or 468.

Lectures, lab, 4 hours per week.

GEOG 4P02

Topographic science

The independent study of selected topics in surveying, remote sensing, geographical information systems and cartography.

Prerequisite: GEOG 3P01, 3P03, 3P05 or 3P07, and second class honors standing in geography, or permission of the instructor.

Not open to students with credit in GEOG 468.

Labs, field work, 3 hours per week.

GEOG 4P26

Research themes in fluvial geomorphology I

A survey of modern literature in fluvial geomorphology will be complemented by local field work and the analysis of published river records.

Prerequisite: GEOG 3P22 and either GEOG 3P23 or 3P24, and second class honors standing in geography, or permission of the instructor.

Not open to students with credit in GEOG 423.

Seminars, lab, field work, 3 hours per week.

GEOG 4P27

Research themes in fluvial geomorphology II

A continuation of GEOG 4P26 which will emphasize the morphometric analysis of areas from published maps, computer simulation of river systems, and a continued survey of relevant literature.

Prerequisite: GEOG 4P26 and second class honors standing in geography, or permission of the instructor.

Not open to students with credit in GEOG 423.

Seminars, lab, 3 hours per week.

GEOG 4P28

Advanced glacial sedimentology (Also offered as GEOL 4P28)

The sedimentology of present day glacial environments and of Quaternary sediments. Thermo-mechanical principles of glacier physics as applied to past and present glacier ice conditions. Glacial lithofacies associations. Glacio-tectonics and diagenesis. Principles of glacial erosion, entrainment and deposition.

Prerequisite: GEOG(GEOL) 3P24 and second class honors standing in geography or geology, or permission of the instructor.

Not open to students with credit in GEOG 421 or GEOL 425.

Lectures, lab, field work, 5 hours per week.

Geological Sciences

Officers of instruction

Chair

Simon Haynes

Professors

Uwe Brand
Simon J. Haynes
Wayne T. Jolly
John Menzies

Associate professors

Richard J. Cheel
Jean-Jacques Flint
Stephen Westrop

Assistant professors

Gregory C. Finn
Frank Fueten

Sessional lecturer

E. Brian Grant

Honorary research associate

Anna-Stina Edhorn

General information

Mackenzie Chown, D410

The department of Geological Sciences offers a BSc in geology designed to provide students with a broad background leading to specialization for career opportunities in geology or for admission to advanced degree studies. Combined programs with other departments are also available. The field of geology is central in solving current problems such as waste disposal, pollution, groundwater management, volcanic and earthquake hazards. It is also vital in the exploration and utilization of natural resources such as oil and gas, minerals and aggregates.

To achieve this objective the undergraduate program consists of a set of core courses in year 1, year 2 and part of year 3. Students progressively move into more advanced studies culminating in independent research in year 4, where they can specialize in a curriculum reflecting their personal interests. Most courses include local field trips during laboratory periods while extended field trips are conducted for students in each year of the program. These trips allow students to gain first hand field experience.

Students considering concentrations in quaternary geology, environmental geology, paleoecology, sedimentology, hydrology, or groundwater are advised to select from the following courses as part of the year 2, 3 and 4 electives: GEOL 2P64, 3P24, 3P25, 3P43, 3P61, 3P82, 4P10, 4P28, 4P41, 4P42, and 4P61.

Those wishing to pursue a career in petrology, economic geology, volcanology, structure or tectonics are advised to select from the following courses as electives: GEOL 3P94, 3P98, 4P01, 4P22, 4P26, 4P31, 4P52.

Specializations are also available in carbonate geochemistry, petroleum geology, Precambrian geology, paleontology or stratigraphy. Those interested should consult the department for suggested course programs in these disciplines.

Students in disciplines other than science, may take GEOL 2P64 and 2P90 as general electives.

The department has teaching and research laboratories in the above mentioned fields, including facilities such as radiocarbon dating, x-ray diffraction and fluorescence, cathode luminescence microscopic analysis, atomic absorption spectrometry, halogen analysis, image analysis, digitizer and fluorometric analysis. These are supported by rock specimen preparation and drafting facilities, dark

rooms and cold rooms. The department shares the facilities of electronic, woodworking and glassblowing shops with other departments. In addition to departmental minicomputers, the department has access to the University and library computers through remote terminals.

Pass program

Year 1

GEOL 1F95; MATH 1P97, 1P98; one humanities and one social science context credit; one science credit (see Note 1.).

Year 2

GEOL 2P01, 2P21, 2P22, 2P31, 2P32, 2P61; two credits from CHEM 1P80, 1P81 or CHEM 1P90, 1P91, BIOL 1F90, PHYS 1F20. (see Notes 2. and 3.).

Year 3

GEOL 3P21, 3P31, 3P71; two and one-half credits from GEOL 3P24, 3P25, 3P43, 3P52, 3P61, 3P82, 3P94, 3P95, 3P98, 3P99; one elective credit (see Note 3.).

Notes:

1. The unspecified science elective credit is to be taken from MATH, BIOL, CHEM, PHYS or COSC (except MATH 1F60, BIOL 1F25, SCIE 1F20, 1F30 or ASTR 1F00).
2. Students interested in pursuing a concentration in geochemistry are strongly advised to take additional chemistry courses.
3. GEOL 2P64 may be taken in years 2 or 3.

Students should plan their programs accordingly and are advised to refer to the applicable term timetable for details.

Geological Sciences

Honors program

Years 1, 2 and 3

As in pass program. GEOL 3P99, normally taken at the end of year 3, is required for entry into year 4.

Year 4

Admission to the year 4 program.

GEOL 4F90; three credits from year 4 GEOL or from the remaining elective GEOL credits offered in year 3; one elective credit.

To qualify for an honors degree, students must complete a minimum of three credits numbered 3(alpha)90 or above.

Concurrent BSc/BEd

The Faculty of Mathematics and Science and the Faculty of Education have developed a concurrent BSc/BEd program to meet the requirements of students interested in teaching science and mathematics at the Junior/Intermediate levels. This program is fully described within the calendar entry for the Faculty of Education. (See index)

Combined major pass programs

The department of Geological Sciences, in co-operation with other departments, offers combined major programs in geology with Biology, Chemistry, Geography, Physics, and Urban and Environmental Studies. Prospective students should have their programs approved by the two departments concerned and are advised to follow one of the following patterns:

Geology and Biology

Pass program

Year 1

BIOL 1F90; GEOL 1F95; MATH

1P97, 1P98; CHEM 1P80, 1P81 or CHEM 1P90, 1P91 or PHYS 1F20; one humanities or social science context credit.

Year 2

Two credits from BIOL 2F01, 2P04, 2P05, 2P90, 2P91, 2P93, 2P98; GEOL 2P31, 2P32; one credit from year 2 GEOL; the context credit not taken in year 1.

Year 3

Two year 3 BIOL credits; two year 2 or 3 level GEOL credits; one elective credit in BIOL or GEOL.

University requirements for a pass degree stipulate that a minimum of three credits must be numbered 2(alpha)90 or above.

Honors program

Years 1, 2 and 3

As in pass program. GEOL 3P99 or BIOL 3P71 is required for entry to year 4.

Year 4

One and one-half credits in BIOL at year 3 or year 4 level; one and one-half credits in GEOL at year 3 or year 4 level; either BIOL 4F90, 4F91, or 4F92 plus one elective credit, or GEOL 4F90 plus one elective credit.

To qualify for an honors degree, students must complete a minimum of three credits numbered 3(alpha)90 or above.

Geology and Chemistry

Pass program

Year 1

CHEM 1P80, 1P81 or CHEM 1P90, 1P91; PHYS 1F90; GEOL 1F95; MATH 1P93, 1P94; one humanities or social science context credit.

Year 2

CHEM 2P01, 2P02; two of CHEM 2P12, 2P22, 2P32, 2P42; GEOL 2P21, 2P22; one year 2 GEOL credit; the context credit not taken in year 1.

Year 3

Two CHEM 2P12, 2P22, 2P32, 2P42 not taken in year 2; CHEM 3P40; one-half credit from CHEM 3P20, 3P21, 3P30, 3P31, 3P51, 3P53 or 3P60; GEOL 3P31; one and one-half credits in GEOL at year 2 or 3 level; one CHEM or GEOL elective credit.

To qualify for a pass degree, students must complete a minimum of three credits numbered 2(alpha)90 or above.

Honors program

Years 1, 2 and 3

As in pass program. GEOL 3P99 is normally required at the end of year 3 but may be taken at the end of year 2 with permission of the department.

Year 4

One credit in CHEM at year 3 or 4 level; one credit in GEOL at year 3 or 4 level; either CHEM 4F90 and 4F91 or GEOL 4F90 and one credit in GEOL at year 3 or 4 level; one elective credit.

To qualify for an honors degree, students must complete a minimum of three credits numbered 3(alpha)90 or above.

Geology and Geography

Year 1

GEOL 1F95; GEOG 1F91; MATH 1P97, 1P98; one social science context credit (GEOG 1F90 strongly recommended); one humanities context credit.

Year 2

GEOL 2P01, 2P21, 2P61, 2P64; one-half credit in GEOL; GEOG 2P07, 2P08; one credit from GEOG 2P04, 2P05, 2P09; COSC 1P91; one elective half credit.

Year 3

GEOL 2P31, one and one-half credits in GEOL at year 2 or year 3 level; GEOG 3P56; one and one-half year 3 credits in GEOG from group B; one science credit from CHEM, COSC, MATH or PHYS.

Honors program

Years 1, 2 and 3
As in pass program

Year 4

Two credits in GEOL at year 3 or year 4 level; GEOG 4F99; one year 4 credit in GEOG from group B; one elective credit. The courses selected must include either GEOL 4F90 or GEOG 4F90 and at least three credits at the year 4 level.

Geology and Physics

Pass program

Year 1

GEOL 1F95; MATH 1P93, 1P94; PHYS 1F20 or 1F90 (preferred); one humanities and one social science context credit.

Year 2

GEOL 2P01; one and one-half credits in GEOL at year 2 level; MATH 2F95; two credits from PHYS 2P20, 2P21, 2P30, 2P31, 2P41, 2P42.

Year 3

Two GEOL credits at year 2 or 3 level; one year 2 PHYS credit and one year 3 PHYS credit; one elective credit in GEOL or PHYS.

University regulations for a pass degree require a minimum of three credits numbered 2(alpha) 90 or above.

Honors program

Years 1, 2 and 3

As in pass program. GEOL 3P99 is normally required at the end of year 3 but may be taken at the end of year 2 with permission of the department.

Year 4

GEOL 4F90 or PHYS 4F90; one year 3 or 4 level GEOL credit; one year 3 PHYS credit or one credit from PHYS 3P20, 4P41, 4P70, 4P71; one year 3 or 4 GEOL or PHYS credit; one elective credit.

To qualify for an honors degree, students must complete a minimum of

three credits numbered 3(alpha)90 or above.

Master of Science (MSc) program

Candidates with either an honors or pass BSc degree in Geological Sciences may apply for entry into this program.

Candidates holding a pass degree will be required to take a qualifying year similar to year 4 of the honors program before formally enrolling for the MSc degree. Candidates are encouraged to write the Graduate Record Examination in geology.

Candidates with an honors degree, or who have completed a qualifying year, require a minimum of one year.

The following are possible foci of this program: quaternary geology, sedimentology, surface hydrology, geomorphology, geochemistry, limnogeology, sedimentary processes, fluvial geology, palynology, geochronology, paleoecology, volcanology, structural geology, ore genesis, and tectonics.

The following courses are available:

GEOL 5F90
MSc thesis

GEOL 5P30
Structural geology

GEOL 5P31
Tectonics

GEOL 5P35
Quaternary palynology

GEOL 5P40
Quaternary geochronology

GEOL 5P41
Glaciology

GEOL 5P45
Advanced paleoecology

GEOL 5P46
Evolutionary paleobiology

GEOL 5P50
Sedimentary environments

GEOL 5P55
Volcanology

GEOL 5P56
Ore genesis

GEOL 5P58
Chemical sedimentology

GEOL 5P59
Carbonate geochemistry

GEOL 5P61
Quantitative methods in geology

GEOL 5P70
Fluvial geology

GEOL 5P71
Advanced paleolimnology

GEOL 5P75
Limnogeology

GEOL 5P76
Industrial minerals

GEOL 5P85
Pleistocene geology

GEOL 5V90-5V99
Selected topics in contemporary geology

For details, see graduate calendar or consult the chair of the department.

Description of courses

Please note that not all courses are offered in every session. Refer to the applicable term timetable for details.

GEOL 1F90
Geology and the environment
A course intended primarily for the non-science major. The relationships between geologic processes, the environment and evolution. Topics include origin of the planet earth, development of the atmosphere, oceans and continents, origin of life, volcanic activity, earthquake prediction,

Geological Sciences

shoreline erosion, disposal of toxic and nuclear wastes and human evolution. Students demonstrating exceptional performance in GEOL 1F90 may, at the discretion of the department, register in year 2 courses.

High school sciences not a prerequisite. Lectures, 2 hours; labs or local field trips, 2 hours per week.

GEOL 1F95

Introduction to earth science

The chemical and physical nature of the earth as a member of the solar system; the particular chemical and physical properties of the features of the earth and originating processes; paleontology and evolution, concepts of geologic time, elements of stratigraphy.

Prerequisite: any two of biology, chemistry, environmental science, geology, mathematics or physics beyond grade 11, or equivalent. Lectures, lab and local field trips, 5 hours per week.

GEOL 2P01

Structural geology

The measurement and effects of stress and strain. Genesis of brittle and ductile structural features and their classification. Methods of structural analysis and examination of hand specimens.

Prerequisite: GEOL 1F95. Lectures, lab, 5 hours per week.

GEOL 2P21

Mineralogy

Crystal systems, symmetry operations, introduction to the 32 crystal classes; x-ray diffraction; mineral composition and structure; physics and chemistry of minerals; mineral identification.

Prerequisite: GEOL 1F95. Not open to students with credit in GEOL 210, 211hc, 212hc. Lectures, lab, 5 hours per week.

GEOL 2P22

Optical mineralogy

Internal structure of crystals. The petrographic microscope and its usefulness in the identification of, and familiarization with, major rock forming minerals, as discrete grains

and in thin section.

Prerequisite: GEOL 2P21.

Lectures, lab, 5 hours per week.

GEOL 2P31

Clastic sedimentology

A first course in clastic sedimentology which emphasizes the description and elementary interpretation of sedimentary materials. Topics include the textural characteristics of sediment, transport of materials under fluid flows, sedimentary structures, paleocurrent analysis, mass flow processes, biogenic structures and the classification of clastic rocks. Laboratories will illustrate common techniques employed in the study of sediments and sedimentary rocks.

Prerequisite: GEOL 1F95.

Lectures, lab and local field trips, 5 hours per week.

GEOL 2P32

Paleontology

Fossil preservation and bias in the fossil record; ontogeny and growth of invertebrates; functional morphology of selected invertebrate groups; an introduction to population ecology; speciation; paleoecology; mass extinctions in the fossil record. Labs deal with the classification and morphology of the major invertebrate groups. Principles of taxonomy will also be discussed and will involve a lab project.

Prerequisite: GEOL 1F95.

Lectures, lab and local field trips, 5 hours per week.

GEOL 2P61

Environmental geology

Philosophy and principles of environmental geology. Natural geologic processes and hazards: flooding, landslides, earthquakes, volcanic activity, glacial and coastal phenomena. Hydrogeology and human activity: supply, water use, solid waste and hazardous waste disposal. Mineral and energy resource utilization and possible consequent pollution.

Prerequisite: GEOL 1F90 or 1F95.

Lecture, seminar, lab, 5 hours per week.

GEOL 2P64

Urban geology

The interaction of urban activity with geology. How applied Quaternary geology, engineering geology and economic geology affect modern habitation and living (large subdivisions, plazas, sewage disposal, reservoirs), energy plants, transportation routes (road, rail and water), construction materials and industrial mineral resources, and disposal dumps.

Implications for business and society. The Niagara Peninsula as a natural field laboratory.

Prerequisite: GEOL 1F90 or 1F95.

Lectures, seminar, field trip, 5 hours per week.

GEOL 2P90

Geology and society

Relationship of mankind's activities to their physical environment. Pollution, energy, hazards and catastrophes.

This course cannot be used as a geology elective credit towards a degree in Geological Sciences. It is primarily designed for students who do not intend to major in geology.

Prerequisite: GEOL 1F90 or 1F95 and permission of the instructor.

Lectures, seminar, field trips to be announced.

GEOL 3P21

Petrography and petrology

Igneous, metamorphic and sedimentary rocks in thin section; their composition, texture, structures, origin and classification.

Prerequisite: GEOL 2P22 and CHEM 1P80, 1P81 or 1P90, 1P91.

Lectures, lab, 5 hours per week.

GEOL 3P24

Glacial geomorphology/geology (also offered as GEOG 3P24)

Introduction to glaciology; glacial processes, glacial deposits: their genesis and sedimentology. Relationship of glacial processes to landforms and surface topography. Glacial systems and facies associations.

Applied aspects of glacial geology, e.g., drift exploration.

Prerequisite: GEOL 2P31 (for students in the Geology program).

Not open to students with credit in GEOL 341hc.
Lectures, lab, field work, 5 hours per week.

GEOL 3P25

Pleistocene geology

(also offered as GEOG 3P25)

Glaciations in the geological record; causes of glaciations; sea level and climatic changes; isostatic crustal movements; Quaternary stratigraphy and correlation of glacial and non-glacial events; economic and environmental relationships.

Prerequisite: GEOL(GEOG) 3P24.

Not open to students with credit in GEOL 342hc.

Lectures, lab, 5 hours per week.

GEOL 3P31

Geochemistry

Abundance of elements in crustal rocks; general geochemistry of the lithosphere, hydrosphere, atmosphere, biosphere. Geologic applications of thermodynamic principles and phase equilibria. Geochemical techniques. Students must supply their own safety equipment.

Prerequisite: CHEM 1P80, 1P81 or 1P90, 1P91.

Not open to students with credit in GEOL 312hc.

Lectures, lab, 5 hours per week.

GEOL 3P43

Physical geology

Temporal evolution and denudation of land masses in relation to tectonic, sedimentologic and climatic changes; origin and identification of specific landforms, their mathematical and topological evolution; labs will include instruction in surveying techniques.

Prerequisite: GEOL 2P01.

Lectures, lab and local field trips, 5 hours per week.

GEOL 3P52

Carbonate sedimentology

Petrography of carbonate grains; skeletal structures and chemistry; recent carbonate environments; evolution of carbonate mounds; chemical theory of carbonate grains;

textural, structural and chemical limestone diagenesis; dolomitisation, silification and pyritisation of carbonate grains.

Prerequisite: GEOL 3P21 or permission of the instructor.

Lectures, lab, 5 hours per week.

GEOL 3P61

Groundwater geology

Occurrence, movement, exploration and exploitation of groundwater including the study of groundwater flow and principles of well hydraulics.

Prerequisites: GEOL 1F95, MATH 1P97.

Lectures, lab, 5 hours per week.

GEOL 3P71

Stratigraphy

Principles of stratigraphy. Subdisciplines and types of units: lithostratigraphy, biostratigraphy, chronostratigraphy; contemporary ideas on the completeness of the stratigraphic record; an introduction to facies models; eustatic sea level changes and "event stratigraphy"; sedimentary cycles; sedimentation and plate tectonics.

Prerequisites: GEOL 2P01, 2P31, 2P32.

Lectures, lab and local field trips, 5 hours per week.

GEOL 3P82

Photogeology

Principles of analysis and geologic interpretation of aerial photography, including remote sensing data from airborne and satellite imagery.

Prerequisite: third-year standing.

Lectures, lab, 5 hours per week.

GEOL 3P94

Igneous petrology

Igneous petrogenesis, with emphasis on the physical chemistry of igneous processes; igneous rock complexes; studies of a number of petrologically important areas.

Prerequisite: GEOL 3P21.

Not open to students with credit in GEOL 421hc or 326hc.

Lectures, lab, 5 hours per week.

GEOL 3P95

Special topics in geology

A lecture/seminar course in which a student may explore areas not represented by existing courses. Under certain circumstances, a student may carry out, under faculty supervision, a detailed research project, the results of which will be presented in a major essay and a formal seminar.

Prerequisite: a minimum overall average of B (75 percent) in Geology; permission of the chair. This course can be taken only once.

GEOL 3P98

Economic geology

Principles and processes of the formation of metallic ore deposits, ore microscopy and ore petrology, metallogeny and theories of metallogenesis.

Prerequisite: GEOL 3P21. GEOL 3P31 is recommended.

Not open to students with credit in GEOL 362hc.

Lectures, lab, seminar, 5 hours per week.

GEOL 3P99

Field geology

A two-week immersion course offered after final examinations in year 3 introducing students to collecting, recording and synthesizing field data, airphoto mapping, measuring stratigraphic sections, preparing geologic maps and reports. The field area, situated in northern Ontario, consists of Archaean, Proterozoic and Palaeozoic lithologies. Registrants are expected to defray the cost of travel, accommodation and other expenses.

Prerequisites: completion of all year 2 requirements in Geology and permission of the department.

GEOL 4F90

Research and thesis

Directed research on geological problems. A thesis incorporating the results of an approved investigation is required and will be critically examined. Three copies of the thesis must be submitted and approved in final typed form by March 15th. This course is required of all honors students in Geology.

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Prerequisite: admission to the honors program.

GEOL 4P01

Advanced structural geology

Deformation mechanisms; the use of kinematic indicators; relationships between micro- and macro- structures; emphasis in recent topics and methods in structural geology.

Prerequisite: GEOL 2P01.

Lectures, seminar, lab, 5 hours per week.

GEOL 4P10

Advanced clastic sedimentology

Particular emphasis will be placed on the paleoenvironmental reconstruction of the terrestrial and marine deposits and on bedforms and their internal stratification produced by unidirectional, oscillatory and combined flows.

Seminars will supplement lectures with recent literature; a laboratory and/or field-based project will be required.

Prerequisite: GEOL 2P31.

Lectures, seminar, 5 hours per week.

GEOL 4P12

Sedimentary geochemistry

Thermodynamic principles of trace metal and stable isotope distributions in sedimentary rocks. Changes in rock chemistry with weathering and diagenesis. Chemical history of the oceans; evidence for and against chemical constancy. Application of elemental geochemistry to a practical project.

Prerequisite: GEOL 3P31 and permission of the instructor.

Not open to students with credit in GEOL 411hc.

Lectures, lab, 5 hours per week.

GEOL 4P16

Precambrian geology

Archaean and Proterozoic evolution of the earth examining: 1) geology, tectonics, stratigraphy and history of the Precambrian; 2) evolution of the Earth's crust; 3) Precambrian time scale; and 4) evolution of life, oceans and atmospheres.

Prerequisite: GEOL 3P21.

Lectures, seminar, 4 hours per week.

GEOL 4P22

Metamorphic petrology

Synthesis of metamorphic textures, compositional variations and field characters with emphasis on the temperature-pressure relations of the metamorphic rocks and the role of fluids in metamorphism.

Prerequisite: GEOL 3P21.

Lectures, lab, 5 hours per week.

GEOL 4P23

Advanced paleontology

An advanced course in evolutionary paleobiology. Ecology of modern and ancient marine benthic communities; taphonomic models; macroevolutionary patterns in the fossil record; hierarchical approaches to evolutionary theory and the units of selection problem; heterochrony and evolution.

Prerequisite: GEOL 2P32.

Not open to students with credit in GEOL 301hc.

Lectures, lab, 5 hours per week.

GEOL 4P26

Tectonics

Presentation of the hypothesis of plate tectonics and its application to all aspects of geology. Description of some major orogenic belts in terms of plate tectonics.

Prerequisite: GEOL 2P01, 2P31, 3P21.

Not open to students with credit in GEOL 372hc.

Lectures, seminar, lab, 5 hours per week.

GEOL 4P28

Advanced glacial sedimentology

(Also offered as GEOG 4P28)

The sedimentology of present day glacial environments and of quaternary sediments. Thermo-mechanical principles of glacier physics as applied to past and present glacier ice conditions. Glacial lithofacies associations. Glacio-tectonics and diagenesis.

Principles of glacial erosion, entrainment and deposition.

Prerequisite: GEOL 3P24.

Not open to students with credit in GEOG 421 or GEOL 425.

Lectures, lab, local field trips, 5 hours per week.

GEOL 4P41

Paleoecology

Physical and biological environments; principles of ecosystems; reconstruction of past environments; climatic changes.

Prerequisite: GEOL 2P32.

Lectures, seminar, lab, 5 hours per week.

GEOL 4P42

Geochronology

Theory and techniques for dating of geological materials, with emphasis on Quaternary geology; radiocarbon dating, palynology, dendrochronology, varve chronology, fission tracks, thermoluminescence, paleomagnetic methods, and principles of commonly used other radiometric methods (potassium-argon, uranium-lead, etc.).

Prerequisite: GEOL 3P25.

Lectures, lab, local field trips, 5 hours per week.

GEOL 4P52

Advanced economic geology

Non-metallic mineral deposits, industrial minerals; structural control, exploitation of ore deposits, grade and tonnage calculation.

Prerequisite: GEOL 3P98.

Lectures, lab, seminar, field trips, 5 hours per week.

GEOL 4P61

Surface hydrology

Distribution and variation of run-off, recurrence of floods and droughts; fluvial processes and sediment transport; hydrologic and water management techniques; computer models for hydrologic and sediment analysis.

Prerequisite: GEOL 2P31, 2P42, or permission of the instructor.

Lectures, lab, local field trips, 5 hours per week.

Germanic and Slavic Studies

Officers of instruction

Chair

Donald C. MacRae
John Michielsen (as of July 1, 1991)

German section

Professors

Claude R. Owen
Herbert Schutz

Associate professors

Donald C. MacRae
John A. Michielsen

Visiting assistant professor

Barry W.K. Joe

Russian section

Associate professors

Julia A. Frankel
Clara Hollosi

General information

Schmon Tower 1119

For students who have no background in either language, study towards a degree in German or Russian may be started in year 1.

German or Russian can be taken in combination with any other subject in combined major programs.

The department of Germanic and Slavic Studies offers degree programs in German, Russian, German area studies and Russian area studies.

The department devotes its efforts to literature and language instruction. The language of technology, industry, politics, economics and philosophy is taught utilizing the modern technologies of the Language Learning Centre's audio, video and computer facilities.

Computer assisted learning is an integral part of language instruction in Germanic and Slavic Studies. Students are encouraged to use the computer facilities of the Language Learning Centre for independent study and review. Software is supplied.

The study of German and Russian is also explored in degree programs in German area studies and Russian area studies. In these programs the study of language, literature and culture is complemented by courses in German or Russian history, politics, philosophy, etc., given in English. We believe the German program to be unique in Canada.

Culture and civilization courses which make use of the department's resources in films, slides and tapes are popular options. These courses deal with the major European cultural trends by examining such topics as art and architecture, mythology, cultural and intellectual history.

The department makes arrangements for students' summer travel/study/work in Germany. A German major may obtain credit for a three month stay in Germany under approved conditions.

Notes:

1. Courses offered in English:

GERM 1F96
GERM 1P93
GERM 1P94
RUSS 1F95
RUSS 2F10
RUSS 2V90-2V94
RUSS 2V95-2V99
RUSS 3F98

2. Language courses numbered 1F00 may not normally be taken by students who have grade 13 standing or its equivalent in the language.

3. Students registering for GERM or RUSS 1F90 will normally have high school standing in the language or equivalent (GERM 1F00 or RUSS 1F00) or permission of the department.

4. GERM courses numbered 3(alpha) 00 and up are open to students in

years 3 and 4 German and to others by special permission of the department. RUSS courses numbered 2(alpha) 90 and up are open to students in year 3 Russian and to others by special permission of the department.

5. The following are primarily language courses: DUTC 1F00, 1F90; GERM 1F00, 1F90, 2F00, 3F99, 4F10; RUSS 1F00, 1F90, 2F97, 3F97.

6. It is to be noted that GERM or RUSS courses numbered 1F00, 1F90 and 2F00 constitute a sequence. Once credit has been obtained in one of these courses, students are not normally allowed to take for credit or upgrading a course with a lower number in either language. Students admitted to any course numbered 2(alpha)00 or higher in GERM or RUSS may not either concurrently or subsequently take a course at the 1(alpha)00 level, except for GERM 1F96, 1P93 and RUSS 1P95.

7. GERM 1F00 may be taken for university credit but only credits numbered 1F90 or above may be counted as GERM credits for a major in German.

Year 2 in Germany

In co-operation with Trent University, the German section of the department offers to those of its students who have GERM 1F90 or its equivalent the opportunity to spend a year of study in Germany at the University of Freiburg, in the Black Forest.

In addition to an immersion program in the German language and courses in German literature, the student is encouraged to select courses in study areas of his or her choice. The program in Freiburg is supervised by a resident director from Trent or Brock familiar with the situation.

1991-92 courses offered in Freiburg:

GERM 2F00: Language and literature (intermediate II)

Germanic and Slavic Studies

GERM 2P11:	German poetry and prose of the 19th century
GERM 2P12:	German poetry and prose of the 20th century
GERM 4P07:	German literature from 1945 - 1965
GERM 4P08:	German literature from 1965 - present

Pass program in one language

German

Seven GERM credits numbered 1(*alpha*)90 or above are required. Students who intend to pursue courses in German literature are strongly urged to consider one or more of: CLAS 1P91 (Greek civilization), CLAS 1P92 (Roman civilization), CLAS 1P95 (Greek myths and religions), CLAS 1P97 (Roman religions and myths) as a supplement to their studies in German literature.

Year 1

GERM 1F00 or 1F90 (see Notes 2. and 3. above); GERM 1P93, 1P94 or 1F96; one science and one social science context credit; ENGL 1F91 must normally be completed in year 1 or year 2.

Year 2

(i) Students from GERM 1F00: GERM 1F90, 2F00; three elective credits, one of which is ENGL 1F91 if not completed in year 1.

ii) Students from GERM 1F90: GERM 2F00, 2P14, 2P95; three elective credits, one of which is ENGL 1F91 if not completed in year 1.

iii) Students in Freiburg: a minimum of two courses from the Freiburg offerings above; elective credits to total five. If ENGL 1F91 has not been completed in year 1, it must be taken upon the student's return in year 3.

Year 3

Year 3 or year 4 GERM credits to total 7 credits 1F90 or above; elective credits (see German area studies below for possible choices). Students are strongly urged to enrol in GERM 3F99 or 4F10 when available.

Russian

Seven RUSS credits are required.

Year 1

RUSS 1F00 or 1F90 (see Notes 2. and 3. above); RUSS 1F95; one science and one social science context credit; ENGL 1F91 will normally be completed in year 1 or year 2.

Year 2

i) Students from RUSS 1F00: RUSS 1F90; one year 2 level RUSS course; (RUSS 1F95 if not taken in year 1); three elective credits, one of which is ENGL 1F91 if not completed in year 1.

ii) Students from RUSS 1F90: two year 2 level RUSS courses; (RUSS 1F95 if not taken in year 1); three elective credits, one of which is ENGL 1F91 if not completed in year 1.

Year 3

Three year 3 or year 4 RUSS credits; two elective credits (see Russian area studies below for possible choices). Students are strongly urged to enrol in RUSS 3F97.

Pass program: combined major

Applicable to all languages. At least five GERM or RUSS credits numbered 1(*alpha*)90 or above must be included.

Students who intend to pursue courses in German or Russian literature are urged to consider one or more of CLAS 1P91 (Greek civilization), CLAS 1P92 (Roman civilization), CLAS 1P95 (Greek myths and religions), CLAS 1P97 (Roman religions and myths) as a supplement to their studies in literature.

Year 1

One credit in the first major: GERM or RUSS; one credit in other major; ENGL 1F91 will normally be completed in year 1 or year 2. One science and one social science context credit; one elective credit (GERM 1P93, 1P94 or RUSS 1F95 recommended).

Year 2

Two credits in the first major: GERM or RUSS; two credits in other major; ENGL 1F91 must be taken if not completed in year 1. One elective credit (GERM 1P93, 1P94 or RUSS 1F95 recommended if not taken previously).

Year 3

Two credits in the first major: GERM or RUSS; two credits in other major; one elective credit. All pass programs must contain a minimum of five GERM or RUSS credits (GERM: 1F90 or above; RUSS: 1F00 or above). Three credits must be numbered 2(*alpha*)90 or above.

Honors program in German

At least twelve GERM credits numbered 1F90 or above are required.

Years 1, 2 and 3

As in pass program in one language.

Year 4

Year 3 or year 4 level GERM credits not taken in year 3 to total 12 GERM courses numbered 1(*alpha*)90 or above; elective credits (see German area studies below for possible choices).

All honors programs must contain a minimum of three credits numbered 3(*alpha*)80 or above.

Honors program: combined major

Applicable to all languages. Seven credits numbered 1(*alpha*)90 (RUSS: 1(*alpha*)00) or above must be taken in each area.

Years 1, 2 and 3
As in pass program.

Year 4
Two credits in the first major: GERM or RUSS; two credits in other major; one elective credit. All honors programs must contain a minimum of three credits numbered 3(alpha) 80 or above.

German area studies

For students who wish to pursue German studies beyond the language and literature orientation as contained in the single and combined major description, the department has co-ordinated a system of courses leading to a bachelor's degree in German area studies. German area studies is a co-ordinated program consisting of the course offerings within the various departments in the University which are pertinent to the study of German, Germany and Europe.

Participating departments: Classics, English Language and Literature, Film Studies, Dramatic and Visual Arts, Geography, German, History, Music, Philosophy, Politics, Psychology.

Responsibility for the program rests with the chair of the department of Germanic and Slavic studies, to whom all enquiries should be directed.

There are various approaches to this program:

- (a) a humanities orientation, consisting of courses in Classics, English, Film Studies, Dramatic and Visual Arts, Music and Philosophy chosen to complement the study of German language and literature;
- (b) a social science orientation, consisting of a selection of courses in History, Politics and Geography complemented by courses in German language and literature;
- (c) a combination of (a) and (b).

Pass Program

Seven credits in German language and literature; seven credits in relevant areas, normally chosen from at least three of History, Philosophy, Politics, Classics, English, Music, Psychology and Linguistics; one science context credit. All pass programs must contain at least three credits from courses numbered 2(alpha) 90 or above. ENGL 1F91 will normally be completed in year 1 or year 2.

Work opportunity: pass or honors program

Three months in Germany, working and travelling. A half credit, GERM 3P98, will be awarded upon receipt of a satisfactory report of 8 weeks' work from the employer involved.

Honors program

Twelve credits numbered 1F90 or above in German language and literature; eight credits normally chosen from at least three of History, Philosophy, Politics, Classics, English, Film Studies, Dramatic and Visual Arts, Geography, Music, Psychology, and Linguistics; one science context credit. All honors programs must contain a minimum of three credits numbered 3(alpha) 80 or above. ENGL 1F91 will normally be completed in year 1 or year 2.

Work opportunity:

A second work opportunity abroad may be used for a further half credit, GERM 4P98.

Russian area studies

For students who wish to pursue Russian studies beyond the language and literature orientation as contained in the single and combined major description, the department has co-ordinated a system of courses leading to a bachelor's degree in Russian area studies. Russian area studies is a coordinated program consisting of the course offerings

within the various departments in the University which are pertinent to the study of Russian, Russia and Europe.

Participating departments: Classics, Economics, English, Film Studies, Dramatic and Visual Arts, History, Music, Philosophy, Politics, Psychology, Sociology.

Responsibility for the program rests with the chair of the department of Germanic and Slavic studies, to whom all enquiries should be directed.

There are various approaches to this program:

- (a) a humanities orientation, consisting of courses in Classics, English, Film Studies, Dramatic and Visual Arts, Music and Philosophy chosen to complement the study of Russian language and literature;
- (b) a social science orientation, consisting of a selection of courses in History and Politics complemented by courses in Russian language and literature;
- (c) a combination of (a) and (b).

Pass program

Seven credits in Russian language and literature; seven credits in relevant areas, normally chosen from at least three of Classics, English, History, Linguistics, Music, Philosophy, Politics, Psychology; one science context credit. All pass programs must contain at least three credits from courses numbered 2(alpha)90 or above. ENGL 1F91 will normally be completed in year 1 or year 2.

Description of courses

Abbreviations:

DUTC	Dutch
GERM	German

Germanic and Slavic Studies

LING	Linguistics
PLSH	Polish
RUSS	Russian

Please note that not all courses are offered in every session. Refer to the applicable term timetable for details.

DUTC 1F00

Introductory Dutch

Learning of basic skills, conversational patterns, reading and writing ability. Language lab, 3 hours per week.

DUTC 1F90

Intermediate Dutch

Conversational and written language skills. Introduction to Dutch culture and 20th century literature. Prerequisite: DUTC 1F00 or permission of the department.

GERM 1F00

Language (introductory)

Learning of basic skills, conversational patterns, reading ability. Emphasis is on the spoken language, language/computer laboratory, films, records, tapes. Language/computer laboratory, 4 hours per week.

GERM 1F90

Language and literature (intermediate I)

Intermediate level. Conversational and written language skills. Introduction to 20th century German literature. Language/computer laboratory, films, tapes, recordings. Lectures and language/computer lab, 4 hours per week.

GERM 1F96

Culture and civilization of Central Europe: from the Reformation to the post-WWII period (given in English)

The evolution of modern Europe. An illustrated cross-section of ethnic, social and cultural peculiarities; development of sovereign states and national cultural centres; a survey of literary, philosophical, political and sociological theses and their implementation or failure. Lectures, 3 hours per week.

GERM 1P93

Culture and civilization of Central Europe: from the Prehistoric to the Carolingian period

(given in English)
(also offered as CLAS 1P93)
The cultural development of Central Europe deals with the earliest stone and pottery cultures, the Bronze and Iron Ages, the Celts and Romans and the first Germanic kingdoms. The emphasis is placed on beliefs and practices, artistic style and architecture. Slides are used to illustrate the cultural evidence. Not open to students with credit in GERM 195. Lectures, 3 hours per week.

GERM 1P94

Culture and civilization of Central Europe: the Holy Roman Empire

(given in English)
Forms of cultural expression in Central Europe from the foundation of the Ottonian Empire to the Counter-Reformation. An illustrated survey of the arts, architecture and literature. Not open to students with credit in GERM 195. Lectures, 3 hours per week.

GERM 2F00

Language and literature (intermediate II)

Intensive study of the present-day German language and cultural background with the aim of increasing the level of the skills of communicating. Lectures with extensive use of the language laboratory, 3 hours per week.

GERM 2P11

German prose and poetry of the 19th century

Short works by such authors as Kleist, Hoffman, Eichendorff, Storm and Hauptmann will be examined as examples of Romanticism, Poetic Realism and Naturalism. Prerequisite: GERM 1F90 or equivalent. Lectures, 3 hours per week. This course is only offered in Freiburg.

GERM 2P12

German prose and poetry in the 20th century

Authors to be studied include Kafka,

Durrenmatt, Kaschnitz and Lenz. The course touches on the political and literary issues of the 20th century. Prerequisite: GERM 1F90 or equivalent.

Lectures, 3 hours per week. This course is only offered in Freiburg.

GERM 2P14

Modern German theatre and radio plays

Major trends in modern German theatre; the groundbreaking dramaturgy of Brecht in the '40s; the compelling *Sprechstücke* of Handke in the '60s; the renascent *Volksstück* form of Sperr, Kroetz, and Fassbinder in the '70s. Special attention will be given to the *Hörspiele* of Borchert, Lenz, Eich, Dürrenmatt, among others. Prerequisite: GERM 1F90 or permission of the department. Lectures, seminar, 3 hours per week.

GERM 2P95

Goethe's Faust I

Introduction to the Faust saga, Faust treatments in European literature, the "Faustian" temperament and a detailed study of Goethe's *Faust I*. Prerequisite: permission of the department. Lectures, seminar, 3 hours per week.

Note: To take any courses offered at the year 3 or 4 levels a student must have at least two credits from among GERM 1F90, 2F00 or 2P11, 2P12, or obtain permission of the department.

GERM 3F99

Advanced language study I

The aim of this course is to achieve fluency at an advanced level in speaking, writing and comprehension. Course work includes tapes, films, written and oral projects, discussions and advanced interpreting and translating. It may be taken in either year 3 or 4. Prerequisite: departmental permission. Lectures, language lab, 3 hours per week.

GERM 3P81

Medieval German literature I

The principles of Middle High German grammar and an introduction to the lyric poets of Medieval Germany from

1050 to 1250.

Prerequisite: at least three credits from among GERM 1F90, 1P93, 1P94, 2F00, 2P11, 2P12 or departmental permission.

May be taken as a third- or fourth- year credit.

Not open to students with credit in GERM 391.

Lectures, 3 hours per week.

GERM 3P82

Medieval German literature II

An introduction to the history of the German language and the Medieval epic from 1050 to 1250.

Prerequisite: GERM 3P81 or departmental permission.

May be taken as a third- or fourth- year credit.

Not open to students with credit in GERM 391.

Lectures, 3 hours per week.

GERM 3P83

Baroque to Sturm und Drang

Literature and literary theory from the Baroque period to Storm and Stress. This course deals with the dramatic literature and criticism of the 17th and 18th centuries from Opitz to Goethe.

Prerequisite: GERM 2F00 or departmental permission.

May be taken as a third- or fourth- year credit.

Not open to students with credit in GERM 393.

Lectures, 3 hours per week.

GERM 3P84

Sturm und Drang to Early Classicism

Literature of the 18th century from the period of Storm and Stress to Early Classicism: drama, prose and essays of Goethe and Schiller.

Prerequisite: GERM 2(alpha)00 level course or departmental permission.

May be taken as a third- or fourth- year credit.

Not open to students with credit in GERM 393.

Lectures, 3 hours per week.

GERM 3P85

19th century Romantic literature

Early Romantic prose, poetry and

drama with special emphasis on the works of Novalis, Wackenroder, Tieck and Kleist. Critical theory of the Romantic movement.

Prerequisite: departmental permission.

May be taken as a third- or fourth- year credit.

Not open to students with credit in GERM 395.

Lectures, 3 hours per week.

GERM 3P86

Biedermeier, Junges Deutschland and Vormärz

Representative works from the late Romantic period and works by Büchner, Heine, Mörike, Grillparzer and Stifter.

Prerequisite: departmental permission.

May be taken as a third- or fourth- year credit.

Not open to students with credit in GERM 395.

Lectures, 3 hours per week.

GERM 3P87

The prose of Realism

Narrative fiction from Realism to Naturalism. Works by Fontane, Keller, Storm, Ludwig, Meyer and Hauptmann.

Prerequisite: departmental permission.

May be taken as a third- or fourth- year credit.

Not open to students with credit in GERM 392.

Lectures, 3 hours per week.

GERM 3P88

19th century drama and poetry

Representative dramas by Hebbel, Hauptmann, Schnitzler and Wedekind. Poetry from the *Epigonen* to the Impressionists.

Prerequisite: departmental permission.

May be taken as a third- or fourth- year credit.

Not open to students with credit in GERM 392.

Lectures, 3 hours per week.

GERM 3P98

Practicum in Germany

A program designed to give students of German and German area studies of all years an opportunity to work for three months in a German firm to acquire

practical skills as well as language proficiency. The program may be repeated by students in the honors program only.

Prerequisite: working knowledge of German.

GERM 4F10

Advanced language study II

The development of greater proficiency in German at a very advanced level of speaking, writing, and comprehension. Course work includes simultaneous translation, written translations, discussions and essays on contemporary issues.

Prerequisite: GERM 2F00 or departmental permission.

Not open to students with credit in GERM 499.

Open to year 3 and 4 students only.

Language/computer laboratory, 3 hours per week.

GERM 4P00

German Classicism I

Classical texts and philosophical essays: Schiller.

Prerequisite: GERM 2F00 and normally GERM 3P83, 3P84 or departmental permission.

Not open to students with credit in GERM 402.

Lectures, 3 hours per week.

GERM 4P01

German Classicism II

The classical plays of Goethe, especially *Faust II*.

Prerequisite: GERM 4P00 or departmental permission.

Not open to students with credit in GERM 402.

Lectures, 3 hours per week.

GERM 4P05

German literature of the early 20th century

Experiments in form and content in the early 20th century. Works by such writers as T. Mann, Hesse, Remarque and Kafka.

Prerequisite: departmental permission.

Not open to students with credit in GERM 404.

Lectures, 3 hours per week.

Germanic and Slavic Studies

GERM 4P06

German literature from the 1920s to 1945

The literatures of Totalitarianism and of the Exile.

Prerequisite: departmental permission.

Not open to students with credit in GERM 404.

Lectures, 3 hours per week.

GERM 4P07

German literature from 1945 to 1965

New forms of poetry, drama and prose: the radio play, the "docudrama" and "reportage".

Prerequisite: departmental permission.

Not open to students with credit in GERM 403.

Lectures, 3 hours per week.

GERM 4P08

German literature from 1965 to the present

Poetry, drama and prose of the contemporary literary scene in Germany.

Works by such writers such as Lenz, Kaschnitz, Weiß, Grass.

Prerequisite: departmental permission.

Not open to students with credit in GERM 403.

Lectures, 3 hours per week.

GERM 4P16

Tutorial I

Advanced study in an area of language or literature of mutual interest to the student and the instructor. A written proposal must be approved by the department chair.

Prerequisite: departmental approval.

Tutorial, 3 hours per week.

GERM 4P17

Tutorial II

Advanced study in an area of language or literature of mutual interest to the student and the instructor. A written proposal must be approved by the department chair.

Prerequisite: departmental approval.

Tutorials, 3 hours per week.

GERM 4P98

Practicum in Germany

See GERM 3P98.

LING 1F94

Introduction to linguistics

(also offered as COMM 1F94 and TESL 1F94)

Language and language use. Concepts related to disciplines in the humanities, social sciences and education will be discussed. The course is not limited to any specific language; it deals with questions common to all tongues.

Not open to students with credit in

LING 190.

Open to students in any year of study.

PLSH 1F00

Introductory Polish

Development of the four basic skills in language proficiency (reading, writing, speaking and comprehension).

Lectures, language lab, 4 hours per week.

RUSS 1F00

Introductory Russian

Development of the four basic skills in language proficiency (reading, writing, speaking and comprehension).

Lectures, language lab, 4 hours per week.

RUSS 1F90

Intermediate Russian

Conversational and written language skills. Reading of selected texts.

Lectures, language lab, 4 hours per week.

RUSS 1F95

Russian culture and civilization (given in English)

Analysis of the influence of religion, fine arts, philosophy and social conditions on the Russian character and culture. Open also to non-majors.

Lectures, 3 hours per week.

RUSS 2F10

19th century Russian literature (given in English)

The development of literary traditions vital to Russian cultural and spiritual existence, including the writings of Pushkin, Lermontov, Gogol, Turgenev, Dostoevsky, Tolstoy, and Chekhov.

Not open to students with credit in RUSS 211, 2P12 or 2P13.

Lectures, 3 hours per week.

RUSS 2F97

Advanced Russian I

Intensive study of present-day Russian through selected texts to increase the level of comprehension and expression.

Prerequisite: RUSS 1F90 or equivalent or departmental permission.

Lectures, 4 hours per week.

RUSS 2V90-2V94

Special topics in Russian studies I (given in English)

An exploration of one major period, author, or genre in Russian literature and/or art.

Lectures, 3 hours per week.

1991-92: (2V92) Women writers in Russian literature

The unique contribution of writers such as: A. Gippins, A. Akhmatova, M. Tsvetayeva, N. Mandelshtam.

RUSS 2V95-2V99

Special topics in Russian studies II (given in English)

An exploration of one major period, author, or genre in Russian literature and/or art.

Lectures, 3 hours per week.

1991-92: (2V97) Russian Modernism

Poetry of the late 19th and early 20th century. Survey of Russian Modernism 1890's to 1920's.

RUSS 3F97

Advanced Russian II

Systematic coverage of Russian morphology; creative writing and expression; analysis and translation of prescribed texts.

Open to year 3 and 4 students only.

Lectures, 4 hours per week.

RUSS 3F98

20th century Russian literature (given in English)

Major Russian writers of our century from the Revolution to the present (Gorky, Bulgakov, Sholokhov, Pasternak, and Solzhenitsyn).

Not open to students with credit in RUSS 3F96, 3P94 or 3P95.

Lectures, 3 hours per week.

RUSS 3M90-3M94

Special topics in language or literature

Advanced study in language or literature. A written proposal must be approved by the department chair.

1991-92:(3M90) Russian short fiction of the 19th century

Prerequisite: permission of the department

Lectures, 3 hours per week.

RUSS 4V90-4V94

Special topics in language or literature

Advanced study in language or literature. A written proposal must be approved by the department chair.

Prerequisite: permission of the department.

Health Studies

Director

David DiBattista

Institute for Applied Human Development

Department of Psychology

The program in Health Studies is offered in response to a growing interest in health-related issues. The curriculum is oriented to the integration of knowledge from several traditional disciplines, focusing on the studies of health maintenance and the change process in the development of good health from a behavioral and biological sciences perspective. The program is one which is both socially oriented and has a strong commitment to basic science.

Health Studies consists of a core of courses supplemented by a broad choice of specific electives which include appropriate selections from within established departments.

Students should be careful to select those electives which will prepare them for the career or post-graduate program of their choice. Electives in year 2 and year 3 must be approved by the director of the program.

Note: Brock University has entered into an agreement with McMaster University whereby registered nurses who wish to pursue a Bachelor of Science in Nursing degree at McMaster University may earn a number of credits at Brock University. Interested students are invited to discuss particulars of this McMaster-Brock cooperative venture with the director of the Health Studies program.

Pass program

Year 1

HLST 1P90; BIOL 1F90; CHEM 1P80, 1P81; MATH 1P98; PSYC 1F90; SOCI 1F90.

Year 2

HLST 2F10; three credits from ACTG 2P11, 2P12, BIOL 1F25, 2F95, 2P97, 2P98, CHST 2F10, COSC 1P01, 1P04, ECON 1P91, 1P92, EXST 2F50, 2F95, MGMT 1P91, 1P92, PHED 1P92, 1P94, 2P41, PSYC 2F12, 2F30, 2F35, 2F36, RECL 1P02, UEST 1F90; humanities context credit.

Year 3

HLST 3P20, 3P21; three credits from BIOL 2P97, 3P51, EXST 2F95, PHED 2P97, 3P41, 3P90, PSYC 2F36, 3F17, 3F46, 3P16, 3P18, 3P81, 3P83, 3P94, SOCI 3F21, 3P26, 3P27, 3P28, 3P57, UEST 3P51, 3P57, one elective credit.

Honors program

Years 1, 2 and 3

As in pass program.

Year 4

HLST 4P50, 4P51; one credit from HLST 4F52, PSYC 3P81, 3P95, 4F45, 4F50; two credits from BIOL 2P97, PHED 3P90, PSYC 3F46, 3F91, 3P90, 3P92, 3P94, 3P98, 3P99, 4P20; one elective credit.

Description of courses

Please note that not all courses are offered in every session. Refer to the applicable term timetable for details.

HLST 1P90

Introduction to health studies

Current issues and controversies in the promotion of optimal health. Emphasis will be on behavioral factors as they interact with biological processes.

Topics will include: neurological and psychological bases of health related behavior such as stress and addiction; community health.

Prerequisite: admission to the Health Studies program.

Lectures, seminar, 3 hours per week.

HLST 2F10

Research methods for health studies

Descriptive and inferential statistics

and the interpretation of data. A major consideration will be the use of statistics in the range of situations confronting health studies workers.

Prerequisite: HLST 1P90.

Lectures, seminar, 3 hours per week.

HLST 3P20

Program evaluation

A comprehensive introduction to the key concepts, methodologies and issues related to program evaluation in health studies. Topics include: administrative and policy implications and technical/methodological evaluation issues facing individuals involved in administering, planning, implementing and evaluating health programs.

Prerequisite: HLST 2F10.

Lectures, seminar, 3 hours per week.

HLST 3P21

Nutrition

An elementary introduction to nutrition with emphasis on diet for health maintenance.

Prerequisite: HLST 2F10.

Lectures, seminar, 3 hours per week.

HLST 4F52

Thesis tutorial

A research project carried out with a faculty adviser. Students must consult the program director regarding both their program and an adviser before being admitted to year 4.

Prerequisite: HLST 3P20, 3P21.

HLST 4P50

Epidemiology

An investigation of epidemiology of selected diseases with an emphasis on understanding epidemiological methods and identification of risk factors.

Prerequisite: HLST 3P20, 3P21.

Lectures, seminar, 3 hours per week.

HLST 4P51

Disease processes

An analysis of various behavioral strategies for the prevention of such diseases as hypertension and lung cancer. The role of behavior in the pathogenesis of disease and the feasibility of behavioral change for the prevention of disease.

Prerequisite: HLST 3P20, 3P21.

Lectures, seminar, 3 hours per week.

History

Officers of instruction

Chair

Joseph L. Sanders
Carl Wolff (July 1-December 31, 1991)
Patricia G. Dirks (as of January 1, 1992)

Professor

Frederick C. Drake

Associate professors

Alan G. Arthur
Patricia G. Dirks
Craig R. Hanyan
John A. Sainsbury
Joseph L. Sanders
Robert R. Taylor
Wesley B. Turner
Carl M. Wolff

Assistant professor

Jane A. McLeod

Professor emeritus

John McEwen

General information

Mackenzie Chown, C421

Historians explore changes in past societies, cultures and peoples. They examine cultural, artistic, political, economic, intellectual, as well as military and national behavior. Their interests range from the history of individuals and local communities to studies of nations and international relations. They analyse the causes and consequences of significant change over time. They seek to illuminate the past.

The study of history involves surveying and gathering evidence and evaluating, interpreting and refining it by constructing clear and logical arguments on the basis of that evidence.

The range of courses offered by the department permits students to plan pass and honors programs in the following fields of history:

1. political and diplomatic
2. social and cultural
3. North American
4. European
5. British and imperial.

To provide a focus for their studies, the department encourages History majors in a pass program to select three of the six history courses they will take over years 2 and 3 from within one of the designated fields. Their three other history courses may be selected from outside their chosen field. In year 4, honors majors take four history courses within or related to their chosen fields. Students should consult with the chair of the department in arranging acceptable programs.

The department normally offers about 12-15 one credit and 20 half credit courses, both lecture and seminar courses, in any one year. Courses not offered in one year are normally offered the following year, so that a two year rotation pattern is in operation.

To assist students in refining their analytical and critical skills, seminars (small discussion groups) are a crucial part of every history course. Faculty members participate in all seminars. In many courses individual students are given the responsibility of organizing and leading discussions on particular topics.

Notes

1. For the purpose of fulfilling core and context requirements, HIST 1P92, 1P93 and 1F95 are equally acceptable courses.
2. History majors must take one credit outside of history to satisfy their social science context requirement.

The History department recommends combining history with other disciplines in humanities and social sci-

ences, such as Classics, English, languages, Philosophy, Economics, Geography, Politics, Psychology and Sociology.

The department also recommends to students intending to proceed beyond an honors degree in History an advanced course (1F90) in a second language and POLI 2P81 or MATH 1F92.

Pass program

Seven credits in HIST are required for a pass degree.

Year 1

HIST 1P92, 1P93 or 1F95; one social science and one science context credit; two elective credits.

Years 2 and 3

Six credits in HIST from those numbered 1P92 to 3(alpha) 99; four elective credits. Normally, three credits in HIST are taken in each year.

Each year, a student's program must be approved by the department.

Second-year students may take year 3 courses with permission of the instructor, apart from courses numbered 3(alpha) 90 or above which are restricted to students with at least three year 2 credits or special permission of the instructor.

Language requirement for humanities majors

History majors are required to complete one credit in a language other than English. The History department recommends a 1F00 level credit in French, German, Italian, Latin, Russian or Spanish; see page 28 for details of the language requirement for humanities majors.

Honors program

Eleven credits in HIST are required for

History

an honors degree.

Years 1, 2 and 3

As in pass program.

Students who have obtained honors standing in second year may be permitted to take a year 4 course in year 3, especially if it is not expected that the course will be offered the following year. A tentative list of year 4 level courses to be offered in 1992-93 is available in the department.

Year 4

Four credits in HIST and one elective credit. History courses should include two credits numbered 4(*alpha*) 00-4(*alpha*) 99; one course numbered 3(*alpha*) 90 or above; one other credit in HIST. The courses chosen must be approved by the department chair, or designate, as comprising an acceptable program. Students may substitute a lower level course for one of those required in year 4, if they have taken a course numbered 3(*alpha*) 90 or above in year 3.

Combined major programs

The department of History participates in combined major programs. In such programs, the candidate for a pass degree shall take a minimum of five credits in HIST, and the candidate for an honors degree a minimum of seven credits in HIST. Normally a pass student will take three HIST credits numbered 1(*alpha*)90 and above, and two credits numbered 2(*alpha*) 90 and above; an honors student will normally take two additional credits numbered 3(*alpha*) 90 and above.

Description of courses

Please note that not all courses are offered in every session. Refer to the applicable term timetable for details.

HIST 1F95

World history since 1914

The major political, social, economic

and cultural trends of the 20th century, with prime focus on developments in Europe and the way they have affected the rest of the world, although stress will also be placed on the decline of Europe in global political and economic terms. Specific topics include the world wars, the Russian Revolution, fascism, the Holocaust, the Cold War, decolonization, and conflict and its resolution in the international, political and social spheres. Not open to students with credit in HIST 191. Lectures, seminar, 3 hours per week.

HIST 1P92

Early medieval Europe

The societies and culture of Western Europe from the late Roman Empire until the Crusades and the 12th century Renaissance. The agricultural base of society, its cultural context, the nature and roles of early Christianity and the ultimate survival and expansion of Christendom in the face of both pagan and Muslim challenges will be analysed.

Not open to students with credit in HIST 190. Lectures, seminar, 3 hours per week.

HIST 1P93

The high Middle Ages

The economy, society, culture and politics of Western Europe, 1050-1350. Ecclesiastical problems, religious beliefs, scholasticism, material culture and family structures will all be assessed in the context of urban and mercantile expansion.

Not open to students with credit in HIST 190. Lectures, seminar, 3 hours per week.

HIST 2F09

Canada: colonization to Confederation

(formerly HIST 2F74)

A study of Canada's development from the time of French colonization to the period of Confederation, which examines political, social, religious and economic growth.

Not open to students with credit in HIST 2F74.

Lectures, seminar, 3 hours per week.

HIST 2F10

Canada since 1867--discovering the "Canadian" way

(formerly HIST 2F94)

The evolution of Canada's political, economic and social structures in the century after Confederation.

Not open to students with credit in HIST 2F94.

Lectures, seminar, 3 hours per week.

HIST 2F80

The Thirteen Colonies

A comparative survey of the Thirteen Colonies from their founding to the American Revolution, with emphasis on the problem of the imperial connection, the social and theological bases of Puritanism, Quakerism and witchcraft, political developments and commerce, slavery and warfare.

Lectures, seminar, 3 hours per week.

HIST 2F97

From colonies to colossus

The United States in the years from the Revolution to the war with Spain. The turmoil of 19th century American politics and the foundations of the economic strength of the United States. Elements of American social life probed include the relations between the sexes, the burden of slavery, the surge of interest in sports, the transformation of education, changes in the treatment of the poor and the emergence of the learned professions.

Lectures, seminar, 3 hours per week.

HIST 2F98

The promises of the "American Century"

Beginning with the depression of the 1890s, the effort of Americans to establish social and economic justice in an advanced industrial economy. Topics covered include Progressivism, the development and the deterioration of the New Deal, the American presidency in the Vietnam years, the changing culture of suburbia, the feminist revolt, the transformation of race relations and the attempt to make the United States a non-alcoholic country.

Lectures, seminar, 3 hours per week.

HIST 2P21**Early modern Britain**

The British Isles in the 15th and 16th centuries, emphasizing the emergence of the centralized state, the impact of religious reformation and the achievements of the Elizabethan age.

This course is the normal prerequisite for HIST 2P22.

Not open to students with credit in HIST 220.

Lectures, seminar, 3 hours per week.

HIST 2P22**Century of revolution**

The origins and effects of revolution and civil war in 17th century Britain. Prerequisite: HIST 2P21 or permission of the instructor.

Not open to students with credit in HIST 220.

Lectures, seminar, 3 hours per week.

HIST 2P30**Renaissance Europe, 1300-1500**

An examination of some of the more problematic shifts and continuities in Western European society in an age of demographic crisis and economic dislocation. Family structures, technological innovation, elite and popular culture will be emphasized.

Not open to students with credit in HIST 232hc.

Lectures, seminar, 3 hours per week.

HIST 2P31**Europe during the Reformation, 1480-1600**

The economic, demographic and political environment within which Luther, Calvin and other innovators attempted to reform Europe's religious life. Political and mercantile change and overseas expansion will also be discussed.

Not open to students with credit in HIST 233hc.

Lectures, seminar, 3 hours per week.

HIST 2P34**Europe during the Iron Century, 1600-1715**

A survey of European culture and society during the 'Little Ice Age' in which economic and political readjustments are considered in the context of philosophical speculation, the develop-

ment of scientific thought and the concurrent maintenance of antecedent religious and intellectual traditions.

Lectures, seminar, 3 hours per week.

HIST 2P41**18th century Europe, 1715-1789**

Demographic, economic and structural changes as they affected the nobility, bourgeoisie and popular classes; changes in patterns of criminality, riot and popular mentality; war as a stimulus of social reform; and the Enlightenment in its social and cultural context and the origins and course of the French Revolution.

Prerequisite: permission of the department.

Lectures, seminar, 3 hours per week.

HIST 2P42**Revolutionary Europe, 1789-1815**

An examination of the French Revolution and its European impact, emphasizing its origins, its role in the development of European political culture and its impact on the experience of women. Such topics as the failure of the constitutional monarchy and the counter-revolution will also be addressed.

Prerequisite: permission of the department.

Lectures, seminar, 3 hours per week.

HIST 2P51**Europe's greatest century: 1815-1914**

Political, social and cultural changes in the sub-continent when liberal, imperialist and industrializing Europe was still master of the world. The 1848 revolutions; the effects of nationalism, such as the unification of the German and Italian states and the problems of the eastern Empires, Austria-Hungary and Russia, are some of the topics covered.

Lectures, seminar, 3 hours per week.

HIST 2P52**Europe from ruin to recovery: 1914-1972**

The fall and division of Europe stressing the effect of competing ideologies, two great wars and economic turmoil on political, social and cultural affairs. Some of the problems discussed include: Stalin's Russia, the

Nazi movement, the Holocaust, the Gaullist phenomenon and the Prague Spring of 1968.

Lectures, seminar, 3 hours per week.

HIST 2P93**Foundations of modern Japan**

Japanese history from the fall of the Tokugawa shogunate to 1953. Some attention will be given to Tokugawa Japan, but the main emphasis will be on the major post-1867 socio-economic, political and intellectual developments which help explain Japan's emergence as a major power.

Lectures, seminar, 3 hours per week.

HIST 2P94**Canada's evolving social fabric (formerly HIST 3P76)**

The changing nature of the social institutions fashioned for and by the men, women and children who peopled Canada during the nation's first century.

Not open to students with credit in HIST 3P76.

Lectures, seminar, 3 hours per week.

HIST 2P96**Piety, religious dissent and reform in the Reformation**

The personal, collective, institutional and cultural religious forces which underlay the various efforts to revitalize and reform the Christian church between 1400 and 1650. Differing movements will be compared and contrasted, in part through an examination of primary texts. Related topics like later humanist philosophy, esoteric beliefs and the witch-craze will also be examined.

Not open to students with credit in HIST 233hc.

Lectures, seminar, 3 hours per week.

HIST 2P99**Ideas and culture, 1700-1850**

Intellectual and cultural developments in Europe and North America during the 18th and early 19th centuries, with particular attention to the exchange of ideas across the Atlantic. Developments in literature and the arts will be considered, as well as the relationships between high and low culture.

Lectures, seminar, 3 hours per week.

History

HIST 3F24

Britain in the 20th century

From liberal democracy to welfare state: the coming of total war and its impact upon the political, social, economic and cultural life of Britain. Lectures, seminar, 3 hours per week.

HIST 3F50

The Germans

German history since the late 18th century, with emphasis on social, economic and political problems. Lectures, seminar, 3 hours per week.

HIST 3F70

Russia, 1462-1801

Muscovite and early imperial Russian history with emphasis on the social, economic and political problems which accompanied Russia's emergence as a modern state. Lectures, seminar, 3 hours per week.

HIST 3F85

Power in America

Aspects of the political development of the United States from the American Revolution to the present. Attention will be given to the development of the American party systems, the political interaction of the federal, state and local levels of government and to the changing behavior of the American voter.

Seminars, 3 hours per week.

HIST 3F90

Russia, 1801-1917: the road to revolution

The last period of imperial Russian history with emphasis on the political, socio-economic, and intellectual contexts out of which came the revolutions of 1917.

Lectures, seminar, 3 hours per week.

HIST 3F91

The experience of Empire

Imperialism, power and nationalism in the British Empire during the 19th and 20th centuries, with emphasis on African territories, Australia, Canada and New Zealand.

Lectures, seminar, 3 hours per week.

HIST 3F92

Russia in the 20th century: the Soviet Union

(formerly HIST 3P72)

The USSR from 1917. Attention will be given to internal developments: the consolidation of the Soviet regime, the 'Stalin revolution, the post-Stalin era and changes in Soviet or Russian society since 1917; also certain aspects of foreign policy will be explored.

Not open to students with credit in HIST 3P72.

Lectures, seminar, 3 hours per week.

HIST 3F95

The development of United States foreign policy

United States foreign policy from the American Revolution to the present, concentrating on the interaction of domestic and foreign affairs and on the development of territorial, economic and commercial expansion.

Lectures, seminar, 3 hours per week.

HIST 3F96

European cultural history, 1300-1600

The shift from script to print, the gap between high and low cultures, the development of new artistic standards and goals and the cosmology of the early modern period. The context and framework within which speculation and literary and artistic expression or elaboration occurred.

Seminars, 3 hours per week.

HIST 3P00

Ideas and culture since 1850

The concerns of this course will be similar to those of HIST 2P99, but with reference to the later 19th and 20th centuries.

Lectures, seminar, 3 hours per week.

HIST 3P21

The first industrial nation: 18th century Britain

British politics, society and culture in the early stages of the industrial era.

Not open to students with credit in HIST 322.

Lectures, seminar, 3 hours per week.

HIST 3P23

The first industrial nation: 19th century Britain

British politics, society and culture during the climactic period of the first industrial revolution.

Not open to students with credit in HIST 322.

Lectures, seminar, 3 hours per week.

HIST 3P40

France, 1815-1914: French social history between the Revolution and World War I

Special emphasis on the social consequences of industrialization and urbanization. Specific topics will include the effects of railway building, increased literacy and expansion in the book trade, and the changing role and experience of women.

Not open to students with credit in HIST 3P41 or 3P42.

Lectures, seminar, 3 hours per week.

HIST 3P73

A Canadian history course

Title and course description available from department.

Lectures, seminar, 3 hours per week.

HIST 3P74

Canada, a land of immigrants

Immigrants, immigration movements, problems of adjustment and government policies, concentrating on the period up to the second world war.

Prerequisite: a previous university level Canadian history course or permission of the instructor.

Lectures, seminar, 3 hours per week.

HIST 3P81

The Northeast in the Old Republic

The political, social and economic development of northeastern states of the United States, such as Massachusetts, Pennsylvania and New York, up to the 1840s.

Seminars, 3 hours per week.

HIST 3P82

Canadian-American relations

Major problems in the relationship between the United States and Canada in a selected time period.

Lectures, seminar, 3 hours per week.

HIST 3P92

Selected aspects of Upper Canada/Ontario history, 1784-1914

Specific themes in the social, cultural, political and economic history of Upper Canada/Ontario. Topics may include Native peoples, immigration and settlement, urban development, political development, warfare, the rise of industry, crime and punishment, health and medicine, social problems, the writing of provincial and local history.

Prerequisite: a previous university level Canadian history course or permission of the instructor.

Lectures, seminar, 3 hours per week.

HIST 3P98

French Canada

A study of the cultural, economic and political institutions of French Canada as a means of analysing the sources of French-English conflict with emphasis upon such questions as education, cultural values, imperial defense and conscription.

Lectures, seminar, 3 hours per week.

HIST 4F99

Honors tutorial

Directed reading and discussion in the student's selected field in preparation for a comprehensive examination.

Honors students who are interested in this course may begin their reading for History 4F99 in their third year.

Prerequisite: fourth-year standing and permission of the department. Students must make arrangements before the end of April for tutorials to begin the following school term.

Hours to be arranged.

HIST 4V10-4V19

Problems in Canadian history

Studies of selected problems in different eras of Canadian history.

Topics studied in any given year will focus on a particular theme.

1991-1992: (4V12) A Canadian history course

Title and course description available

from department.

Prerequisite: year 4 honors standing or permission of the instructor.

Seminars, 3 hours per week.

HIST 4V20-4V29

Problems in United States history

Studies of selected problems and topics in United States history.

Winter 1991-92: (4V20) The Republic forms: the political life of the early national years of the United States.

The development of the political institutions of the United States from the Revolution to the 1840's. Topics include the development of American Republican ideology, the movement for the Constitution of 1787, the emergence of parties and the development of the "second party system".

Prerequisite: year 4 honors standing or permission of the instructor.

Not open to students with credit in HIST 4P17.

Seminars, 3 hours per week.

HIST 4V30-4V39

Problems in European social and political history

Studies of selected problems, topics and periods in European social and political history from the 15th to the 20th centuries, with particular attention to developments pertaining to France, Germany, Great Britain and Russia. Countries covered will vary from year to year.

Winter 1991-92: (4V31) The rise of national socialism in Weimar Germany.

An analysis of the courses of Nazism's growth, 1919-1933.

Prerequisite: year 4 honors standing or permission of the instructor.

Seminars, 3 hours per week.

1991-92: (4V35) Witchcraft episodes in Britain and America, 1500-1700

The phenomenon of persecution for witchcraft examined within the context of religious change, socio-economic

friction, and gender relations. Approach involves a comparative focus on the nature of witchcraft episodes in England, Scotland, and New England. Prerequisite: year 4 honors standing or permission of the instructor. Seminars, 3 hours per week.

HIST 4V40-4V49

Problems in European intellectual and cultural history

Studies in selected problems, topics, and periods in European cultural and intellectual history.

Winter 1991-92: (4V40) From Romanticism to neo-Romanticism.

Problems in the thought and culture of Europe from the late 18th to the early 20th centuries, including special consideration of the role of literature and music in the culture of the period.

Prerequisite: year 4 honors standing or permission of the instructor.

Not open to students with credit in HIST 4P45.

Seminars, 3 hours per week.

Humanities Interdisciplinary Studies

Director

Cecil A. Abrahams, Dean
Faculty of Humanities

HUMA 2F95

General and literary semiotics

An interdisciplinary examination of the theory of code and sign production taking into account language, aesthetics and behavior. Particular emphasis will be put on the semiotics of poetry, fiction and theatre.

Prerequisite: one humanities contextual credit.

Lectures, seminars, 3 hours per week.

General information

Schmon Tower 401D

Humanities courses (HUMA) are special interdisciplinary offerings which draw upon faculty resources from at least two departments within the Faculty of Humanities. Such courses are intended to enrich the academic experience of students from diverse disciplines who wish to explore topics and ideas in a context which is broader and thus far more integrated than investigation within a single department can provide.

Such courses can be taken as electives in any degree program.

Description of courses

Please note that not all courses are offered in every session. Refer to the application term timetable for details.

HUMA 2F90

Romanticism

An interdisciplinary study of European Romanticism; historical background; philosophical, artistic, musical and literary theory pertinent to the movement, analysis of representative texts; national manifestation of the phenomenon.

Prerequisite: one humanities contextual credit.

Lectures, seminar, 3 hours per week.

Labor Studies

Director

Daniel G. Glenday

Participating faculty

Ann D. Duffy, Sociology
Daniel G. Glenday, Sociology
Felice Martinello, Economics
Ester Reiter, Sociology
Roberta E. Robb, Economics
Garth Stevenson, Politics

General information

Mackenzie Chown

Labor Studies is offered as a combined major program leading to a pass BA degree. The program offers a social science perspective to undergraduate students interested in Labor Studies. The three participating disciplines are Economics, Politics and Sociology.

As part of the program, three special seminar style lectures are planned during the academic year. The first, to be scheduled early in September, will introduce students to each other and to participating faculty. The second and third, scheduled for December and April, will introduce the students to social science academics/practitioners in the field.

Each incoming student will be assigned an academic adviser from the Labor Studies program who will act as an "animator" to assist in planning the student's program and to help solve any individual academic or program related difficulties.

BA Pass Program

Students wishing to major in Labor

Studies must also declared a combined major with either Economics, Politics or Sociology.

Economics and Labor Studies (See Note below)

Year 1

LABR 1F90; ECON 1P91, 1P92 and one of POLI 1F90 or SOCI 1F90; one science and one humanities context elective.

Year 2

LABR 2P15; ECON 2P21, 2P22, 2P31, 2P32, 2P90; MATH 1P98; one credit from LABR; one-half credit elective.

Year 3

LABR 3P24, 3P25, 3F00; two credits from LABR; one elective credit.

Politics and Labor Studies (See Note below)

Year 1

LABR 1F90; POLI 1F90 and one credit from ECON 1P91, 1P92 or SOCI 1F90; one science and one humanities context credit.

Year 2

POLI 2P01 and 2P80 (or 2P81); LABR 2P15 or 2P34; one credit in POLI at the year 2 level; one and one-half credits from LABR; one elective.

Year 3

LABR 3P04 and 3P33 or 3P65; one and one-half credits in POLI at the year 3 level; one credit from LABR; one credit elective.

Sociology and Labor Studies (See Note below)

Year 1

LABR 1F90; SOCI 1F90 and one credit from ECON 1P91, 1P92 or POLI 1F90; one science and one humanities context elective.

Year 2

SOCI 2F01, 2F10; LABR 2P32, 2P34; one credit from LABR; one elective

Year 3

LABR 3F00; SOCI 3F01; one credit in SOCI at year 3 level; one credit from LABR; one credit elective.

Note:

At least one of the two credits required from the Labor Studies course list must be from outside the student's disciplinary major.

Labor Studies course list

- LABR 2F95 Canadian economic policy (also offered as ECON 2F95)
- LABR 2P09 Canadian economic history (also offered as ECON 2P09)
- LABR 2P15 The economics of unions (also offered as ECON 2P15)
- LABR 3P24 Labor economics (also offered as ECON 3P24)
- LABR 3P25 Topics in labor economics (also offered as ECON 3P25)
- LABR 3P33 The state and economic life (also offered as POLI 3P33)
- LABR 3P65 Introduction to public policy (also offered as POLI 3P65)
- LABR 2P32 The sociology of work (also offered as SOCI 2P32)
- LABR 2P34 The labor process and trade unions (also offered as SOCI 2P34)
- LABR 3P30 Sociology of women and work (also offered as SOCI 3P30 and WISE 3P30)
- LABR 3P34 Information technology and work (also offered as SOCI 3P34)
- LABR 3P66 Social movements (also offered as SOCI 3P66)
- LABR 3P76 Technology and change (also offered as SOCI 3P76)

Labor Studies

Description of Courses

Please note that not all courses are offered in every session. Refer to the applicable term timetable for details.

LABR 1F90

An introduction to issues in labor studies

The major issues in the field of labor studies. Topics may include the history and nature of work in modern societies, labor-management relations, the role of the different levels of government, technology and public- and private-sector unionism.

Lectures, seminar, 3 hours per week.

LABR 2F95

Canadian economic policy (also offered as ECON 2F95)

Canadian economic and business problems and policies. Specific topics will vary from year to year and may include stabilization policies, competitive policies, tax policies, foreign trade and exchange policies.

Prerequisite: ECON 1P91, 1P92.

Lectures, 3 hours per week.

LABR 2P09

Canadian economic history (also offered as ECON 2P09)

The economic development of Canada.

Prerequisite: ECON 1P91, 1P92.

Lectures, 3 hours per week.

LABR 2P15

The economics of unions (also offered as ECON 2P15)

The study of labor unions in the marketplace. Typical topics are: the labor legislation covering unions; the effects of unions on wages, fringes, turnover, inequality and the productivity and profitability of firms; union behavior; the certification process; strikes; interest arbitration; and public-sector unionism.

Prerequisite: ECON 1P91, 1P92.

Lectures, 3 hours per week.

LABR 2P32

The sociology of work (also offered as SOCI 2P32)

Understanding changes in the organization of work and the composition of the work-force with particular emphasis on the Niagara Peninsula. Topics include unionization, management strategies, pay equity and employment equity, the international division of labor and other current issues in the Canadian labor movement. Those with work experience are encouraged to enrol.

Lectures, seminar, 3 hours per week.

LABR 2P34

The labor process and trade unions (also offered as SOCI 2P34)

Labor process theories which focus on the relationship between technology, the division of labor, social relations of production and the manner in which the state, business and trade unions have responded to changes in the labor process. Seminars will deal with practical problems of contemporary labor relations.

Lectures, seminar, 3 hours per week.

LABR 3F00

Labor studies workshop

A social science and internationally comparative perspective on the labor movement. Faculty from the departments of Economics, Politics and Sociology will participate in this course.

LABR 3P24

Labor economics (also offered as ECON 3P24)

The economics of the labor market. Topics include the demand for labor, the supply of labor; investment in human capital. Policy applications are stressed.

Prerequisite: ECON 2P21 or 2P23.
Not open to students with credit in ECON 205.

Lectures, 3 hours per week.

LABR 3P25

Topics in labor economics (also offered as ECON 3P25)

Topics vary from year to year, but

examples are as follows: the economics of trade unions; discrimination in the labor market; unemployment; labor migration; unemployment and inflation. Prerequisite: ECON 2P21 or 2P23. (ECON 3P24 is recommended)
Not open to student with credit in ECON 205.

Lectures, 3 hours per week.

LABR 3P30

Sociology of women and work (also offered as SOCI 3P30 and WISE 3P30)

Both quantitative and qualitative research will explore the societal significance and implications of the change in women's participation in paid employment and domestic labor in this century. Attention will focus on specific areas: the ghettoization of the female labor force, women in professional and non-traditional occupations, microtechnology, part-time work and unionization.

Lectures, seminar, 3 hours per week.

LABR 3P33

The state and economic life (also offered as POLI 3P33)

Political economy and the role of the state. Relationships between politics and markets and between democracy, capitalism and socialism. Topics discussed will include regulation, public ownership, taxation, fiscal and monetary policy, income support programs, regional development and the screening of foreign direct investment.

Lectures, seminar, 3 hours per week.

LABR 3P34

Information technology and work (also offered as SOCI 3P34)

Information technology to the labor process. Topics to be discussed include the relationship of this technology to the number and types of jobs available, to the total number of required hours worked over a lifetime, and to the increased importance given to education and work.

Lectures, seminar, 3 hours per week.

LABR 3P65

Introduction to public policy

(also offered as POLI 3P65)

Major theories, approaches and concepts in the study of public policy. Topics may include the nature of public policy studies, contending theories of the state and public policy-making, the growth of the state and the expansion of the scope of public policy activities, and alternative modes of state intervention.

Lectures, seminar, 3 hours per week.

LABR 3P66

Social movements

(also offered as SOCI 3P66)

Either a general survey of the impact of ideology on behavior and the subsequent development of social movements, or specific examinations of particular movements such as separatism, nationalism, fascism, Marxism or feminism.

Lectures, seminar, 3 hours per week.

LABR 3P76

Technology and change

(also offered as SOCI 3P76)

The political and social contexts of scientific and technological developments. Topics may include the impact of computer technology, the gendered effects of technological innovation, and the nature of the information society.

Lectures, seminar, 3 hours per week.

Liberal Studies

Director
Gordon H. Coggins

Associated faculty
Donald Adams, Liberal Studies/
English
Alan Arthur, History
Howard E. Bell, Mathematics
Gordon H. Coggins, English Language
and Literature
Martin S. Gibson, Chemistry
Michael S. Hornyansky, English
Language and Literature
Monica C. Hornyansky, Liberal
Studies/Philosophy
Trudy Michielsen, Liberal Studies
William Mathie, Politics
A. Victoria Soady, Liberal Studies/
Classics
Donald J. Ursino, Biological Sciences
Carl M. Wolff, History

General information

Liberal Studies provides an opportunity for the exploration and discussion of those questions which arise when education is directed towards the freedom of the fully examined life.

Questions of human nature and purpose and of our relationship to the natural order, for example, are examined primarily through reading and discussion of the great works of human reason and imagination that constitute our cultural tradition.

The program seeks to develop the skills and habits of inquiry, analysis, argument and expression needed for a rigorous treatment of these questions.

The program is made up of a set of closely related core courses. Because the core courses are intended to provide an integrated liberal education, to be cumulative, and to furnish the basis for an intellectual community of students and faculty, students in the program are

normally required to complete most of these courses to qualify for a degree in liberal studies. The Liberal Studies program can, and in most cases should, be combined with a major in another discipline or department. Students combining Liberal Studies with a major concentration in Mathematics or Science will usually be exempted from the Mathematics or Computer Science and science context credits, and may petition for exemption from the second language requirement. Students who complete the program are deemed to have completed all context requirements.

The focus of the Liberal Studies program is the Great Books Seminar which meets, under the guidance of two faculty leaders, twice weekly, throughout the entire program. Leaders for this seminar are drawn from a variety of disciplines and faculties of the University.

The other courses in the Liberal Studies program are intended both to provide for a kind of learning not possible in the seminar itself and also to enhance the quality and rigor of the inquiry and discussion which the seminar is intended to engender.

Students in the senior year are required to prepare a major essay on some aspect of the Liberal Studies under the guidance of a faculty member. Students who have combined Liberal Studies with a particular discipline are encouraged to prepare an essay integrating these two aspects of their work at Brock.

A non-credit series of lectures supplements the Liberal Studies program. The lectures will illuminate the works and issues addressed in the program from a variety of perspectives. Students also attend concerts, art exhibitions and dramatic productions. Students are expected to attend the lectures and cultural events, since these constitute an integral part of the Liberal Studies program.

Each student in the program is assigned a faculty adviser for regular and incidental consultation.

Great Books Seminars

The Great Books Seminars (LBST 1F90, 2F90, 3F90, 4F50) can be taken by other students where enrolments permit. Admission into the upper year courses is dependent upon the completion of the credits in sequence, or special permission of the instructor. The humanities contextual requirement may be met by successful completion of LBST 1F90. The social science contextual requirement may be met by successful completion of the full four-course sequence.

Bachelor of Arts in Liberal Studies

Honors Program, single major

LBST 1F90, 1F92, 2F90, 2F95, 3F90, 4F50, 4P99; two of LBST 2P96, 3P92, 3V95-3V99; SCIE 1F30 or another science context credit; a coherent sequence of three credits in another discipline related to a particular dimension of the student's Liberal Studies program. At least one such credit must be at the year 3 or year 4 level.

Combined major programs

Pass program

LBST 1F90, 1F92, 2F90; LBST 3F90 or 4F50; LBST 2F95, or two of 2P96, 3P92, 3V95-3V99; SCIE 1F30 or another science context credit; five credits from the second discipline.

Honors program

LBST 1F90, 1F92, 2F90, 2F95, 3F90, 4F50 and 4P99; two of LBST 2P96, 3P92, 3V95-3V99; SCIE 1F30 or another science context credit; seven credits from the second discipline.

Language requirement for humanities majors

Liberal Studies BA majors are required to complete one 1F90 level course in a language other than English or both of

GREE 1F00 and LATI 1F00.

Bachelor of Science in Liberal Studies

Liberal Studies can be combined with a concentration in Mathematics or Science. Students interested in this combination should consult the director concerning their program and course selection.

For a Bachelor of Science degree a majority of the credits must be chosen from courses in Mathematics and Sciences.

Contextual requirements for Liberal Studies majors are deemed satisfied by successful completion of the program.

Description of courses

Please note that not all courses are offered in every session. Refer to applicable term timetable for details.

LBST 1F90

Great books seminar, I

Important works of Western literature, philosophy, science, and theology from the Greco-Roman world to be read and discussed include Homer, Sophocles, Thucydides, Plato, Aristotle, Lucretius and The Old Testament.
Seminars, 4 hours per week.

LBST 1F92

Logic, rhetoric and practical criticism

(also offered as ENGL 1F92)

Methods of developing, organizing and expressing ideas, directed to improving skills of thought, reading and persuasion. Classical logic and rhetoric will be examined in the works of Aristotle and Cicero. Students will analyse the logic and rhetoric of writings on a range of subjects in a variety of modes. Not open to students with credit in ENGL 199 or LBST 195hc.
Lectures, seminar, 3 hours per week.

LBST 2F90

Great books seminar, II

Important works of Western literature, philosophy, science, and theology from Vergil to Bacon, including Aquinas, Dante, Machiavelli, Luther, Calvin, Rabelais, and relevant material from Aristotle and The New Testament.
Prerequisite: LBST 1F90 or permission of the director.
Seminars, 4 hours per week.

LBST 2F95

Poetics: words and music
(formerly LBST 3P95)

A comparative study of literary and musical forms and techniques, exploring the similarities and differences between verbal and musical expression and communication. No previous study of music is required.
Prerequisite: LBST 1F92 or permission of the director.

Not open to students with credit in LBST 3P95.
Lectures, seminar, 3 hours per week.

LBST 2P50

The Bible as literature

A survey of the Old and New Testaments, 1611 version, from the perspective of literary criticism - careful reading, interpretation, and analysis.
Lectures, seminar, 3 hours per week.

LBST 2P96

Euclidean and non-Euclidean geometry

Geometry from Euclid to the 19th century. Results and techniques from Euclidean and Lobachevskian geometry, with discussion of relevant logical and philosophical issues.

Co-requisite: enrolment in the Liberal Studies program.

Not open to students with credit in LBST 196hc.

Seminars, 3 hours per week.

LBST 3F90

Great books seminar, III

Important works of modern Western literature, philosophy, science, and theology. Authors to be read and discussed include Descartes, Racine, Molière, Milton, Hobbes, Locke,

Spinoza, Hume, Kant and Burke.

Prerequisite: LBST 2F90 or permission of the director.

Seminars, 4 hours per week.

LBST 3P92

Language and thought
(formerly LBST 2P92)

An examination of the connections between spoken and written languages and the nature and structures of things thought and transmitted. Theories of language and some of the basic issues of contemporary linguistic analysis.
Prerequisite: LBST 1F90 or permission of the director.

Co-requisite: enrolment in the Liberal Studies program.

Not open to students with credit in LBST 2P92.

Lectures, seminar, 3 hours per week.

LBST 3V95-3V99

Senior science seminar

Exploration of a topic or theoretical concept in the physical or life sciences.
Co-requisite: enrolment in the Liberal Studies program or permission of director.

1991-92: (3V98) Selected topics in cardiovascular physiology

Lectures, seminar, lab, 4 hours per week.

LBST 4F50

Great books seminar, IV

Important works of modern Western literature, philosophy, science, and theology to be read and discussed include: Hegel, Marx, de Tocqueville, Dickens, Flaubert, Tolstoy, Dostoevsky, Nietzsche, Freud and Weber.

Prerequisite: LBST 2F90 or permission of the director.

Seminars, 4 hours per week.

LBST 4P99

Essay workshop

Workshop for development of the required senior liberal studies essays and discussion of issues the essays will explore.

Seminars, 2 hours per week for two terms.

Management and Marketing

Officers of instruction

Chair

Eli Levanoni

Professors

Tansu S. Barker
W.D. Kenneth Kernaghan
William W. Liddell
Kenneth E. Loucks
Terrence H. White

Associate professors

Barbara J. Austin
Eugene Kaciak
Eli Levanoni
H. Brian W. Metcalfe
Howard W. Prout
Ronald H. Rotenberg
Carol A. Sales
Mark J. Thomas
J. David Whitehead
Peter Yannopoulos

Assistant professors

Carman W. Cullen
Thomas M. Mulligan

Lecturers

Sharon M. Broderick
Bradley Davis
Scott Edgett
E. Sharon Mason

General information

Taro Building 313

The Faculty of Business offers honors programs in Business Administration and Accounting.

The program in Accounting is designed for students pursuing careers in the accounting profession. The program is professionally oriented and combines a

high degree of specialization in accounting with studies in business, the social sciences, humanities, mathematics and sciences.

The program in Business Administration is designed for students pursuing careers in business and government. The program is professionally oriented, and includes studies in the social sciences, humanities, mathematics and science.

Honors programs

BBA

The minimum grade requirement for admission to the Business Administration program is a 70 percent average on 6 OAC (or equivalent) including 2 OAC in mathematics with an average of 65 percent. The curriculum in Business Administration is offered only as an honors (four year) program. On successful completion of the program, the degree of Bachelor of Business Administration (BBA) is awarded.

The requirement for graduation is a minimum grade average of 70 percent in all ACTG, FNCE, MGMT, MKTG credits and all other required major credits, and a grade average of 60 percent in the remaining credits. In accordance with academic regulations, each student will be allowed a maximum of 23 credit attempts to achieve the 20 credit honors degree.

All BBA students are required to take a number of core courses. All students should take the courses in the order prescribed below. In year 3, students select one of the optional areas. No student may take more than two of ACTG 4V90-4V95, FNCE 4V90-4V95, MGMT 4V90-4V99, MKTG 4V90-4V95. Please consult the chair of the appropriate department for details.

Bachelor of Business Administration

Year 1

ECON 1P91, P92
MGMT 1P91, 1P92
MATH 1P60, 1P97
POLI 1F90
one science or humanities context credit.

*Note. Students having two or more OAC mathematics credits with an average mark of at least 75 percent may be exempted from MATH 1P60. Students should consult the department of Mathematics. ECON 2P90, MATH 2P60 or any other ACTG, FNCE, MGMT, MKTG half credit course in proper sequence must be substituted for MATH 1P60.

Year 2

ACTG 2P11, 2P12
ECON 2P23
MGMT 1P94, 1P95
MGMT 2P40
MATH 1P98
MATH 2P60 or ECON 2P90
one science or humanities context credit (whichever was not taken in Year 1).

Note:

In the Business Administration program, MGMT 1P91, 1P92 are prerequisites for all BBA courses except MGMT 1P94, 1P95, 2P40 and 2P82. MGMT 1P95 is a required course for BBA and BAcc programs. ACTG 2P11 is a prerequisite for ACTG 2P12 and all other courses in Business Administration numbered 2(alpha)90 or above. Students planning to take upper level ECON courses should consult the department of Economics before selecting elective courses.

In year 3 of their studies, students in Business Administration may concentrate their courses in various disciplines or functional areas of business. These are listed below as 'options'.

Accounting

See the department of Accounting and Finance

Finance

See the department of Accounting and Finance

General Management

Year 3

FNCE 3P92, 3P93
MGMT 3P30, 3P50
MGMT 3P41, 3P42
MKTG 3P22, 3P24
One elective credit numbered 2(*alpha*)00 or higher

Year 4

MGMT 4P85, 4P86
Three of ACTG, FNCE, MGMT, MTKG
One elective credit numbered 2(*alpha*)00 or higher

Human Resource Management

Year 3

FNCE 3P92, 3P93
MGMT 3P30, 3P50
MGMT 3P41, 3P42
MKTG 3P22, 3P24
One elective credit numbered 2(*alpha*)00 or higher

Year 4

MGMT 4P62, 4P63
MGMT 4P79
MGMT 4P85, 4P86
Three of MGMT 4P61, 4P65, 4P66, 4P67, 4P68, 4P69
One elective credit numbered 2(*alpha*)00 or higher

Public Administration

Year 3

FNCE 3P92, 3P93
MGMT 3P41, 3P42
MGMT 3P50, POLI 3P65 or MGMT 3F51
MKTG 3P22, 3P24
One elective credit numbered 2(*alpha*)00 or higher

Year 4

MGMT 3P30
MGMT 4P40
MGMT 4P52, 4P54
POLI 4P50
Two of POLI 3P52, 4P01, 4P11, 4P14, 4P15, 4P51, 4P53, 4P65, 4P81, 4V10-4V19;
One credit in ACTG, FNCE, MGMT, MKTG
One-half credit elective

Quantitative Analysis

Students interested in the quantitative analysis option should take MATH 2P60 rather than ECON 2P90.

Year 3

FNCE 3P92, 3P93
MGMT 3P30, 3P50
MGMT 3P41, 3P42
MGMT 3P58, 4P58 or 3P59, 4P59
MKTG 3P22, 3P24

Year 4

MGMT 3P58, 4P58 or 3P59, 4P59
MGMT 4P85, 4P86
One and one-half credits in ACTG, FNCE, MGMT, MKTG
One-half credit elective chosen in consultation with the dean of the Faculty
One elective credit numbered 2(*alpha*)00 or higher

Marketing

Year 3

FNCE 3P92, 3P93
MGMT 3P30, 3P50
MGMT 3P41, 3P42
MKTG 3P22, 3P24
One elective credit numbered 2(*alpha*)00 or higher

Year 4

MGMT 4P85, 4P86
MKTG 4P22
Four of MKTG 4P23, 4P25, 4P26, 4P27, 4P28, 4P29, 4P31, 4P33
One-half credit in ACTG, FNCE, MGMT, MKTG
One elective credit numbered 2(*alpha*)00 or higher

Computer Science

Students interested in the Computer Science option should note that year 2 of that option differs from all other programs.

Year 2

ACTG 2P11, 2P12; COSC 1P01, 1P04; ECON 2P23; MATH 1P66, 1P67, 1P98; one science or humanities context credit (whichever was not taken in year 1).

Year 3

COSC 2P03, one-half credit from COSC 2Y04, 2Y05, 2Y06, 2Y07
FNCE 3P92, 3P93
MGMT 2P40
MGMT 3P41, 3P42
MKTG 3P22, 3P24
MATH 2P60

Year 4

COSC 3F00
COSC 3P32
MGMT 3P30, 3P31
MGMT 3P58, 4P58 or 3P59, 4P59
MGMT 4P12
MGMT 4P85, 4P86

Bachelor of Business Administration for students holding other degrees

Students holding a university degree where the major area of concentration is other than business, and with a minimum overall average of 70 percent will normally receive ten unspecified credits towards the BBA degree at Brock. These students will be required to complete the following program.

ECON 1P91, 1P92
MGMT 1P95
MATH 1P98
ACTG 2P11, 2P12
FNCE 3P92, 3P93
MGMT 3P30
MGMT 3P41, 3P42
MGMT 4P85, 4P86
MKTG 3P22, 3P24
Two and one-half credits in ACTG, FNCE, MGMT, MKTG

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Students who are granted credit in any of the above courses must complete a program consisting of at least ten credits that includes the core courses above, and substitute courses approved by the Faculty.

For graduation a minimum overall grade average of 70 percent is required in the approved program courses.

Combined honors programs

Combined honors programs leading to an honors Bachelor of Arts degree are available in Business Administration and Economics and Business Administration and Politics. These programs are described below.

Business Administration and Economics

Year 1

ECON 1P91, 1P92; MGMT 1P91, 1P92; MATH 1P60, 1P97; POLI 1F90; one science or humanities context credit.

Year 2

ACTG 2P11, 2P12; ECON 2P21 or 2P23 (with permission of the department); ECON 2P22, 2P90; MGMT 1P94, 3P50; MATH 1P98; one science or humanities context credit (whichever was not taken in year 1).

Year 3

ECON 2P31, 2P32; one ECON credit; FNCE 3P92, 3P93; MGMT 3P41, 3P42; MKTG 3P22, 3P24.

Year 4

ECON 3P90, 3P91, 4P13, 4P14; MGMT 2P40, 3P30; one credit in ACTG, FNCE, MGMT, MKTG; one elective credit.

Business Administration and Politics

Together with Politics, the Faculty offers a special program leading to an honors BA in Politics. The general requirements for this program are the same as for other combined honors programs, but course selection is concentrated in the areas of public

administration and law. This program is designed for anyone with an interest in public administration, administrative careers in governments, courts, and related organizations.

Year 1

MGMT 1P91, 1P92; ECON 1P91, 1P92; POLI 1F90; one science and one humanities context credit (FREN 1F90 recommended for those with necessary prerequisites).

Year 2

ACTG 2P11, 2P12; MGMT 2P40; POLI 2P80(or 2P81) or MGMT 1P94; MATH 1P98; POLI 2F12; one additional credit in POLI, usually POLI 2F90 (2P01 and one of 3P04, 3P05, 4P01, 4P02 and 4P03 may be taken in place of 2F90); one-half credit elective (ECON 2P21 recommended).

Year 3

MGMT 3F51, 3P41, 3P42; MKTG 3P22; one and one-half credits in POLI chosen from 3P11, 3P15, 3P16, 3P18, 3P26, 3P27, 3P33, 3P52, 3P65 and 3P66; one elective credit (ECON 3P14, 3P15 recommended).

Year 4

FNCE 3P92, 3P93; MGMT 3P30, 4P54 and one of MGMT 4P40, 4P52, 4P61, 4P62, 4P63, 4P66, 4P67, 4P68, 4P69, 4P72; POLI 3P91 (or 3P81); POLI 4P50; one credit chosen from POLI 4P01, 4P11, 4P14, 4P15, 4P51, 4P53, 4P65 and 4V10-4V19; one-half elective credit.

Bachelor of Business Economics

See separate calendar entry under Business Economics.

Description of courses

Please note that not all courses are offered in every session. Refer to the applicable term timetable for details.

MGMT 1P91

Introduction to business

A survey of the five basic business

functions: marketing, production, accounting and finance, personnel, information processing. Basic concepts of organizing, forms of business enterprises and the need for common goals and objectives in organizations. Not open to students with credit in ADMI 190 or 191hc.

Lectures, seminar, 3 hours per week.

MGMT 1P92

Introduction to management

The role of the manager within the organization, with particular emphasis on the basic functions of planning, organizing, staffing, directing, and controlling.

Prerequisite: MGMT 1P91 or permission of instructor.

Not open to students with credit in ADMI 190 or 192hc.

Lectures, seminar, 3 hours per week.

MGMT 1P94

Introduction to computing

(also offered as COSC 1P91)

Computers and computer programming for students not intending to major in computer science. Students will choose to study one of a number of programming languages by selecting the appropriate section.

Students will develop a number of computer programs.

Lectures, 2 hours per week, lab, 2 hours per week.

MGMT 1P95

Introduction to management software

A practical introduction to the kinds of software systems of use to managers, with principal attention to systems for personal computers. Major topics include word processing systems, spreadsheets, data base management systems, integrated packages, expert systems, and the effect of business computing in the workplace and in society. No previous exposure to computing will be assumed.

Prerequisite: open only to BBA and BAcc students.

Lectures, lab, 3 hours per week.

MGMT 2P30

General operations management

An overview of operations management and its interactions with other

functional areas. Topics include: process analysis, forecasting, scheduling, materials management, quality assurance, and capacity planning. Prerequisite: ACTG 2P11, MGMT 1P92 and MGMT 1P94 or COSC 1P90. Not open to students in the BBA, BAcc or combined Business honors programs. Not open to students with credit in MGMT 3P30. Seminars, 3 hours per week.

MGMT 2P40
Commercial law
An introduction to the basic legal considerations for the business organization. Not open to students with credit in ACTG 1P71 or ADMI 240hc. Lectures, 3 hours per week.

MGMT 2P82
Business ethics
(also offered as PHIL 2P82)
Business practices, institutions, and actions in order to evaluate their contribution to the general human good. Topics to be considered may include false or misleading advertising, product safety, monopolistic price schemes, effects of pollution, discriminatory hiring policies, the role of shareholders, management, government, and the public in determining corporate policy, and economic justice. Not open to students with credit in ADMI 282hc. Lectures, seminar, 3 hours per week.

MGMT 3F51
Canadian public administration
(also offered as POLI 3F51)
Theory and practice of public administration in Canada. Some of the topics covered will be organization of departments, regulatory agencies, and crown corporations; financial and personnel administration; responsibility and accountability. Prerequisite: POLI 2F12 or permission of the instructor. Not open to students with credit in ADMI(MGMT) 320 or MGMT(POLI) 350. Lectures, seminar, 3 hours per week.

MGMT 3P30
Operations management I
An introduction to some topics related to the short-term management of the operations function in the manufacturing and service sectors for both profit and not for profit organizations. The managerial implications of several types of operating processes will be discussed as well as topics relating to the role and control of inventories and work force management. Open only to BBA, BAcc and combined honors students. Prerequisite: ACTG 1P12 or 2P12, MATH 1P98, MGMT 1P95, and either MATH 2P60 or ECON 2P90. Not open to students with credit in ADMI 330hc or MGMT 3P39. Lectures, seminar, case discussion, 3 hours per week.

MGMT 3P31
Operations management II
An extension of operations management I into some longer-term aspects of managing the operations function in the manufacturing and service sectors for both profit and not-for-profit organizations. Topics will include aggregate planning and scheduling, quality control, facilities planning, technology planning and operations strategy. Prerequisite: MGMT 3P30. Not open to students with credit in ADMI 331hc. Lectures, seminar, 3 hours per week.

MGMT 3P39
Fundamentals of operations management
Some fundamental concepts relating to management of the operations function in manufacturing and service sectors in for-profit and not-for-profit organizations. Topics will include process analysis, materials management, scheduling and operations strategy. Prerequisite: ACTG 2P21, FNCE 3P93, MATH 2P60, MGMT 1P95. Co-requisite: MGMT 3P49, MKTG 3P29. Open only to BAcc students. Not open to students with credit in MGMT 3P30. Seminars, discussion, 3 hours per week.

MGMT 3P41
Organizational behavior
Micro aspects of formal organizations from a behavioral science perspective. Theories, research and current practices in the management of human resources will be discussed. Topics include motivation, leadership, group dynamics, interpersonal communication, conflict and stress management. Prerequisite: ACTG 2P12, MGMT 1P91, 1P92 or permission of the instructor. Not open to students with credit in ADMI 341hc or SOCI 344hc or 341hc or MGMT 3P49. Lectures, 3 hours per week.

MGMT 3P42
Organization theory and design
Macro aspects of formal organizations from a behavioral perspective. Theories, research and current practices in organizational design and redesign will be discussed. Topics include: the development of management thought, organizational goals, organizational effectiveness and efficiency, environment, technology, structural alternatives, power and politics in organizations and organizational culture. Prerequisite: MGMT 3P41. Not open to students with credit in ADMI 340hc or SOCI 343hc or 342hc. Lectures, 3 hours per week.

MGMT 3P49
Fundamentals of organization management
Micro as well as macro aspects of formal organizations from a behavioral perspective. Theories, research and current practices in the management of human resources and the design of organizations will be discussed. Topics include motivation, leadership, group dynamics, organizational goals and effectiveness, environment and other contingencies and organizational culture. Prerequisite: ACTG 1P71, FNCE 3P93. Co-requisite: MGMT 3P39, MKTG 3P29. Open only to BAcc students. Not open to students with credit in MGMT 3P41 or 3P42. Lectures, seminar, case discussion, 3 hours per week.

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MGMT 3P50

Introduction to public administration

(also offered as POLI 3P50)

The role of the public sector in the marketplace and the internal operation of government organizations. Special emphasis will be given to comparing public and business administration and to government-business relations.

Prerequisite: POLI 1F90.

Not open to students with credit in MGMT(POLI) 3F51 or MGMT 320(POLI 351).

Lectures, seminar, 3 hours per week.

MGMT 3P58

Operations research methods A

(also offered as ECON 3P58 and MATH 3P58)

Principles of operations research; Lagrange multipliers, with applications to LP; network models and generalized network models; elements of dynamic programming; scheduling (criteria and algorithms); integer programming (theory and practice); elements of quadratic programming; optimization and quasi-Newton methods; discussion and analysis of selected cases.

Prerequisite: MATH 2P60.

Not open to students with credit in ADMI 358hc.

Lectures, 4 hours per week.

Note:

MGMT 3P58, 4P58 and 3P59, 4P59 are offered in alternate years.

MGMT 3P59

Operations research methods B

(also offered as ECON 3P59 and MATH 3P59)

Principles of modeling; decision theory; subjective probability and Bayesian statistics; simulation; sampling theory; design and analysis of experiments; discussion and analysis of selected cases.

Prerequisite: MATH 2P60 or permission of the instructor.

Not open to students with credit in ADMI 359hc.

Lectures, 4 hours per week.

MGMT 3P81

Strategic management

An integration of the disciplines in the business economics program based on the viewpoint of the firm's chief executive officer. The identification, development, and implementation of corporate strategy.

Prerequisite: ACTG 1P11, 1P12 or 2P11, 2P12, ECON 1P91, 1P92, FNCE 3P92, 3P93, MGMT 1P91, 3P41, MKTG 3P22.

Not open to students with credit in ADMI 381hc or MGMT 481 or 4P85/4P86.

Seminars, cases, 3 hours per week.

MGMT 3V32

Purchasing management

The purpose of the purchasing function and its relationship with other areas of the organization. Problems involved in the determination of appropriate quality, materials management, source selection, assurance of supply, pricing policies and tendering procedures as they affect the efficiency of the business or public institution.

Prerequisite: MGMT 2P30 or 3P30.

Seminar, 3 hours per week.

MGMT 3V95-3V98

Topics in management I

A course structured by a faculty member having specialized interest in an area within the discipline, normally offered on an experimental basis.

1991-92: (3V98) International business

Consideration of the global business environment; to evaluate, develop and implement international business strategies; to appreciate the international opportunities and constraints facing Canadian businesses.

Prerequisite: ACTG 1P12 or 2P12, or FNCE 2P92 or 3P92, and MGMT 1P92, or permission of the instructor. Lectures, cases, seminar, 3 hours per week.

MGMT 4F90

Research topic

Directed intensive study and research under the supervision of a faculty member in an area in which the student

has shown particular competence. To be chosen in consultation with the supervising faculty member.

Prerequisite: restricted to year 4 students; consent of the chair and supervising faculty member.

Not open to students with credit in ADMI 490hc, 491hc.

MGMT 4P12

Information systems

Principles and practice of systems analysis and design; project selection; control of EDP operations; basics of MIS.

Prerequisite: ACTG 1P11, 1P12 or 2P11, 2P12, MGMT 1P94 or 1P95 and MGMT 3P41, MKTG 3P22 or permission of the instructor.

Not open to students with credit in ADMI 412hc.

Lectures and case discussions, 3 hours per week.

MGMT 4P40

Administrative law

Judicial control of administrative action, with particular reference to the review of administrative decisions made by federal and provincial public authorities in Canada which affect business and other organizations.

Not open to students with credit in ADMI 440hc.

Prerequisite: year 4 honors standing or permission of the instructor.

Lectures, seminar and cases, 3 hours per week.

MGMT 4P52

Personnel and financial administration in the public sector

(also offered as POLI 4P52)

The politics and management of human and financial resources in Canadian governments. Special emphasis is placed on financial management, the budgetary process, collective bargaining, and such personnel processes and problems as recruitment, selection, training and affirmative action.

Prerequisite: year 4 honors standing; MGMT(POLI) 3F51 or MGMT(POLI) 3P50 or permission of the instructor.

Not open to students with credit in MGMT(POLI) 448hc or POLI 452.

Seminars, 3 hours per week.

MGMT 4P54

Business-government relations
(also offered as POLI 4P54)

The management of relations between business organizations and governments in Canada. Special emphasis is placed on current problems in business-government relations, the legislative and regulatory environment of business, government promotion of private enterprise, public enterprise, and the means by which business organizations influence government decision making. Prerequisite: year 4 honors standing; MGMT(POLI) 3F51 or MGMT 320(POLI 351) or permission of the instructor.

Not open to students with credit in MGMT(POLI) 449hc or POLI 452. Seminars, 3 hours per week.

analysis of selected cases.

Prerequisite: MGMT 3P59 or permission of the instructor.

Not open to students with credit in ADMI 459hc.

Lectures, 4 hours per week.

MGMT 4P61

Strategies for organizational change

An analysis of organizational change at the environmental, business and group levels; theoretical and pragmatic approaches available to the general manager for shaping and leading an organization.

Prerequisite: MGMT 3P42.

Not open to students with credit in ADMI 461hc.

Lectures, seminar, case discussions, 3 hours per week.

MGMT 4P62

Human resource management

Manpower recruitment, selection and training, wage and salary administration, and the design and administration of benefit programs.

Prerequisite: MGMT 3P42.

Not open to students with credit in ADMI 462hc.

Lectures, seminar, 3 hours per week.

MGMT 4P63

Industrial and labor relations

An evaluation of various industrial relations theories and approaches applied in the Canadian setting; an examination of major elements in the Industrial Relations System and factors shaping them; the interrelationships among the various parts of the system and how emerging trends are influencing them. A critical assessment of various frameworks of industrial relations systems, theories of the labor movement, and of collective bargaining is presented.

Prerequisite: MGMT 3P42 or permission of the instructor.

Not open to students with credit in ADMI 463hc.

Lectures, seminar, 3 hours per week.

MGMT 4P65

Negotiating in organizations

The diagnosis of the causes and consequences of conflict in organiza-

tions. Topics include the bases of organizational conflict, including competition over resources, information, power and goal setting. Structural, group and individual conflict resolution strategies will be stressed. In addition to managing conflict through organizational and job design, the course will consider the use of bargaining and negotiation skills to reduce conflict at various organizational levels.

Prerequisite: MGMT 3P42.

Not open to students with credit in ADMI 465hc.

Lectures, seminar, 3 hours per week.

MGMT 4P66

Motivation and compensation management

A review of motivation theories and their application. An examination of compensation theory and practice including pay and benefits determination, job evaluation and the overall planning and administration of compensation and reward systems.

Prerequisite: MGMT 3P42.

Not open to students with credit in ADMI 466hc.

Lectures, seminar, 3 hours per week.

MGMT 4P67

Training and development

The three sequential steps in the training and development process in organizations; i.e., assessment of training needs, development and implementation of the training program and evaluation of the training program. A critical approach to training methods used in employee orientation, skill training and management development in the context of adult education.

Prerequisite: MGMT 3P42.

Not open to students with credit in ADMI 467hc.

Lectures, seminar, 3 hours per week.

MGMT 4P68

Leadership and supervision

Leadership and supervision in a variety of organizational settings. Some of the areas to be examined in this course are: the state of the art in leadership research, leadership effectiveness through the organizational hierarchy with a particular focus on middle

MGMT 4P58

Operations research applications A

(also offered as ECON 4P58 and MATH 4P58)

Practice of operations research; investment, and applications of LP to project selection, capital growth; further dynamic programming; location problems; inventory problems; cash flow as an inventory problem; personnel planning, actuarial problems; discussion and analysis of selected cases.

Prerequisite: MGMT 3P58 or permission of the instructor.

Not open to students with credit in ADMI 458hc.

Lectures, 4 hours per week.

MGMT 4P59

Operations research applications B

(also offered as ECON 4P59 and MATH 4P59)

Applications of modeling; game theory (Nash equilibrium; two player NZS games, Nash co-operative solution and others); Shapley value, voting power; values of non-atomic games; advertising and sales forecasting in heterogeneous markets; information-theory, encoding, cryptography, security, and reliability; classification and clustering; models of biological competition and military combat; discussion and

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management issues, the new supervisor, and supervisory and other managerial roles.

Prerequisite: MGMT 3P42.

Not open to students with credit in ADMI 468hc.

Lectures, seminar, 3 hours per week.

MGMT 4P69

Staffing and evaluation

Current issues in personnel selection, placement and performance evaluation in organizations in the context of Human Rights/Equal Employment legislation. A review and evaluation of recruitment and selection strategies, and the validation of selection, placement and performance evaluation practices.

Prerequisite: MGMT 3P42.

Not open to students with credit in ADMI 469hc.

Lectures, seminar, 3 hours per week.

MGMT 4P72

Labor law

Federal and provincial statutes governing certification, negotiation, conciliation and arbitration, unfair labor/management practices, jurisdiction and control of trade labor unions and other employee collectives; common law effects on management action. Canadian and Ontario Labor Relation Board practices.

Not open to students with credit in ADMI 472hc.

Lectures, seminar, 3 hours per week.

MGMT 4P79

Personnel management research

The nature and scope of personnel management research as a managerial tool. An examination of the means of assessing individual, group and organizational performance; the logic of research designs and analyses; and the organization and administration of personnel research programs.

Prerequisite: MGMT 3P42.

Not open to students with credit in or concurrent enrolment in MKTG 4P22. Lectures, seminars, 3 hours per week.

MGMT 4P85

Business policy I

An introduction to industry analysis

and competitive strategy formulation emphasizing integration of functional area strategies and positioning with regard to market opportunities.

Prerequisite: restricted to year 4

BBA students with credit in FNCE 3P93, MGMT 3P30, 3P42, MKTG 3P24 or permission of the instructor.

Not open to students with credit in MGMT 481 or MGMT 485hc.

Lectures, seminar, case discussions, 3 hours per week, plus major field work project.

MGMT 4P86

Business policy II

An extension of industry analysis and competitive strategy formulation to multiple business units and international firms and an examination of the means by which strategy is implemented.

Prerequisite: MGMT 4P85 (MGMT 4P85 and 4P86 are to be taken in consecutive terms); restricted to year 4 BBA students.

Not open to students with credit in MGMT 481 or MGMT 486hc.

Lectures, seminar, case discussions, 3 hours per week, plus a continuation of the field work project from MGMT 4P85.

MGMT 4P89

Business policy for accounting

An introduction to the general management of a total organization, and to strategic thinking and techniques.

Topics include industry and competitive analysis and corporate level strategy. Throughout, the emphasis will shift from strategy formulation to implementation, but both will be treated as part of an ongoing process of strategic management.

Prerequisite: ACTG 2P31, FNCE 3P93, MGMT 3P39, 3P49, MKTG 3P29.

Not open to students with credit in MGMT 4P81 or 4P85, 4P86.

Lectures, seminar, case discussions, 3 hours per week.

MGMT 4P91

Research topic

Directed study or research under the supervision of a faculty member in an area in which the student has shown

particular competence. To be chosen in consultation with the supervising faculty member.

Prerequisite: restricted to year 4 students; consent of the chair and supervising faculty member.

Not open to students with credit in ADMI 490hc, 491hc.

MGMT 4P92

Entrepreneurship

The integration of the skills, concepts, mental attitudes and knowledge relevant for creating and building new ventures. The focus is on the discovery and exploration of business opportunities and successful start up procedures.

Prerequisite: year 4 BBA standing or permission of the instructor.

Not open to students with credit in MGMT 4V92 (Entrepreneurship).

Lectures, seminar, case discussions, 3 hours per week.

MGMT 4P93

Management of small enterprises: operating problems and strategies

Creativity and innovation in adapting management skills to a small enterprise facing constraints in financial and physical resources and limitations on the owner-manager's time and skills.

Prerequisite: year 4 BBA standing or permission of the instructor.

Not open to students with credit in MGMT 4V93.

Lectures, seminar, case discussions, 3 hours per week.

MGMT 4V90-4V99

Topics in management II

A course structured by a faculty member having specialized interest in an area within the discipline, normally offered on an experimental basis.

1991-92: (4V90) Topics in public policy I

Public policy planning, analysis and implementation. The central focus will be on policies relating to growth, price stability, high employment, international trade and exchange rates.

Prerequisite: restricted to year 4 students.

Seminars, discussion, guest lecturers, 3 hours per week.

1991-92: (4V91) Topics in public policy II

Public policy planning, analysis and implementation. The central focus will be on industrial, regional, social and science and technology policies. Prerequisite: restricted to year 4 students. Seminars, discussion, guest lecturers, 3 hours per week.

1991-92: (4V92) Management of service operations

Topics include establishing a framework for the evaluation of existing and new service concepts and examining similarities and differences between management in the service and manufacturing sectors. Creation of an awareness of problems, issues and opportunities in the service sector, important concepts in service management and service sector practices. Prerequisite: year 4 BBA standing or permission of the instructor. Seminars, case studies, 3 hours per week.

1991-92: (4V94) Public policy: advice and processes

Public policy advice and implementation. The central focus will be on a variety of institutions with significant policy-oriented interests, activities and/or mandates; as well as on key processes of policy making. Prerequisite: restricted to year 4 students. Seminars, discussion, guest lecturers, 3 hours per week.

MKTG 2P22

Marketing basics

An introduction to basics of marketing for non-BBA students. Prerequisite: MGMT 1P92. Not open to students in the BBA program, or the combined Business honors programs. Not open to students with credit in MKTG 3P22. Lectures, seminar, 3 hours per week.

MKTG 2P24

General marketing management

Exploring the marketing management process for non-BBA students.

Prerequisite: MKTG 2P22.

Not open to students in the BBA program or the combined Business honors programs.

Not open to students with credit in MKTG 3P24.

Lectures, seminar, 3 hours per week.

MKTG 3P22

Introduction to marketing

The characteristics of the Canadian marketing function, basic marketing concepts and the marketing function in organizations.

Prerequisite: ACTG 1P12 or 2P12, MGMT 1P91, 1P92 or permission of the instructor.

Open only to BBA and combined honors students.

Not open to students with credit in ADMI 322hc or MKTG 3P29.

Lectures, case discussions, 3 hours per week.

MKTG 3P24

Marketing management

The use of marketing concepts in decision making and the role of the marketing manager.

Prerequisite: MKTG 3P22.

Open only to BBA and combined honors students.

Not open to students with credit in ADMI 324hc.

Lectures, seminar, case discussions, 3 hours per week.

MKTG 3P29

Fundamentals of marketing management

Fundamentals of marketing and the management of the marketing process in manufacturing, service and not-for-profit organizations. Topics will include consumer behavior, marketing research, marketing strategy and the interrelationships of the elements of the marketing mix.

Prerequisite: ACTG 2P21, FNCE 3P93, MATH 2P60. Open only to BAcc students.

Co-requisite: MGMT 3P39, 3P49.

Not open to students with credit in MKTG 3P22.

Lectures, seminar, case discussions, 3 hours per week.

MKTG 4F90

Research topic

Directed intensive study and research under the supervision of a faculty member in an area in which the student has shown particular competence. To be chosen in consultation with the supervising faculty member.

Prerequisite: restricted to year 4 students; consent of the chair and supervising faculty member.

Not open to students with credit in ADMI 490hc, 491hc.

MKTG 4P22

Marketing research

The nature and scope of market research as a managerial tool including an examination of scientific method, research and questionnaire design, experimentation, sample selection, data collection, and research procedure. A field work assignment will be required.

Prerequisite: MKTG 3P24.

Not open to students with credit in or concurrent enrolment in MGMT 4P79.

Lectures, seminar, case discussions, 3 hours per week.

MKTG 4P23

Marketing communications

An examination of the major management problems which arise in the formulation, implementation and evaluation of programs in the areas of advertising, selling, and related sales promotional activities.

Prerequisite: MKTG 3P24.

Not open to students with credit in ADMI 423hc.

Lectures, seminar, case discussions, 3 hours per week.

MKTG 4P25

Marketing strategy

An examination of the process by which a business develops and executes market strategies. Topics include analysis of industry, customer, market and competitive environments, sources of competitive advantage and methods of allocating resources to new and established products. The strategic role of market evolution and cost dynamics will also be examined.

Prerequisite: MKTG 3P24.

Not open to students with credit in

Management/Marketing

ADMI 425hc.

Lectures, seminar, 3 hours per week.

MKTG 4P26

Sales management

Management of the sales force and the role of the sales function in marketing strategy. Topics include the interface between sales strategy and marketing strategy; duties of the sales manager with respect to sales force selection, training, compensation and evaluation; time and territory management; sales forecasting; the impact of new technology on the sales management function; career paths in sales management.

Prerequisite: MKTG 3P24.

Not open to students with credit in ADMI(MKTG) 426hc.

Lectures, seminar, case discussions, 3 hours per week.

MKTG 4P27

Marketing and society

Current issues in marketing and the role marketing plays in a changing society. Topics include the state of the consumer movement, marketing ethics and deceptive practices, truth and deception in advertising, government regulation, consumer protection, information and product safety. New developments and their implications for future marketing strategy will be examined and discussed.

Prerequisite: MKTG 3P24.

Not open to students with credit in ADMI(MKTG) 427hc.

Lectures, seminar, case discussions, 3 hours per week.

MKTG 4P28

Retail management

The managerial role and its effect on retailing decisions. The institutional structure of retailing and its past and probable future patterns. Identifying, appraising, and formulating retail marketing strategies in order to understand the interrelationships among suppliers, customers and members of the distribution channels.

Prerequisite: MKTG 3P24.

Not open to students with credit in

ADMI(MTKG) 428hc.

Lectures, seminar, case discussions, 3 hours per week.

MKTG 4P29

Industrial marketing

The function of the marketer in the intermediate customer market. A study of the demand, communications and delivery processes which are very different from those of the consumer market. Emphasis is given to market identification, the role of personal communications and to solving customer problems.

Prerequisite: MKTG 3P24.

Not open to students with credit in ADMI 429hc.

Seminars, case discussions, 3 hours per week.

MKTG 4P31

Consumer behavior

An introduction to the application of behavioral science concepts to marketing. An examination of the interactions of consumers, sellers, public policy makers and researchers.

Prerequisite: MKTG 3P24.

Not open to students with credit in ADMI 431hc.

Lectures, seminar, 3 hours per week.

MKTG 4P33

International marketing

The marketing concept and individual components of the marketing mix in the context of the international environment; the differences between international and domestic marketing and how they affect the planning, organization and control of marketing programs.

Prerequisite: MKTG 3P24.

Lectures, seminar, 3 hours per week.

MKTG 4P91

Research topic

Directed intensive study or research under the supervision of a faculty member in an area in which the student has shown particular competence. To be chosen in consultation with the supervising faculty member.

Prerequisite: restricted to year 4

students; consent of the chair and

supervising faculty member.

Not open to students with credit in ADMI 490hc, 491hc.

MKTG 4V90-4V95

Topics in marketing

A course structured by a faculty member having specialized interest in an area within the discipline, the course is normally offered on an experimental basis.

1991-92: (4V92) Marketing financial services

The application of marketing principles to financial services. Site visits will be made to Canadian and U.S. financial institutions.

Prerequisite: restricted to year 4 students.

Seminars, 3 hours per week.

Mathematics

Officers of instruction

Chair

Thomas A. Jenkyns

Professors

Howard E. Bell
Shao-Chien Chang
Velmer B. Headley
Ronald A. Kerman
Charles F. Laywine
John P. Mayberry
Eric R. Muller
Jan Vrbik

Associate professors

John W. Auer
Thomas A. Jenkyns
William J. Ralph
Kris J. Srivastava

Assistant professors

Hichem Ben-el-Mechaiekh
Anne E. Lordahl

Instructor

Brian Calvert

General information

Schmon Tower 1112

The department of Mathematics welcomes inquiries from any student who may be interested in pursuing his or her degree in either pure mathematics (mathematics for its own sake) or applied mathematics (mathematics used for attacking problems in other fields). The interests and experience of the faculty in both areas are varied and extensive. Because the department's entire teaching commitment is to undergraduate teaching, members of the faculty are available to an extraordinary degree for consultation with undergraduate students.

Certain courses are required for any degree in Mathematics (see below). Because a Mathematics major needs

both facility in dealing with mathematical theories, and experience in the application of mathematics to real-world problems, each student should discuss his or her particular interests with faculty before selecting elective courses. At least one-third of a student's upper-year Mathematics courses should be chosen from each of the following groups:

(a) More theoretical courses: MATH 2F00, 2F10, 2F92, 2F94, 3F00, 3F10, 3F94, 3P97, 3P98, 4F02, 4F10, 4F16, 4F21, 4F51, 4F52, 4P19, 4P20.

(b) Courses emphasizing applications: MATH 2F95, 2F96, 2P20, 2P60, 3F95, 3P20, 3P57, 3P58, 3P59, 4P58, 4P59.

Pass program

A pass degree program in Mathematics requires 8 MATH credits, which must include MATH 1P12, 1P90, 1P93 and 1P94 or 1P93 and 1P95, 2F00 and either 2F10 or 3F10.

A typical program will be as follows:

Year 1
MATH 1P12, 1P90; MATH 1P93, 1P94 or 1P93, 1P95; three elective credits, at least two of which should be chosen to fulfil context requirements (PHYS 1F90 is recommended as the science context credit for students interested in physical applications of mathematics).

Year 2
MATH 2F00; two credits from MATH 2F10, 2F92, 2F94, 2F96, 2P20, 2P60, 3F10, 3P20; one context credit (if all three are not taken in year 1); one elective credit.

Year 3
Three MATH credits from those mentioned above or MATH 3F00, 3F94, 3P57, 3P58, 3P59, 3P97, 3P98, 4F21, 4P19, 4P20, 4P58, 4P59; two elective credits.

To qualify for a pass degree, students must complete a minimum of three credits numbered 2(alpha) 90 or above.

Honors program

An honors degree program in Mathematics requires 12 MATH credits, which must include MATH 1P12, 1P90; 1P93, 1P94 or 1P93, 1P95; 2F00, 2F10, 3F00, 3F10 and at least three MATH credits numbered 3 (alpha)90 or above. A student intending graduate work in Mathematics will find it essential to have either MATH 4F02 or 4F10, and desirable to have both.

A typical program will be as follows:

Year 1

As in pass program.

Year 2

MATH 2F00, 2F10; one credit from MATH 2F92, 2F94, 2F96, 2P20, 3P20; two electives.

Year 3

MATH 3F00, 3F10; one credit from those mentioned above or MATH 3F94, 3P57, 3P58, 3P59, 3P97, 3P98, 4F21, 4P19, 4P20, 4P58, 4P59; two electives.

Year 4

Four credits in MATH; one elective.

Combined major programs

Combined major programs, at both the pass and honors level, have been developed by the department of Mathematics in co-operation with each of these departments: Biological Sciences, Chemistry, Computer Science and Information Processing, Economics, and Physics. If any student wishes a major program which combines Mathematics with any other discipline, he or she may request approval of an individual program from the two departments involved; such a program must include at least five

Mathematics

MATH credits for a pass degree, and at least seven MATH credits for an honors degree.

A typical combined major is indicated below; others are included in the calendar entry of the co-operating department.

Mathematics and Computer Science

Honors program

Year 1

MATH 1F65; MATH 1P93, 1P95 or MATH 1P93, 1P94; COSC 1P01, 1P04; one science and one social science context credit.

Year 2

MATH 1P12, 2P60, MATH 2F95; COSC 2F00, 2P03, one-half credit from COSC 2Y04, 2Y05, 2Y06 or 2Y07; one humanities context credit (see Note 1.).

Year 3

MATH 2F96, 2P20, 3F65; COSC 3F00, 3P02, 3P04; one-half credit elective.

Year 4

MATH 2F10 or 3F10; MATH 4P19, 4P20; two COSC credits at the 3(alpha) 90 level or above; one elective credit.

Note 1. ENGL 1F99 strongly recommended; it is a preferred prerequisite for COSC 3F00.

Concurrent BSc/BEd

The Department of Mathematics and the Faculty of Education have developed a concurrent program to meet the requirements of individuals interested in teaching mathematics at the Junior/Intermediate level. The requirements for this program are as follows:

Year 1

MATH 1P12, 1P93, 1P95; PSYC 1F90; one of BIOL 1F90, CHEM

1P80, 1P81 or CHEM 1P90, 1P91, GEOL 1F95, PHYS 1F20 or 1F90; EDUC 8Y04, 8Y05; humanities context credit.

Year 2

MATH 1P66; one of 2F92 or 3F92; either MATH 1P90, 1P98 or 2F94 (must be taken when offered); CHST 2F10; EDUC 8P06; one science credit from a department other than that chosen in year 1.

Year 3

Whichever of MATH 2F92 or 3F92 was not taken in year 2, whichever of MATH 1P90, 1P98 or MATH 2F94 was not taken in year 2; MATH 3P91; two EDUC courses at the 8Y00-level (EDUC 8Y23 recommended); one science credit from a department not chosen in year 1 or 2; one year 2 or year 3 credit in EDUC.

Year 4

EDUC 4P01, 8F08, 8D09; one curriculum credit necessary to fulfil BEd requirements; one elective credit (History or English recommended if not taken in year 1). This elective should be taken in spring or summer session to allow for practice teaching in year 4.

Description of courses

Note that courses marked in the following descriptions with an asterisk(*) are "service courses", developed specifically to serve the needs of students majoring in some other area; those courses will not be counted among the Mathematics courses required for a Mathematics degree.

Please note that not all courses are offered in every session. Refer to the applicable term timetable for details.

*MATH 1F92

Introductory statistics

Designed for students of Geography, Physical Education, Psychology, Sociology, and Urban and Environmental Studies. Types of scales; frequency distribution, mean, mode,

median, and measures of dispersion; elements of probability theory, probability distributions, non-parametric tests; Normal, t, F, and χ^2 distributions; means and variance tests; analysis of variance, correlation and regression, applications and use of a computer package.

Prerequisite: grade 11 mathematics credit and permission of the department.

Not open to students with credit in any university mathematics or statistics course.

Lectures, 3 hours per week; tutorial, 1 hour per week.

MATH 1P12

Introductory linear algebra

Vector algebra; systems of linear equations; basic matrix operations; matrix inversion; determinants, characteristic equations, eigenvalues and eigenvectors; diagonalization.

Prerequisite: two OAC mathematics credits (a third OAC mathematics credit is strongly recommended).

Lectures, 4 hours per week; tutorial, 1 hour per week.

*MATH 1P60

Mathematics for administrative studies

Elementary probability with finite sample spaces, counting theorems, notation and operations of set theory, applications of probability (independent events, binomial experiments, elements of decision theory, Bayes theorem); properties of the real number line, absolute values, solution sets of equalities and inequalities, elements of linear programming; arithmetic and geometric series, interest, annuities, bonds, mortgages, sinking funds; relations, functions, and graphing; polynomial, logarithmic, and exponential functions; introduction to linear algebra-systems of linear equations, vector and matrix notation, solution by elimination, determinants.

Prerequisite: permission of the department.

Not open to students with any university mathematics credit other than an elementary statistics course unless it is a requirement of their program.

Lectures, 4 hours per week; tutorial, 1 hour per week.

MATH 1P66

Mathematics for computer science I

Designed for students in computer science. Development, analysis and applications of algorithms in computation; elementary logic, proofs; graphs and trees.

Lectures, tutorial, 4 hours per week.

MATH 1P67

Mathematics for computer science II

Designed for students in computer science. Development, analysis and applications of algorithms in combinatorial analysis; discrete probability models; recursion; limiting procedures and summation; difference equations; introduction to automata theory.

Prerequisite: MATH 1P66.

Lectures, tutorial, 4 hours per week.

MATH 1P90

Introduction to combinatorics

The pigeonhole principle; combinations, permutations and binomial coefficients; the inclusion-exclusion principle; recurrence relations; generating functions; introduction to graph theory.

Prerequisites: two OAC mathematics credits (a third OAC mathematics credit is strongly recommended).

Lectures, 4 hours per week.

MATH 1P93

Calculus I

Review of differentiation; the Mean Value theorem; Taylor's theorem with remainder. Methods of integration with applications; the trapezoidal rule and Simpson's rule. Partial derivatives; extrema of functions of two variables via the second derivative test.

Prerequisite: two OAC mathematics credits including OAC calculus (a third OAC mathematics credit is strongly recommended).

Lectures, 3 hours per week; tutorial, 2 hours per week.

MATH 1P94

Calculus II

Multivariable extremal problems with constraints; Lagrange multipliers. Double and triple integrals, including applications and transformation of coordinates. Numerical series,

including tests of convergence. Power series. Taylor series.

Prerequisite: MATH 1P93.

Not open to students with credit in MATH 1P95.

Lectures, 3 hours per week; tutorial, 2 hours per week.

MATH 1P95

Introductory analysis

Numerical sequences and series, including tests of convergence. Theory of continuous functions. Theory of the Riemann integral, with applications.

Theory of power series; term-by-term integration and differentiation of power series; power series solutions of differential equations.

Prerequisite: MATH 1P93.

Not open to students with credit in MATH 1P94.

Lectures, 4 hours per week; tutorial, 1 hour per week.

***MATH 1P97**

Differential and integral methods

Designed for students of Business, Biological Sciences, Economics, Geological Sciences, and Urban and Environmental Studies. Elementary functions, particularly the power function, the logarithm, and the exponential; the derivative and its application; integration; approximation to the area under a curve; the definite integral; partial differentiation; simple differential equations; numerical methods; and the use of computer algebra systems.

Prerequisite: grade 12 mathematics or permission of the department.

Not open to students with credit in any university calculus course.

Lectures, 4 hours per week; lab, 1 hour per week.

***MATH 1P98**

Basic statistical methods

Designed for students of Business, Biological Sciences, Economics, Geological Sciences, Physical Education and Urban and Environmental Studies. Descriptive statistics; probability distributions, estimation; hypothesis testing; non-parametric tests; Normal, chi-squared, t-and F-distributions; mean and variance tests; regression and correlation; and the use

of statistical computer software.

Prerequisite: grade 12 mathematics or permission of the department.

Not open to students with credit in any university statistics course.

Lectures, 3 hours per week, lab, 1 hour per week.

MATH 2F00

Advanced calculus

Series of functions; continuous function on R^n ; partial differentiation; transformations; integration theory: multiple integrals, arc length, surface area, line and surface integrals, Green's theorem, Gauss' theorem, Stokes' theorem; vectors applied to curves and surfaces in R^n ; convergence of Fourier series of piecewise-smooth functions; elementary partial differential equations.

Prerequisite: MATH 1P93, 1P94 or 1P93, 1P95.

Not open to students with credit in MATH 2F95.

Lectures, 4 hours per week.

MATH 2F10

Linear algebra

Theory of finite-dimensional vector spaces; algebra of linear transformations; matrices and determinants; canonical forms, eigenvalues, change of basis; applications.

Prerequisite: MATH 1P12 or permission of the department.

Lectures, 4 hours per week, tutorial, 1 hour per week.

MATH 2F92

Great moments in mathematics

Triumphs in mathematical thinking from historical times to the present. Emphasis on analytical understanding of mathematical problems from the past, with reference to the stories and times behind the people who solved them. Students will be encouraged to match wits with great mathematicians by building on their ideas and solving related problems.

Prerequisite: MATH 1P12, 1P93 and either 1P94 or 1P95.

Lectures, 4 hours per week.

MATH 2F94

Topics in geometry

Euclidean and non-Euclidean

Mathematics

geometries using linear algebra as an analytical tool. Classical Euclidean geometry as an axiomatic system; the Euclidean plane, motions and classification of isometries, affine transformations, collineations, triangles, interiors and exteriors, Pasch's Theorem, congruence; geometry of the sphere; the Projective Plane, incidence geometry, homogeneous co-ordinates, Desargues' and Pappus' Theorems; the Hyperbolic Plane, parallel, ultraparallel, and perpendicular lines. Prerequisite: MATH 1P12 or permission of the department. Lectures, 4 hours per week.

*MATH 2F95

Advanced calculus for science students

Partial differentiation; elementary complex functions; ordinary differential equations; multiple, line and surface integrals; vector calculus; elementary partial differential equations; separation of variables; Fourier series; introduction to special functions of Legendre, Laguerre, Hermite. Prerequisite: MATH 1P93, 1P94 or 1P93, 1P95. Not open to students with credit in MATH 2F00. Lectures, 4 hours per week.

MATH 2F96

Mathematical probability and statistics

Basic probability theory, simple stochastic processes, probability distributions, expectation, moments, generating functions, sums of random variables and limit theorems, sampling distributions, statistical models, point estimation, interval estimation and hypothesis testing with applications to samples from Normal, binomial and Poisson distributions, chi-square tests, non-parametric methods, bivariate Normal distribution and correlation analysis, simple linear, curvilinear, and multiple regression; experimental design and analysis of variance, sampling methods, decision theory and Bayesian estimation. Prerequisite: MATH 1P93, 1P94 or 1P93, 1P95. Lectures, 4 hours per week.

MATH 2P20

Numerical analysis I

Elementary techniques for solving: algebraic equations, systems of linear equations, eigenvalues and eigenvectors of matrices; numerical differentiation, integration and interpolation. Some theory of efficiency and precision of algorithms; some computer applications. Prerequisite: MATH 1P93, 1P94 or MATH 1P93, 1P95. A first year computer science course is recommended. Lectures, 4 hours per week.

Prerequisite: MATH 1P93, 1P94 or MATH 1P93, 1P95. A first year computer science course is recommended. Lectures, 4 hours per week.

MATH 2P60

Introductory operations research

Designed for students in administrative studies. Project management: CPM, PERT. Linear programming: formulation, graphical solution, simplex method, duality, examples. Special LP problems: transportation, assignment. The two-player zero-sum game, and the minimax theorem. Elements of decision theory: utility, Bayesian models. Multiple regression. Inventory models: EOQ and generalizations. Queuing theory. Prerequisites: MATH 1P97, 1P98. Lectures, 4 hours per week; lab, 1 hour per week.

MATH 3F00

Real and complex analysis I

Functions of bounded variation, the Riemann-Stieltjes integral, metric spaces (in particular, $C[a,b]$), approximation theorems (Stone-Weierstrass, Bernstein), fixed-point theorems and applications, inequalities, functional equations. Complex differentiation, the Cauchy-Riemann equations, convergence of complex series, integrals of analytic functions, Cauchy's integral theorem, Taylor series, Laurent series, singularities, the residue theorem and contour integration. Prerequisite: MATH 2F00 or permission of the department. Lectures, 4 hours per week.

Prerequisite: MATH 2F00 or permission of the department. Lectures, 4 hours per week.

MATH 3F10

Basic structures of algebra

Introduction to fundamental algebraic structures; groups, rings, and fields.

Topics will include fundamental theorems on subgroups and subrings, homomorphisms, and quotient structures, as well as detailed discussion of important examples. Prerequisite: MATH 1P12 or permission of the department. Lectures, 4 hours per week.

Prerequisite: MATH 1P12 or permission of the department. Lectures, 4 hours per week.

Lectures, 4 hours per week.

MATH 3F65

Mathematical methods for computer science

Applied probability, Markov chains, Poisson and exponential processes, renewal theory, queuing theory, applied differential equations. Networks, graph theory, reliability theory, NP - completeness. Prerequisite: MATH 1P12, 1P66, 1P67, 1P97. Lectures, 4 hours per week.

Prerequisite: MATH 1P12, 1P66, 1P67, 1P97. Lectures, 4 hours per week.

Lectures, 4 hours per week.

MATH 3F92

Algebra with applications

Introduction to algebraic structures with emphasis on application of abstract ideas to concrete mathematical problems. Group theory will be applied to the study of symmetries and counting problems using the Polya-Burnside Theorem. Field theory will be applied to answer classical questions about trisecting angles and squaring the circle. Students will make presentations of selected topics. Prerequisite: MATH 1P12. Lectures, 4 hours per week. Restricted to students in the BSc/BEEd program.

Students will make presentations of selected topics. Prerequisite: MATH 1P12. Lectures, 4 hours per week.

Prerequisite: MATH 1P12. Lectures, 4 hours per week.

Restricted to students in the BSc/BEEd program.

MATH 3F94

Differential equations

Linear equations, series solutions, Laplace transforms and operator methods, systems of equations, basic existence theorem, Sturm-Liouville theory, Bessel and Legendre functions, orthogonal polynomials, eigenvalue problems. Fourier series, simple partial differential equations and boundary-value problems. Prerequisite: MATH 2F00 or permission of the department. Lectures, 4 hours per week.

Prerequisite: MATH 2F00 or permission of the department. Lectures, 4 hours per week.

Lectures, 4 hours per week.

***MATH 3F95**

Methods of mathematical physics
(also offered as PHYS 3F95)

Calculus of variations, elements of group theory, eigenvalue problem, theory of small oscillations, special functions, complex variable theory, contour integration, summation of series, introduction to tensors.

Prerequisite: PHYS 2P20, 2P21, MATH 2F95.

Lectures, 3 hours per week.

MATH 3P20

Numerical analysis II

Topics in matrix analysis, approximation theory (including least-squares and minimax); Legendre, Chebyshev, and trigonometric functions; Gaussian quadrature; differential and partial differential equations.

Prerequisites: MATH 2P20 and either MATH 2F00 or 2F95 (the latter may be taken concurrently).

Lectures, 4 hours per week.

***MATH 3P57**

Discrete event simulation

(also offered as COSC 4P77)

Classification of simulation problems; discrete, continuous, Monte Carlo; general discrete modeling concepts; discrete system models; basic analysis techniques (sampling, estimation, inductive inference, random number generators, queuing theory, time series analysis); simulation experiments (variance reduction techniques, optimization procedures, sample size and stopping rules); modeling techniques for system inputs; verification and validation procedures; a critique of the simulation approach.

Prerequisite: COSC 1P04, MATH 1P97, 1P98, 3F65.

Lectures, 3 hours per week.

MATH 3P58

Operations research methods A
(also offered as ECON 3P58 and MGMT 3P58)

Principles of operations research; Lagrange multipliers, with applications to LP; network models and generalized network models; elements of dynamic

programming; scheduling (criteria and algorithms); integer programming (theory and practice); elements of quadratic programming; optimization and quasi-Newton methods; discussion and analysis of selected cases.

Prerequisite: MATH 2P60.

Lectures, 4 hours per week.

Note:

MATH 3P58/4P58 and 3P59/4P59 are offered in alternate years.

MATH 3P59

Operations research methods B
(also offered as ECON 3P59 and MGMT 3P59)

Principles of modeling; decision theory, subjective probability, and Bayesian statistics; simulation, sampling theory, design and analysis of experiments, discussion and analysis of selected cases.

Prerequisite: MATH 2P60 or permission of the department.

Lectures, 4 hours per week.

MATH 3P91

Mathematics at the junior/intermediate level

Designed for students in the concurrent Mathematics and Education program. Lectures and seminars on Mathematics in the junior/intermediate curriculum from an advanced standpoint. Students will assist and observe junior/intermediate teachers during mathematics instruction. A project will involve taking a topic within the curriculum and developing it from a number of different viewpoints for a seminar presentation.

Prerequisite: open only to students who have successfully completed year 2 of the concurrent BSc/BEEd program.

Lectures, 3 hours per week; seminar, 1 hour per week.

MATH 3P97

Introductory topology

Introduction to metric and topological spaces; connectedness, completeness, countability axioms, separation properties, covering properties, metrization of topological spaces

Prerequisite: MATH 2F00 and 2F10 or 3F10.

Lectures, 4 hours per week.

MATH 3P98

Functional analysis

Introduction to the theory of normed linear spaces, fixed point theorem, Stone-Weierstrass approximation on metric spaces and preliminary applications on sequence spaces.

Prerequisite: MATH 2F10 and 3P97.

Lectures, 4 hours per week.

MATH 4F02

Real and complex analysis II

Lebesgue integration on \mathbb{R}^n , differentiation and absolute continuity, Fubini's theorem, L^p spaces, elementary Banach space theory, Fourier series, proof of Cauchy's integral theorem. The maximum-modulus principle, the Phragmén-Lindelöf method, the Hausdorff-Young theorem, conformal mapping (linear fractional transformations, Riemann's mapping theorem, Bieberbach's conjecture); topics selected from: zeros of holomorphic functions, analytic continuation, asymptotic expansions.

Prerequisite: MATH 3F00.

Lectures, 4 hours per week.

MATH 4F10

Topics in algebra

A treatment of several advanced topics drawn from group theory, theory of rings and modules. Galois theory, lattice theory, homological algebra, and applications of algebra in geometry.

Prerequisite: MATH 3F10.

Lectures, 4 hours per week.

MATH 4F16

Advanced topics

Topics will normally vary from year to year.

Topics include: number theory, problems in real or complex analysis, summability theory, differential geometry, differential manifolds, algebraic topology, approximation theory, dynamical systems, foundations of mathematics.

Prerequisite: permission of the department.

Lectures, 4 hours per week.

Mathematics

MATH 4F21

Topics in advanced statistics

Topics chosen from the following areas: stochastic processes, game theory, decision theory, sampling theory, experimental design and analysis, time series, multivariate analysis.

Prerequisite: MATH 2F96.

Lectures, 4 hours per week.

MATH 4F51

Calculus of variations and integral transforms

Calculus of variations and applications. Integral transforms (Fourier, Laplace and Mellin). Linear integral equations.

Prerequisite: MATH 3F94.

Lectures, 4 hours per week.

MATH 4F52

Partial differential equations

Existence theory: Cauchy-Kowalewski theorem, distributions (generalized functions), separation of variables, equations of parabolic type, the heat equation, elliptic equations (Laplace's equation, the biharmonic equation) and applications, general theory of eigenvalues and eigenfunction expansions, Green's functions, hyperbolic equations (the wave equation, etc.), boundary-value problems.

Prerequisite: MATH 3F94.

Lectures, 4 hours per week.

MATH 4P19

Theory of computation

Turing machines, universal machines, halting problems and related unsolvable problems; recursive functions and their relations to Turing machines; some non-computable functions. Formal languages and their relation to automata; regular, context-free and context-sensitive grammars.

Prerequisite: permission of the department.

Lectures, 4 hours per week.

MATH 4P20

Combinatorics

Enumeration problems involving generating functions, recurrence relations, permutations with forbidden positions, Polya's counting theorem,

Moebius inversion theorem. Graph theory: matching theory, path problems, and coloring problems.

Prerequisite: permission of the department. While no specific course is an essential prerequisite, students should have competence in abstraction equivalent to that obtained by a successful completion of MATH 2F10. Lectures, 4 hours per week.

MATH 4P58

Operations research applications A (also offered as ECON 4P58 and MGMT 4P58)

Practice of operations research; investment, and applications of LP to project selection, capital growth, further dynamic programming, location problems, inventory problems, cash flow as an inventory problem, personnel planning, actuarial problems; discussions and analysis of selected cases.

Prerequisite: MATH 3P58 or permission of the department.

Lectures, 4 hours per week.

MATH 4P59

Operations research applications B (also offered as ECON 4P59 and MGMT 4P59)

Applications of modeling, game theory (Nash equilibrium, two player NZS games, Nash co-operative solution and others), Shapley value, voting power, values of non-atomic games; advertising and sales forecasting in heterogeneous markets, information-theory, encoding, cryptography, security and reliability, classification and clustering, models of biological competition and military combat, discussion and analysis of selected cases.

Prerequisite: MATH 3P59 or permission of the department.

Lectures, 4 hours per week.

Music

Officers of instruction

Chair

Cecil Abrahams

Co-ordinator

Harris Loewen

Assistant professors

Peter Landey (music theory and composition)

Harris Loewen (choral performance, pedagogy and literature)

Marc Widner (piano performance, pedagogy and literature)

Lecturer

Patricia Debly (music history and musicology)

Part-time instructors

Deryck Aird (violin)

Elise Bedard (voice)

Lucas Chorosinski (organ)

Jonathan Earp (guitar)

Janice Fralick (horn)

Steven Fralick (trombone)

Steve Pierre (clarinet)

Janice Slade (flute)

Drew Smith (trumpet)

Laura Thomas (percussion)

Suzanne Thomas (harp)

Andras Weber (violoncello)

Edward Yadzinski (saxophone)

General information

Thistle West 139

The primary aim of the Music program is to train literate, perceptive, skilled and versatile musicians capable of contributing in a valuable way to music in society. The program is broadly based and covers the whole spectrum of musical achievement, from earliest times to the contemporary.

Historical, theoretical and practical studies form the core of the program; their close relationship finds direct

expression in solo and ensemble performance. Options in the program allow the student to develop special areas of interest including pedagogy (classroom, choral, vocal and piano), composition, and musicology.

In the combined majors programs, students also have the opportunity to combine their studies in Music with an area outside of Music, such as Drama, Theatre, Film, Visual Arts, Child Studies, languages, and other university programs.

Facilities

Facilities in the Music department include a choral studio and library, a Boesendorfer concert grand piano, Steinway and Heintzman grand pianos, a two-manual Dowd harpsichord, a Casavant chamber organ and a set of percussion instruments.

Concerts, recitals and performance classes are regularly held in the 543-seat Theatre, Brock Centre for the Arts, and in Martin Luther Chapel, Concordia Lutheran Theological Seminary. A Kingham and Pole seven-rank pipe organ is located in the Chapel.

Practice rooms are available for students studying performance and keyboard skills. A listening room, including an extensive record collection and listening equipment, is available in the main library.

Public events

The Music program aims to create a stimulating musical environment for both the student body and the larger community through regular series of events open to the public. These include lunch-hour presentations, as well as a special series of concerts, master classes, lectures and workshops, featuring guest performers and scholars, faculty and students.

Context electives

MUSI 1P11 Listening to music I
MUSI 1P12 Listening to music II

MUSI 1F50 History and literature of music from medieval to modern times

Music in education

As many graduates of the Music program go on to teaching careers, electives in music pedagogy are offered on a regular basis. These include:

MUSI 2P93 Conducting and score-reading
MUSI 2P94 Choral methods
MUSI 2P97 Choral literature I: mixed-voice repertoire
MUSI 2P98 Choral literature II: treble-voice repertoire
MUSI 2M70 - 2M74 Selected topics in music education
MUSI 3F20 Piano pedagogy and literature I
MUSI 3F30 Vocal pedagogy and literature
MUSI 4F20 Piano pedagogy and literature II

Entrance requirements for music majors

Prospective majors must possess a level of musical literacy equivalent to Royal Conservatory Grade II rudiments, or MUSI 1P20, as well as the necessary aural skills to complete the course requirements in Music. Admission as a major will depend on the successful completion of tests in musical literacy and aural skills. A student lacking these basic skills must receive a grade of 60 or above in MUSI 1P20 to be eligible as a Music major (MUSI 1P20 is a degree credit, however it may not be used to meet the departmental requirements for a single or combined major in music). An audition on a solo instrument or voice is necessary only for applicants wishing to study solo performance.

It is recommended that all prospective majors arrange an interview with a Music department faculty member

Music

upon application to Brock University in order to discuss their goals and interests in relation to the Brock Music program. Details concerning interviews, tests and auditions can be obtained from the department secretary.

Solo performance (MUSI 1F92, 2F92, 3F92, 4F92) is an elective in the Music program. An audition is required of all prospective performance students not currently registered in a solo performance course at Brock, regardless of level of entry. Auditions are held in May and June of each academic year. The recommended level for admittance into MUSI 1F92 is Royal Conservatory Grade VIII or its equivalent for piano, organ, voice or classical guitar, and Royal Conservatory Grade VI for concert band or orchestral instruments. Performance students who study with an approved non-resident instructor should be prepared to cover additional travel and instruction fees. Part-time students studying solo performance are required to enrol concurrently in at least one other credit in Music as well as in choral ensemble.

Choral ensemble (MUSI 1P83, 2P83, 3P83, 4P83) is required of all majors and combined majors in Music as well as all students enrolled in solo performance courses. Music majors who have completed MUSI 1P83 and 2P83 may fulfil the third-and fourth-year choral ensemble requirement on a credit or audit basis. Choral ensemble is open to any member of the University or the general public who may wish to participate on a credit or non-credit basis and who successfully completes an audition.

Pass program

Eight MUSI credits are required:

Year 1
MUSI 1F50, 1F90, 1P83; one social science and one science context credit; one credit in a language other than

English. It is recommended that students fulfil the language requirement by the end of year 2.

Music majors may take five and one-half credits in year 1 without further approval from the dean.

Year 2
MUSI 2F90, 2P51, 2P52, 2P83; two elective credits.

Year 3
MUSI 3F91, 3P51, 3P52; one MUSI credit; two elective credits. Participation in choral ensemble (see above).

Honors program

Twelve MUSI credits are required:

Years 1, 2 and 3
As in pass program.

Year 4
Two of MUSI 4F20, 4F50, 4F85, 4F90, 4F92 or 4F99; two MUSI credits; one elective credit. Participation in choral ensemble (see above).
Note: at least three credits numbered 3(alpha) 90 or above must be included in all honors programs.

Combined major programs

Pass program

Students wishing to take Music as one component of a combined major must take: MUSI 1F50, 1F90, 1P83, 2F90, 2P83; two of MUSI 2P51, 2P52, 3P51, 3P52; one MUSI elective credit.

Honors program

Years 1, 2 and 3
As in pass program.

Year 4
Two of MUSI 3F91, 4F20, 4F50, 4F85, 4F90, 4F92 or 4F99. Participation in choral ensemble (see above).

Note: at least three credits numbered 3(alpha)90 or above must be included in all honors programs.

Year 3 courses are normally restricted to students with at least three second-year credits or special permission of the instructor.

Language requirement for humanities majors

Students in the music program are required to complete one credit in a language other than English. It is recommended that students fulfil this requirement by year 2.

Description of courses

Please note that not all courses are offered in every session. Refer to the applicable term timetable for details.

MUSI 1F00
Music in popular culture
Survey of developments in blues, jazz, rock, and related genres of popular music.
Not open to Music majors for major credit.
Lectures, seminar, 3 hours per week; listening assignments.

MUSI 1F50
History of music from medieval to modern times
Historical survey of styles in Western art music; analysis of representative musical compositions with assigned readings from secondary literature.
Prerequisite: a level of musical literacy equivalent to MUSI 1P20 or Royal Conservatory Grade II rudiments, or permission of the instructor.
Lectures, 3 hours per week.

MUSI 1F90
Materials of music I
An integrated theoretical and practical study of tonal melody, harmony, rhythm, and basic forms. Development

of sight-singing, keyboard, aural and written skills.

Prerequisite: successful completion of a placement test demonstrating a level of musical literacy equivalent to MUSI 1P20 or Royal Conservatory Grade II rudiments or permission of the instructor.

Lectures, sight-singing seminar, keyboard tutorial, 5 hours per week.

MUSI 1F92

Solo performance I

Individual instruction in one of the following: piano, harpsichord, organ, voice, classical guitar, or any approved concert band and orchestral instrument. Lesson fee: \$125.00

Prerequisite: a solo audition held in May or June of the preceding academic year.

Co-requisite: choral ensemble.

For further details, see page 200 under Solo performance.

One hour private instruction per week; compulsory participation in performance classes, chamber ensembles, and student recitals.

MUSI 1P11

Listening to music I

A music appreciation course for students with little or no formal instruction in music. Discussion of basic musical materials, instrumentation, forms and techniques for listening critically. Development of a listening repertoire of representative compositions from the Middle Ages to the end of the Baroque era (c. 1750).

Not open to Music majors for major credit or to those who have credit in MUSI 1F10 or 1F50.

Lectures, seminar, 3 hours per week.

MUSI 1P12

Listening to music II

A music appreciation course for students with little or no formal instruction in music. Discussion of basic musical materials, instrumentation, forms and techniques for listening critically. Development of a listening repertoire of representative compositions from the Early Classical era (c.

1740) to the present day.

Not open to Music majors for major credit or to those who have credit in MUSI 1F10 or 1F50.

Lectures, seminar, 3 hours per week.

MUSI 1P20

Rudiments of music

An introduction to musicianship and the basic vocabulary of music for students with little or no previous experience in music. Topics include: notation and aural perception of scales, intervals, chords, metre and rhythm; sight-singing and dictation; elementary harmony.

Not open to Music majors for major credit or to those with credit in MUSI 1F90. Not open to students who have Royal Conservatory Grade II rudiments or equivalent.

Lecture, labs, 3 hours per week.

MUSI 1P83

Choral ensemble I

Selected choral literature in rehearsal and performance; development of sight-singing and ensemble skills.

Participation in one of the following three groups, determined by audition: 1) university chorus; 2) chorale; 3) chamber choir. Non-credit participants will be required to pay a \$15.00 user's fee for scores.

Prerequisite: entrance by audition; basic sight-singing skills strongly recommended.

Rehearsals, concerts, 3 hours per week for 2 terms. Extra rehearsal time as required.

MUSI 2F90

Materials of music II

An integrated theoretical and practical study of tonal and chromatic melody, harmony and counterpoint, rhythm, texture, and larger forms. Further development of sight-singing, keyboard, aural and written skills. Analysis and writing in period styles. Project in composition.

Prerequisite: MUSI 1F90 or permission of the instructor.

Lectures, sight-singing seminar, keyboard tutorial, 5 hours per week.

MUSI 2F92

Solo performance II

A continuation of individual instrumental or vocal study.

Lesson fee: \$125.00

Prerequisite: MUSI 1F92 or its equivalent by audition.

Co-requisite: choral ensemble

One hour private instruction per week; compulsory participation in performance classes, chamber ensembles, and student recitals.

MUSI 2M70-2M74

Selected topics in music education

The philosophical and pedagogical bases of selected approaches to music education, which may include creative, Dalcroze, Orff, and Kodaly approaches, and their respective practical application to the classroom situation in Canadian schools.

1991-92: (2M71) The Dalcroze Eurhythmics approach

Introduction to the philosophical and pedagogical bases of the Dalcroze Eurhythmics approach to music education, a method stressing the development of musicality through bodily movements. Integration of the theoretical and practical study of elements such as metrical division and accentuation, rhythm components, canon, counterpoint, syncopation and polyrhythm.

Prerequisite: successful completion of placement test demonstrating a level of musical literacy equivalent to MUSI 1P20 or Royal Conservatory Grade II rudiments and permission of the instructor.

Lectures, seminar, 3 hours per week; field assignments as required.

MUSI 2M90-2M99

Special topics

A selected topic in music literature involving historical, musicological, and analytic investigation.

MUSI 2P51

History of music in the Classical era

Intensive study of styles, forms and genres from the pre-Classical era (c. 1740) to Beethoven's late works (c.

Music

1827) through the analysis of selected compositions and readings.

Prerequisite: MUSI 1F50 and 1F90 or permission of the instructor.

Not open to students with credit in MUSI 2F50.

Lectures, seminar, 3 hours per week.

MUSI 2P52

History of music in the Romantic era

Intensive study of styles, forms and genres from Schubert (c. 1820) to Wolf (c. 1900) through the analysis of selected compositions and readings.

Prerequisite: MUSI 1F90 and either 2F50 or 2P51, or permission of the instructor.

Not open to students with credit in MUSI 3F50.

Lectures, seminar, 3 hours per week.

MUSI 2P83

Choral ensemble II

Selected choral literature in rehearsal and performance; further development of sight-singing and ensemble skills. Participation in one of the following three groups, determined by audition: 1) university chorus; 2) chorale; 3) chamber choir. Non-credit participants will be required to pay a \$15.00 user's fee for scores.

Prerequisite: MUSI 1P83, or equivalent, and sight-singing skills. Entrance by audition.

Not open to students with credit in MUSI 282.

Rehearsals, concerts, 3 hours per week for 2 terms. Extra rehearsal time as required

MUSI 2P93

Conducting and score-reading

Introduction to historical, theoretical and practical aspects of choral and instrumental conducting. Reading of open scores at the keyboard. Topics include: basic patterns, baton and left-hand techniques, conducting of selected ensemble literature.

Prerequisite: successful completion of a placement test demonstrating a level of music literacy equivalent to MUSI 1P20 or Royal Conservatory Grade II rudiments, and permission of the instructor.

Not open to students with credit in

MUSI 2F95 or 2F96.

Lectures, seminar, 3 hours per week; field assignments as required.

MUSI 2P94

Choral methods

Study and practice of vocal and ensemble techniques for children's, youth and adult choirs. Topics include: vocal development, physiology and training; audition and rehearsal procedures, score selection and preparation.

Prerequisite: MUSI 2P93 or permission of the instructor.

Not open to students with credit in MUSI 2F95 or 2F96.

Lectures, seminar, 4 hours per week; field assignments as required.

MUSI 2P97

Choral literature I: Mixed-voice repertoire

Survey and study of selected choral literature for youth and adult choirs from the Renaissance to the present. Topics include: period performance practices, repertoire sources, selection and analysis.

Prerequisite: MUSI 1F90 and 1F50, or permission of the instructor.

Not open to students with credit in MUSI 2F96.

Lectures, seminar, 4 hours per week.

MUSI 2P98

Choral literature II: treble-voice repertoire

Survey and study of selected choral literature for children's and women's choirs with emphasis on compositions from the 19th and 20th centuries. Topics include: repertoire sources, selection and analysis.

Prerequisite: MUSI 1F50 and 1F90, or permission of the instructor.

Not open to students with credit in MUSI 2F95.

Lectures, seminar, 4 hours per week.

MUSI 3F20

Piano pedagogy and literature I

This course is divided into two concurrent parts: 1) an examination of piano teaching techniques used in the beginning and elementary levels of instruction, including discussion of

method books, elementary repertoire, and technique; 2) selected topics in 18th and 19th century keyboard literature with critical analysis.

Prerequisite: minimum Royal Conservatory Grade VIII practical, MUSI 1F50, 1F90, and permission of the instructor.

Lectures, seminar, 4 hours per week.

MUSI 3F30

Vocal pedagogy and literature

Two concurrent parts: 1) pedagogical methods used in the development of the solo voice, the physiology of the vocal organs, stylistic approaches to vocal repertoire, diction and phonetics; 2) historical survey of literature for the solo voice, including art song, operatic and oratorio repertoire.

Prerequisite: MUSI 1F50 and 1F90 and permission of the instructor.

Lectures, seminar, 4 hours per week.

MUSI 3F70

Orchestration and choral arranging

Characteristics of orchestral instruments, used both singly and in combination, and of the voice in choral music. Score analysis, and the arranging of music for instrumental and vocal ensembles. Project in composition. Further development of sight-singing and aural skills.

Prerequisite: MUSI 2F90 or permission of the instructor.

Lectures, seminar, 4 hours per week.

MUSI 3F85

Composition I

An introduction to composition with an emphasis on 20th century techniques of melody, harmony, rhythm and form. Writing for solo voice and small instrumental ensembles; analysis.

Prerequisite: MUSI 2F90 and permission of the instructor.

A portfolio of compositions must be submitted in advance.

Individual tutorial each week.

MUSI 3F91

Materials of music III

20th century techniques of composition, materials, formal procedures, media and textures, based on representative works by major composers

from c.1900 to the present. Analysis and imitative writing. Further work in aural training and sight-singing. Project in composition.
Prerequisite: MUSI 2F90.
Lectures, seminar, 4 hours per week.

MUSI 3F92

Solo performance III

A continuation of individual instrumental or vocal study.
Lesson fee: \$125.00.
Prerequisite: MUSI 2F92 with a minimum of B standing, or its equivalent by audition.

Co-requisite: choral ensemble
One hour of private instruction per week; compulsory participation in performance classes, one solo or joint public recital, chamber ensembles.

MUSI 3F99

Special honors tutorial

Advanced study of an independent nature in an area of mutual interest to the student and the instructor.
Prerequisite: a written proposal must be approved by the department before registration.

MUSI 3P51

History of music in the Baroque era

Intensive study of styles, forms and genres from Monteverdi (c. 1600) to Bach (c. 1750) through analysis of selected compositions and readings.
Prerequisite: MUSI 1F50 and 1F90 or permission of the instructor.
Not open to students with credit in MUSI 2F50.
Lectures, seminar, 3 hours per week.

MUSI 3P52

History of music in the 20th century

Intensive study of styles, forms and genres from Mahler (c. 1890) to the present day, through the analysis of selected compositions and readings.
Prerequisite: MUSI 1F50 and 1F90 or permission of the instructor.
Not open to students with credit in MUSI 3F50.
Lectures, seminar, 3 hours per week.

MUSI 3P83

Choral ensemble III

Selected choral literature in rehearsal and performance; further development of sight-singing and ensemble skills;

leading of ensemble warm-ups. Participation in one of the following three groups, determined by audition: 1) university chorus; 2) chorale; 3) chamber choir. Non-credit participants will be required to pay a \$15.00 user's fee for scores.

Prerequisite: MUSI 2P83, and sight-singing skills. Previous or concurrent enrolment in MUSIC 2P93 or 2P94 is recommended. Entrance by audition. Rehearsals, concerts, 3 hours per week for 2 terms. Extra rehearsal time as required.

MUSI 4F20

Piano pedagogy and literature II

A continuation of piano pedagogy I, including: 1) an examination of piano pedagogy techniques and teaching repertoire, stressing the intermediate to advanced levels of instruction; and 2) selected topics in keyboard music of the Baroque period and the 20th century.

Prerequisite: MUSI 3F20 or permission of the instructor.
Lectures, seminar, 4 hours per week.

MUSI 4F50

History of music: Medieval and Renaissance periods

Intensive study of styles, forms and genres from Gregorian chant (c. 900 to c. 1600), through the analysis of selected compositions and readings.
Prerequisite: MUSI 1F50 and permission of the instructor.
Lectures, seminar, 3 hours per week.

MUSI 4F85

Composition II

Development of writing skills in larger forms for instrumental ensembles. Text setting for solo voice and choral mediums; analysis.
Prerequisite: MUSI 3F70, 3F85 and permission of the instructor.
Individual tutorial each week.

MUSIC 4F90

Materials of music IV

An intensive study, through analysis and writing, of contrapuntal procedures and techniques in liturgical and secular music of the late Renaissance and Baroque periods. Detailed examination of the major forms; contrapuntal writing based directly on composi-

tional practice.

Prerequisite: MUSI 2F90 and permission of the instructor.

Not open to students with credit in MUSI 390.

Lectures, seminar, 3 hours per week.

MUSI 4F92

Solo performance IV

A continuation of individual instrumental or vocal study.
Lesson fee: \$125.00.
Prerequisite: MUSI 3F92 with a minimum of B standing or its equivalent by audition.

Co-requisite: choral ensemble.
One hour private instruction per week; compulsory participation in performance classes, one solo public recital, chamber ensembles.

MUSI 4F99

Honors thesis

A critical, historical or creative project of mutual interest to the student and the instructor. Students are urged to arrange and plan their projects in the spring for the following year.
Prerequisite: a written proposal must be approved by the department before registration.

MUSI 4P83

Choral ensemble IV

Selected choral literature in rehearsal and performance; further development of sight-singing and ensemble skills; leading of ensemble warm-ups; research project dealing with performance repertoire. Participation in one of the following three groups, determined by audition: 1) university chorus; 2) chorale; 3) chamber choir. Non-credit participants will be required to pay a \$15.00 user's fee for scores.
Prerequisite: MUSI 3P83 or equivalent, and sight-singing skills. Previous or concurrent enrolment in MUSI 2P93 or 2P94 is recommended.
Entrance by audition.
Rehearsals, concerts, 3 hours per week for 2 terms. Extra rehearsal time as required.

Neuroscience

Officers of instructions

Co-ordinators

R. Peter Rand, Biological Sciences
Dawn E. Witherspoon, Psychology

Participating Faculty

H. Willard Bradley, Psychology
David DiBattista, Psychology
William H. Cade, Biological Sciences
Robert L. Carlone, Biological Sciences
Jane Dywan, Psychology
Arthur H. Houston, Biological Sciences
J. Cameron Lewis, Biological Sciences
A. Joffre Mercier, Biological Sciences
Ralph D. Morris, Biological Sciences
Robert D. Ogilvie, Psychology
Peter Ramm, Psychology
R. Peter Rand, Biological Sciences
Sidney J. Segalowitz, Psychology
Paul D. Tyson, Psychology
Dawn E. Witherspoon, Psychology

General information

Neuroscience, the study of behavior and its underlying neural mechanisms, is studied in psychology, biology and other departments at many universities, but there is an increased tendency to offer neuroscience as a specialized major program in North America and Europe. The program in Neuroscience at Brock represents a curriculum that combines selected courses from the disciplines of psychology and biology that illustrate behavioral, cellular and physiological approaches to examining the nervous system. The program is specifically designed to permit integration of information derived experimentally from both disciplines to gain a better understanding of the relationships between nervous function and

behavior. The Neuroscience program provides information and skills necessary for careers in the health and behavioral sciences. It also provides a firm basis for graduate studies in the neurosciences and depending on choice of courses, prepares the student for entry into medicine, dentistry, chiropractic and physical or occupational therapy.

Candidates in the Neuroscience program are reminded of the University regulation (page 28) that they will receive a BSc or a BA degree depending on whether the majority of their credits are in sciences or arts, respectively.

Pass Program

Year 1

BIOL 1F90; PSYC 1F90; CHEM 1P80, 1P81 or CHEM 1P90, 1P91; one humanities elective credit; one elective credit (see note 1).

Year 2

BIOL 2F01, 2P05, 2P91; PSYC 2F23, 2F36; one elective credit.

Year 3

BIOL 3P34, 3P84; one credit from BIOL 3P05, 3P22, 3P28, 3P50 (or 3P51), 3P60, 3P64, 3P80, BCHM 3P01 (or 3P02); PSYC 3F40; one credit from PSYC 2F20, 2F35, 2F91, 3F45, 3F91, 3P67, 3P68, 3P90 (or 3P94), 3P92, 3P98, 3P99; one elective credit.

Honors program

Year 1, 2 and 3

As in pass program.

Year 4

BIOL 4F90, 4F91 or 4F92 and one

credit from the year 3 BIOL optional courses, or PSYC 4F91 and 4P92, 4P93; one credit from BIOL 4P28, 4P50, 4P52, 4P56, 4P60, 4P64; one credit from PSYC 3F91, 3P92, 3P98, 3P99, 4F02; one elective credit.

Note:

1. Courses in neurobiology and electrophysiology rely on some elementary physics. PHYS 1F20 or 1F90 is recommended.

Philosophy

Officers of instruction

Chair

Martha Husain

Professors

John R.A. Mayer

Debabrata Sinha

Associate professors

Richard S.G. Brown

David L. Goicoechea

Martha Husain

Robert W. Malone

Murray L. Miles

George J. Nathan

Professors emeriti

G. Mervyn C. Sprung

John H. Nota

General information

Mackenzie Chown

Philosophy, defined as the pursuit of wisdom, encompasses the exploration of the nature of reality, consciousness, values, knowledge, reason, argument and evidence. At Brock the undergraduate studies not only the primary texts of the Western philosophical tradition, but also major texts of Indian and Chinese thought. Students are encouraged to investigate, express and develop their own views and values.

Pass program

The following courses are required of all Philosophy majors: one of PHIL 1F90, 1F91, 1F93, 1F94. (PHIL 1F91 is not recommended for philosophy majors, but may satisfy the first-year majors requirement, with the permission of the department. Enrolment in this course is limited to 200 students.)

PHIL 2F01, 2F02 and one-half credit in Eastern philosophy (PHIL 2P12, 2P13, 2P16, 2P17 or 2F91). PHIL 2P25 and 2P26 are strongly recommended for all majors.

Please note that third-year courses are restricted to students with at least three second-year university credits or the permission of the instructor.

Typical course pattern:

Year 1

One of PHIL 1F90, 1F93, 1F94; one social science and one science context credit; two elective credits (see Note 1.).

Year 2

PHIL 2F01, 2F02; one other PHIL credit; two elective credits, of which one must be approved by the department (see Note 1.).

Year 3

Three PHIL credits; two elective credits, of which one must be approved by the department.

Note 1.

Language requirement for humanities majors

Philosophy majors must complete a credit in a language other than English (classical or modern), within year 1 or year 2.

Honors program

Years 1, 2 and 3

As in pass program.

Year 4

Three PHIL credits numbered 3(alpha)90 or above; two elective credits, of which one must be approved by the department.

All year 4 courses will be offered conjointly with a correspondingly numbered year 5 course.

Combined major program

Students wishing to major in Philosophy and in one other discipline are required to complete at least five PHIL credits including PHIL 2F01, 2F02, and one-half credit in Eastern philosophy (PHIL 2P12, 2P13, 2P16, 2P17 or 2F91) for a pass degree, and at least seven PHIL credits (including the required ones) for an honors degree.

Master of Arts (MA) program

A master's program is offered, focussed on two areas: recent and contemporary European thought, and Asian (especially Indian) thought. Candidates should have an honors BA in Philosophy; those with a pass BA or a degree in another discipline will be required to take additional courses. Students may choose either to complete two credits and write a thesis; or to complete four credits and write a major essay.

Graduate credits are to be obtained by completing courses designated at the 5(alpha)00 level. A course previously taken for 4(alpha)00 level credit may not be retaken for graduate credit.

The graduate offerings in any given year will be selected from:

- I Studies in 19th century philosophy: Hegel, Kierkegaard, Nietzsche, Marx, Schopenhauer.
- II Contemporary studies: Husserl, Heidegger, Sartre, Marcel, Buber, Scheler, Merleau-Ponty, Gadamer, Ricoeur and some contemporary European schools such as Structuralism, the Frankfurt School, Post-Modernism.
- III Eastern philosophy: Upanishadic thought; texts

Philosophy

from the six orthodox schools of Indian philosophy, especially Advaita Vedanta; Indian Buddhist traditions, especially Mahayana.

- IV Comparative studies: comparison of Eastern and Western traditions with respect to problems of being, knowledge, person, values and philosophical method.

In addition, from time to time graduate half credit courses will be offered in the following topics: issues in recent Anglo-American (Analytic) philosophy, studies in Classical philosophy (pre-Socratics, Plato and/or Aristotle), Early Modern philosophy (Descartes, Hume, Kant), Process philosophy (Bergson, Whitehead, Hartshorne). While these courses fall outside the focus of specialization in the graduate program, they are useful elements of the honors program, and are the special strengths of individual members of the department.

In addition there are tutorial, research and thesis courses at the graduate level. For details, see graduate calendar or contact the graduate officer or the chair of the department.

Description of courses

Please note that not all courses are offered in every session. Refer to the applicable term timetable for details or consult the departmental *Philosophy handbook* (available in early April in Room ST 1233) for detailed descriptions of all courses offered in 1991/92.

All courses numbered 1F90 through 1F94 are introductory philosophy courses. Though different in content and emphasis, PHIL 1F93 and 1F94 are no more advanced than 1F90 and 1F91. Normally a student will not be permitted to take more than one introductory

course, though PHIL 1F91 may be taken in addition to 1F90, 1F93 or 1F94 with the permission of the department.

PHIL 1F90

Introduction to philosophy: philosophical classics and contemporary life

Contemporary problems viewed through a variety of philosophical writings. Students are encouraged to formulate and examine their own beliefs about freedom, knowledge, religion, love, and questions of right and wrong.

Not open to students with credit in PHIL 1F93 or 1F94.

Lectures, seminar, 3 hours per week.

PHIL 1F91

Philosophy and social issues

Philosophical aspects of several widely debated social and public policy issues of current practical interest. Topics will be selected from abortion, animal rights, capital punishment, civil disobedience, discrimination, environmental ethics, euthanasia, nuclear war and violence, the question of personhood, the right to life, suicide, suffering, and world hunger.

Not recommended for Philosophy majors.

Enrolment limited to 200 students.

Not open to students with credit in PHIL 1F90, 1F93 or 1F94 except with permission of the department.

Lectures, seminar, 3 hours per week.

PHIL 1F93

Introduction to philosophy: the foundations of the present

An attempt to place the philosophical issues which confront the reflective individual today in their historical context by examining the teachings and arguments which shape our views of such matters as body and soul, life after death, truth and knowledge, faith and moral responsibility.

Not open to students with credit in PHIL 1F90 or 1F94.

Lectures, seminar, 3 hours per week.

PHIL 1F94

Introduction to philosophy: philosophical problems

The central problems of philosophy as living questions for reflection, dialogue and debate, including: Is the external world really there? Does God exist? Can I really know anything? What is a person? Is everything permissible? Can my life have meaning?

Not open to students with credit in PHIL 1F90 or 1F93.

Lectures, seminar, 3 hours per week.

PHIL 2F01

Ancient Greek philosophy

The beginnings of Western civilization in the thought of the great sages of Ancient Greece. These early philosophers set Western civilization on a new and distinctive course, which has resulted in our contemporary scientific-technological way of life. We can win an understanding of our present situation only by tracing it back to its roots.

Lectures, seminar, 3 hours per week.

PHIL 2F02

Early Modern philosophy

The classical philosophers of the 17th and 18th centuries will be studied primarily in the writings of the Continental Rationalists (Descartes, Spinoza, Leibniz) and of the British Empiricists (Locke, Berkeley, Hume).

Lectures, 3 hours per week.

PHIL 2F05

Introduction to ethics

The central problems of ethics including (1) such problems as egoism, relativism, ethical nihilism, emotivism, and responsibility and (2) selected major thinkers and a variety of normative traditions.

Seminars, 3 hours per week.

PHIL 2F91

Religion and philosophy: comparative studies

A study of how religion and philosophy are related to each other in some major traditions of the East and the West (Hinduism, Buddhism, Judaism, Christianity) by studying some typical

approaches to such basic themes as God, man, time, truth, freedom.
Prerequisite: university credit in PHIL or a discipline appropriately related to the course content, or permission of the instructor.

Not open to students with credit in PHIL 311.

Lectures, 3 hours per week.

PHIL 2F93

Philosophical psychology

The philosophical and historical foundations of Freudian and post-Freudian theories concerning the nature of the human psyche. Among the theories and theorists to be dealt with are: exorcism (Gassner), animal magnetism (Mesmer), the school of Nancy (Blenheim), Charcot, Freud, Jung and Adler.

Prerequisite: university credit in PHIL or a discipline appropriately related to the course content, or permission of the instructor.

Not open to students with credit in PHIL 313.

Lectures, seminar, 3 hours per week.

PHIL 2F94

The philosophy of love

A consideration of the question 'What is love?' in such philosophical texts as those of Plato, Aquinas, Kierkegaard and Scheler and in literary figures of the students' choice, e.g. Byron, Dante, Shakespeare and Goethe.

Prerequisite: university credit in PHIL or permission of the instructor.

Not open to students with credit in PHIL 312.

Lectures, seminar, 3 hours per week.

PHIL 2F95

Bioethics, an inquiry into selected issues

(also offered as BIOL 2F95)

An interdisciplinary course that focusses on value conflicts and moral dilemmas in biology and medicine. A major component is the discussion of specific case studies in areas such as reproductive interventions, medical experimentation, concepts of 'health' and 'disease', modification of behavior, lifestyle choices, allocation of scarce or expensive medical resources, and death and dying. May count as an elective, but not as a major course in a biology

or biology combined program.

Prerequisite: university credit in BIOL or PHIL, or permission of the instructor.

Lectures, seminar, 3 hours per week.

PHIL 2F96

Philosophy of man

Major philosophical orientations of the concept of man--the term 'man' being understood in the generic sense of human being (and not in the restricted sense of human male)--across the Western and some Eastern traditions. Examination of basic issues involved in reaching a philosophical understanding of human nature and its place in the scheme of things. Focus on the notion of the person, and on contemporary philosophical anthropology.

Prerequisite: university credit in PHIL or a discipline appropriately related to the course content, or permission of the instructor.

Not open to students with credit in PHIL 315.

Seminars, 3 hours per week.

PHIL 2M90-2M92

Selected topics in philosophy

Topics, chosen to reflect areas of occasional interest, which are not represented in the regular program of studies. Proposals from students are welcome.

Lectures, seminar, 3 hours per week.

Spring 1991 (2M92): Aesthetics

PHIL 2P12

Indian philosophy: an introduction to Hindu thought

Hindu thought beginning with the Vedic myths, through the Upanishads and the Bhagavad Gita to the systems of the Vedanta. Topics include: Karma, reincarnation, altered states of consciousness, Maya, the problem of knowledge, the role and nature of God, the theory and practice of yoga.

Not open to students with credit in PHIL 192.

Lectures, seminar, 3 hours per week.

PHIL 2P13

Indian philosophy: an introduction to Buddhist thought

Buddhist thought from Prince Siddhartha's enlightenment and

subsequent Deer Park Sermon (the basis of Hinayana) through the Perfection of Wisdom to Madhyamika Buddhism (the Mahayana representative) to Zen (the silence of the Buddha). Topics include: Nirvana, non-self, one hand clapping.

Not open to students with credit in PHIL 192.

Lectures, seminar, 3 hours per week.

PHIL 2P14

The beginnings of Existential thinking

The sources of both theistic and atheistic lived philosophy in such figures as: Kierkegaard, Nietzsche and Dostoyevski.

Not open to students with credit in Phil 206.

Seminars, 3 hours per week.

PHIL 2P15

The growth of Existential thinking

A study of the work of such philosophers as: Scheler, Heidegger, Marcel and Sartre.

Not open to students with credit in PHIL 206.

Prerequisite: PHIL 2P14 or permission of the instructor.

Seminars, 3 hours per week.

PHIL 2P16

Early Chinese philosophy

The development of Chinese philosophy from its humanistic beginnings through the teachings of Confucius, Mencius, Lao-Tzu, Chuang-Tzu and later neo-Confucians and Taoists.

Not open to students with credit in PHIL 208.

Lectures, 3 hours per week.

PHIL 2P17

Introduction to Chinese Buddhism

The development of Buddhism in China from the seven early schools through the philosophy of Hwa Yen, and the later Ch'an or Zen schools.

Not open to students with credit in PHIL 208.

Lectures, 3 hours per week.

PHIL 2P18

Introduction to Post-Modernism

Some major figures in recent French philosophy, their historical antecedents,

Philosophy

and their contemporary relevance to philosophy and literary theory. Thinkers to be dealt with include: Bataille, Deleuze, Foucault and Derrida. Seminars, 3 hours per week.

PHIL 2P25

Introduction to logic

Modern deductive logic. The course objective will be to develop the ability to analyze arguments in order to determine their worth. Arguments will be symbolized in order to clarify their form and to determine their validity or invalidity.

Lectures, 3 hours per week.

PHIL 2P26

Introduction to the philosophy of science

An historical introduction to the fundamental concepts of science; an examination of the nature of hypotheses, laws and theories, and contemporary philosophical approaches to the nature of scientific methodology.

Lectures, 3 hours per week.

PHIL 2P31

The philosophy of education: the history of Western educational philosophy

Educational ideals from Plato to the present day. Students will come to appreciate the highly divergent objectives ascribed to education over the centuries.

Not open to students with credit in PHIL 211.

Lectures, 3 hours per week.

PHIL 2P32

The philosophy of education: critiques of present educational philosophy

The assessment of prevailing educational theories and practices by critics such as Freire, Illich and Buber, with a view to enabling students to enrich their own educational experience.

Not open to students with credit in PHIL 211.

Lectures, 3 hours per week.

PHIL 2P82

Business ethics

(also offered as MGMT 2P82)

This course seeks an understanding of

business practices, institutions, and actions in order to evaluate their contribution to the general human good. Topics to be considered may include false or misleading advertising, product safety, monopolistic price schemes, effects of pollution, discriminatory hiring policies, the role of shareholders, management, government, and the public in determining corporate policy, and economic justice. Lectures, seminar, 3 hours per week.

PHIL 2P90

Phenomenological psychology

The bearing of phenomenological-existential philosophy (Husserl, Heidegger, Sartre, Merleau-Ponty) on the basic issues and concepts in psychology. The course deals with the phenomenological orientation within modern philosophical psychology including William James, Sartre, and current cognitive psychology; extensions of current cognitive psychology; extensions of the Phenomenological-Existential methods to psychiatry (Binswanger); Eastern meditational traditions (Yoga, Mahayana Buddhism, etc.) relevant to Phenomenological psychology.

Prerequisite: university credit in PHIL or a discipline appropriately related to the course content, or permission of the instructor.

Seminars, 3 hours per week.

PHIL 2P91

Philosophy of art

An historical approach to the philosophy of art centred on the concepts of matter and form. Philosophers dealt with range from Plato to Heidegger.

Seminars, 3 hours per week.

PHIL 2P94

Theory of knowledge

Some fundamental distinctions in the theory of knowledge, e.g. knowledge and belief; the empirical and the *a priori*; analytic/synthetic; scientific versus metaphysical knowledge.

Prerequisite: university credit in PHIL or a discipline appropriately related to the course content, or permission of the instructor.

Not open to students with credit in PHIL 309hc.

Seminars, 3 hours per week.

PHIL 2P95

Metaphysics

The major problems of metaphysics, considering the question of what there is and covering topics such as the nature of space and time, the mind-body relation, substance and property, universals and particulars, causation, identity and personal identity.

Prerequisite: university credit in PHIL or a discipline appropriately related to the course content, or permission of the instructor.

Not open to students with credit in PHIL 310hc.

Lectures, seminar, 3 hours per week.

PHIL 2P96

The philosophy of science

An historical introduction to the metaphysical foundations of modern physical science. The concepts of space, time and matter as they evolved from the theories of the Pre-Socratics to those of Bohr, Heisenberg and contemporary exponents of quantum mechanics.

Prerequisite: university credit in PHIL or a discipline appropriately related to the course content, or permission of the instructor.

Not open to students with credit in PHIL 325hc.

Seminars, 3 hours per week.

PHIL 2P97

The philosophy of religion

Traditional issues such as the proofs for the existence of God, the problem of evil, the relationship of faith to reason, and the nature of religious knowledge will be discussed.

Prerequisite: university credit in PHIL or a discipline appropriately related to the course content, or permission of the instructor.

Not open to students with credit in PHIL 306 or 333hc.

Seminars, 3 hours per week.

PHIL 2P98

Philosophy in literature

Plays and novels often represent a concrete resolution of some philosophical dilemma, such as the nature of human freedom versus externally

determining forces; the conflict of values, the encounter of opposing world-views. The concrete setting and resolution is frequently more illuminating and persuasive than more abstract approaches in traditional philosophical language.

Prerequisite: university credit in PHIL or a discipline appropriately related to the course content, or permission of the instructor.

Not open to students with credit in PHIL 317 or 344hc.

Lectures, seminar, 3 hours per week.

PHIL 2P99

Philosophy of sex

The application of Ethics to questions of human sexuality. Topics for analysis will be selected from the following: sexual values, legal enforcement of morality, the semantics of sex, censorship, pornography, sex in advertising, abortion, prostitution, sexual perversion and AIDS.

Prerequisite: university credit in PHIL or EXST 2F50 or permission of the instructor.

Seminars, 3 hours per week.

PHIL 2V85-2V89

Contemporary social issues

A critical and intensive examination of several problems arising in the areas of social ethics and public policy. Topics may include the morality of deceit, overpopulation, obligations to future generations and the environment, nuclear deterrence, animal liberation, moral enforcement and world hunger. Whenever possible, topics will be selected in accordance with student interests.

PHIL 2V92-2V95

Selected topics in Analytic philosophy

This course helps the student to identify and apply to current controversial issues, basic distinctions and forms of argument typical of contemporary analytic philosophy. Topics to be considered may include personal identity, the differences between men and animals, mental imagery, the mind-

brain connection, universals and particulars, and the meaning of life. Prerequisite: university credit in PHIL or permission of the instructor.

Lectures, seminar, 3 hours per week.

1991-92: (2V94) Yoga

PHIL 3M90-3M91

Critical study of a Classical philosophy

A year-long study of Plato's thought one year, of Aristotle's the next year, investigating the unity of multiplicity in the thinking of each of the two great Greek philosophers. The emphasis is on joint seminar investigation and independent research. The approach is historical, trying to understand Plato or Aristotle in their historical context from the inside rather than by imposing modern categories. May be taken a second time with the alternative subject.

1991-92: (3M90) Aristotle

Prerequisite: PHIL 2F01 or permission of the instructor.

Lectures, seminar, 3 hours per week.

PHIL 3P19

The rise of Christian philosophy

Philosophy from the patristic period through Erigena and Anselm up to and including the 12th century Renaissance.

Prerequisite: PHIL 2F01 or permission of the instructor.

Not open to students with credit in PHIL 297.

Lectures, 3 hours per week.

PHIL 3P20

Scholastic philosophy

The great Islamic, Jewish and Christian philosophers of the 13th century.

Prerequisite: PHIL 2F01 or permission of the instructor.

Not open to students with credit in PHIL 297.

Lectures, 3 hours per week.

PHIL 3P56

Kant and the 18th century

An historical study of the thought of

Immanuel Kant in the context of the 18th century enlightenment, focusing primarily on Kant's *Critique of Pure Reason*.

Prerequisite: PHIL 2F02 or permission of the instructor.

Not open to students with credit in PHIL 293.

Lectures, seminar, 3 hours per week.

PHIL 3P58

Hegel and the 19th century

The 19th century developed not only the great comprehensive metaphysical systems of German idealism, but also various reactions to them. In addition to Hegel, thinkers studied may include: Fichte, Schelling, Schleiermacher, Schopenhauer, Feuerbach, Marx, Comte, Mill, Kierkegaard, Nietzsche.

Prerequisite: PHIL 2F02, 3P56 or permission of the instructor.

Not open to students with credit in PHIL 258hc or 293.

Lectures, seminar, 3 hours per week.

PHIL 3Q90

The nature of consciousness

(also offered as PSYC 3Q90)

A review of competing understandings of human consciousness ranging from phenomenology to neural and computational models. Special attention will be given to research and theory on imagery and metaphor. A central historical component will trace the development of approaches to consciousness as a dynamic synthesis of the senses (*sensus communis*, sixth sense) from Aristotle, through the romantic tradition of philosophy and aesthetics, the "unconscious" of Freud, Jung, Hillman, and Gendlin, and into current research on synesthesias and related states of consciousness.

Prerequisite: PSYC 1F90.

Lecture, seminar, 3 hours per week.

PHIL 3P92

Hermeneutics

The philosophical theory of interpretation and understanding, with special reference to the methods employed in the humanities (history, literary criticism, etc.). The problems of

Philosophy

hermeneutics will be studied in the works of such thinkers as Gadamer, Ricoeur, Heidegger and Habermas. Prerequisite: permission of the instructor.

Seminars, 3 hours per week.

PHIL 3V95-3V99

Issues in 17th and 18th century philosophy

A special issue or a particular thinker of central importance in the classical period of modern philosophy. Where the course does not focus upon one individual (e.g. Descartes, Spinoza, Leibniz, Locke, Berkeley, Hume, Kant), it will trace the development of an issue (e.g. causality, mind-body union, the doctrine of substance, personal identity, etc.) through its classical origins.

Prerequisite: PHIL 2F02 or permission of the instructor.

Seminars, 3 hours per week.

Not offered in 1990-91.

Note 2.

Although all year 4 level courses are intended for fourth-year philosophy honors majors, students at the third-year level may take the equivalent of one fourth year credit if they have obtained second class honors standing, or with the permission of the department.

PHIL 4F70

Introduction to cognitive science

(Also offered as COSC 4F70 and PSYC 4F70)

An overview of the modern study of the mind from a philosophical, psychological, and computational perspective. Computer models of human information processing are examined in three ways: as a source of philosophical puzzles about minds, as psychological theories of human functioning, and as a branch of computer science related to artificial intelligence. The interdisciplinary nature of cognitive science is stressed.

Note: a knowledge of computer programming is not necessary for registration in the course.

Prerequisite: permission of the instructor.

Not open to students with credit in COSC 3V90 or 4V90 (1987/88).

Lectures, 3 hours per week; lab, 1 hour per week.

PHIL 4F99

Honors tutorial

Directed intensive and individual study in an area in which a student has developed and displayed a particular interest; to be chosen in consultation with a faculty member able and willing to supervise that study. Proposals for a tutorial course must be approved by the chair of the department by the last day for late registration.

Prerequisite: see Note 2.

PHIL 4P07

Husserl and transcendental Phenomenology

Basic issues and the characteristic method of phenomenology will be studied, using some of the major works of Husserl.

Not open to students with credit in PHIL 506hc.

Prerequisite: see Note 2.

Seminars, 3 hours per week.

PHIL 4P08

Advanced studies in 19th century Existential philosophy

An advanced seminar course in the continental European philosophy of the 19th century, e.g. Kierkegaard, Nietzsche.

Prerequisite: see Note 2.

Not open to students with credit in PHIL 400.

Seminars, 3 hours per week.

PHIL 4P97

Honors tutorial

Directed intensive and individual study in an area in which a student has developed and displayed a particular interest; to be chosen in consultation with a faculty member able and willing to supervise that study. Proposals for a tutorial course must be approved by the chair of the department by the last day for late registration.

Prerequisite: see Note 2.

PHIL 4P98

Honors tutorial

Directed intensive and individual study in an area in which a student has developed and displayed a particular interest; to be chosen in consultation with a faculty member able and willing to supervise that study. Proposals for a tutorial course must be approved by the chair of the department by the last day for late registration.

Prerequisite: see Note 2.

PHIL 4V00-4V04

Advanced studies in political philosophy

A critical examination of either a particular thinker or problem in political philosophy. Political philosophers may include: Plato, Aristotle, Hobbes, Locke, Rousseau, Kant, J. S. Mill, Rawls and Nozick. Problems may include: liberty and political obligation, justice and equality, human nature and the political order, civil disobedience, participation and consent, liberalism, anarchism, socialism and conservatism. Seminars, 3 hours per week.

PHIL 4V06-4V14

Studies in contemporary European philosophy

A study of the work of one or more thinkers prominent in recent Continental thought.

Seminars, 3 hours per week.

1991-92: (4V06) Merleau-Ponty

(4V08) Nietzsche

(4V09) Heidegger on Nietzsche

(4V10) Sartre

(4V14) Derrida

PHIL 4V15-4V29

An advanced course devoted to one or more of the major thinkers of the tradition from Descartes to the present day.

Prerequisite: see Note 2.

Seminars, 3 hours per week.

1991-92: (4V15) Heidegger

(4V16) Hegel

(4V18) Freud

PHIL 4V30-4V39

**Advanced studies in Eastern
philosophy**

Concentrated critical and interpretative study of selected texts in the areas of: Advaita, Vedanta, Yoga, etc.; or Madhyamika and Yogacara schools of Buddhism.

1991-92: (4V31) Buddhism

1991-92: (4V35) Eastern philosophy

Prerequisite: see Note 2.

Seminars, 3 hours per week.

SANS 1F00

Sanskrit

An introduction to classical Sanskrit, to its grammar and style, and to basic techniques of translating, with special emphasis on religious and philosophical literature.

Lectures, 3 hours per week.

Physical Education

Officers of instruction

Chair

V. Jean Wilson

Professors

Jane R. Evans
Arnold G. Lowenberger
V. Jean Wilson

Associate professors

Lorne J. Adams
Paulette Coté-Laurence
Robert M. Davis

Assistant professors

William Montelpare
Nancy Murray

Lecturers

Anna Course
Timothy Sawicki

General information

Physical Education and Recreation centre 213

Physical Education students may choose either a three-year pass program or a four-year honors program, both leading to the degree of Bachelor of Physical Education (BPhEd). The program is unique in that it emphasizes a movement approach to physical education based on the principles of Rudolf Laban. Students may select additional elective courses in the areas of adapted movement studies, coaching, child movement studies, health, recreation and the psychology or sociology of sport.

As a condition of graduation with a Bachelor of Physical Education degree, students must complete a personal water safety requirement as set out by the Faculty of Physical Education and Recreation.

Pass program

Year 1

PHED 1P91, 1P92, 1P93, 1P94; one science and one humanities context credit; one elective credit. (See Notes 1. and 2.).

In order to qualify as Physical Education majors, students must select and successfully complete the activity labs PHED 0N01--Swimming; PHED 0N02--Folk dance; PHED 0N03--Educational gymnastics; PHED 0N04--Team games; PHED 0N05--Individual activities.

Note 1.

Enrolment in year 1 and 2 will be limited. In order to proceed to year 2, students must complete an Application to Major. Admission to year 2 will be based upon grades obtained in year 1. In order to be eligible to major in Physical Education, students must achieve a minimum grade of 65 in each of PHED 1P91, 1P92, 1P93 and 1P94. Should more than 100 students qualify, in the first instance, students will be admitted on the basis of the average of their marks in PHED 1P91, 1P92, 1P93 and 1P94. In the event of a tie, admission will then be based upon the average of the three remaining credits.

Note 2.

Students who achieve a grade of 75 in each of PHED 1P91, 1P92 and 1P93, 1P94 on their first attempt, and who have completed an Application to Major will be guaranteed a position in year 2.

Year 2

PHED 2P00, 2P02, 2P03, 2P04, 2P05, 2P07; one social science context credit; one elective credit (see Note 1. above).

Year 3

PHED 3P00, 3P03, 3P04, 3P07, 3P17, 3P41; two elective credits.

Note:

Students intending to pursue teacher certification upon completion of their

degree should consult the calendar entry for the Faculty of Education for the program admission requirements.

Honors program

Years 1, 2 and 3

As in pass program.

Year 4

At least one of PHED 4F90 or 4F91 or 4F93; 2 credits in PHED numbered 3(alpha)90 or higher; two elective credits.

Non-physical education majors

Students in other disciplines who wish to enrol in credit courses in Physical Education may select from the following approved courses only: PHED 1P91, 1P92, 1P93, 1P94, 2P00, 2P01, 2P02, 2P03, 2P04, 2P05, 2P07, 2P19, 2P41, 2P44, 2P70, 2P94, 2P96, 2P97, 3P00, 3P03, 3P04, 3P07, 3P17, 3P41, 3P90, 3P92, 3P95.

Students must note that there is a limit of five credits in Physical Education, Recreation and Leisure Studies, Business and Education which can be included for credit in a pass BA or BSc program.

Other programs

In addition to the academic program, the Faculty of Physical Education and Recreation provides four distinct non-academic programs: intramural, recreational, sport skills and intercollegiate athletics. For details, see Facilities and Services.

Description of courses

Please note that not all courses are offered in every session. Refer to the

applicable term timetable for details.

Note: Physical Education majors must select and successfully complete the activity labs outlined below. Students will register for labs at registration.

Physical Education activity labs

PHED ON01

Swimming

A six-week activity lab concentrating on personal water safety including stroke instruction, water safety, beginning lifesaving and boating skills. 2 hours per week.

PHED ON02

Folk dance

A six-week activity lab that introduces students to a variety of folk dance with some application to the principles of movement of Rudolf Laban. 2 hours per week.

PHED ON03

Educational gymnastics

A six-week activity lab introducing students to functional movement based on the principles of Rudolf Laban. 2 hours per week.

PHED ON04

Team games

A six-week activity lab that will provide students with fundamental skills associated with selected team games. 2 hours per week.

PHED ON05

Individual activities

A six-week activity lab that will provide students with fundamental skills associated with individual and lifetime activities. 2 hours per week.

PHED 1P91

Physical activity and society

The development and current role of physical activity in society with reference to historical influences. Contemporary problems facing sport and physical activity will be discussed.

Not open to students with credit in PHED 190.

Lectures, seminar, labs, 3 hours per week.

PHED 1P92

Introduction to exercise

An introductory course providing an understanding of how the body responds to and recovers from physical activity; the adaptations of the body to a variety of training programs.

Not open to students with credit in PHED 190.

Lectures, labs, 3 hours per week.

PHED 1P93

Introduction to movement education

An historical and philosophical perspective with particular attention directed to the influence of Rudolf Laban, and the application of movement concepts and theories to the field of physical education. Historical developments in Canada, the United Kingdom, and the United States are examined.

Lectures, lab, 3 hours per week.

PHED 1P94

Introduction to motor development

The patterns of changes in motor abilities and skills involved in motor development throughout the lifespan. Physical growth, maturation and age related changes in motor behavior will be surveyed as well as factors affecting them.

Lectures, 3 hours per week.

PHED 2P00

Movement orientation through developmental games

The educational and developmental value of games. The fundamental principles of movement as developed by Rudolf Laban will be applied through games and fundamental skills for children.

Prerequisite: PHED 1P91, 1P92, 1P93, 1P94, including PHED labs ON04 and ON05 or permission of the instructor.

Enrolment limited to 100 students (see Note 1.).

Lectures, lab, 3 hours per week.

PHED 2P01

Organization and administration of physical education and sport.

Administration theory and practice in physical education and sport settings. Attention is focussed on various aspects of administrative behavior as it occurs in the provision of public and private physical education and sport services. Organizational characteristics of physical education and sport services at a federal, provincial and local level will also be reviewed.

Prerequisite: PHED 1P91, 1P92, 1P93, 1P94 or permission of the instructor. Lectures, lab, 3 hours per week.

PHED 2P02

Psycho-social growth and development

Sociological and psychological implications of sport and physical education will be discussed as they relate to motor performance. This includes such aspects as personality, motivation, achievement needs, feedback, group conflict, group cohesion, and leadership roles of the individual. Enrolment limited to 100 students (see Note 1.).

Prerequisite: PHED 1P91, 1P92, 1P93, 1P94 or permission of the instructor. Lectures, seminar, 3 hours per week.

PHED 2P03

Movement orientation through educational gymnastics

The theory of movement education will be examined as: a content matter; a means of analysing movement; a means for the individual to develop progression within his or her own motor performance. Practical application of the theory will be pursued through lab situations which deal with educational gymnastics.

Prerequisite: PHED 1P91, 1P92, 1P93, 1P94 including PHED ON03, or permission of the instructor. Enrolment limited to 100 students (see Note 1.).

Lectures, lab, 3 hours per week.

PHED 2P04

Musculo skeletal anatomy

The anatomical bases of movement--

Physical Education

skeletal, nervous, and muscular-- will be dealt with to develop an understanding of human movement. The anatomy of the skeletal structure, joint actions, and the interrelationship of aggregate muscle groups will be examined.

Articular and muscular injuries will be dealt with where they apply. In addition, biomechanics and the growth and development of anatomical systems from birth to late teens will be studied.

Prerequisite: PHED 1P91, 1P92, 1P93, 1P94 or permission of the instructor. Enrolment limited to 100 students (see Note 1.).

Lectures, lab, 3 hours per week.

PHED 2P05

Motor learning and motor behavior

A theoretical examination of the acquisition of motor skills, including: the neurophysiological structures involved in learning, learning theories and their application, information processing, and factors involved in the acquisition of motor skills.

Prerequisite: PHED 1P91, 1P92, 1P93, 1P94 or permission of the instructor. Enrolment limited to 100 students (see note 1.).

Lectures, lab, 3 hours per week.

PHED 2P07

Movement orientation through creative dance

Application of Laban's principles of movement as they give variety and clarity of expression to creative dance. Emphasis will be placed upon the development of movement sequences utilizing various stimuli and the basic components of dance composition.

Prerequisite: PHED 1P91, 1P92, 1P93, 1P94, including PHED 0N02, or permission of the instructor. Enrolment limited to 100 students (see Note 1.).

Lectures, lab, 3 hours per week.

PHED 2P19

The philosophy and principles of coaching

The principles of coaching as they relate to the physiological and psychological development of the athlete. The role of the coach and the organization of sport in contemporary society.

Prerequisite: PHED 2P02, 2P05 or permission of the instructor.

Not open to students with credit in PHED 3P91.

Lectures, seminar, 3 hours per week.

PHED 2P41

Science and health behavior

(formerly PHED 3P42)

Problems associated with individuals and their ability to function effectively and efficiently in present-day society. The student will examine the decision-making process as it relates to the delivery of health education information.

Prerequisite: PHED 1P91, 1P92, 1P93, 1P94 or permission of the instructor.

Not open to students with credit in PHED 340 or 3P42.

Lectures, lab, 3 hours per week.

PHED 2P44

Activity programming for the senior adult

The habilitation and rehabilitation of the senior adult in terms of physical activity; activity programming using a growth model. Specific topics in terms of motivation, needs, abilities and disabilities of senior adults will be addressed as well as therapeutic movement in relation to exercise, dance, adaptations of individualized competitive and co-operative games or sport activity. Students will be involved in a practicum situation dealing with senior adults in community or institutionalized settings.

Prerequisite: PHED 1P91, 1P92, 1P93, 1P94 or permission of the instructor.

Not open to students with credit in PHED 3P44.

Lectures, lab, 3 hours per week.

PHED 2P70

Care and prevention of injuries in athletes

The basic treatment, recognition and prevention of injuries in athletes; the interrelationship of anatomy, physiology and kinesiology and the practical application of knowledge of these fields including emergency care and preventative taping.

Prerequisite: PHED 1P91, 1P92, 1P93, 1P94, 2P04 or permission of the instructor.

Not open to students with credit in 2P91.

Lectures, lab, 3 hours per week.

PHED 2P94

Movement for the young child

(also offered as CHST 2P94)

Movement education experiences applicable to the child aged 3 to 5. Practical experience in various play situations through creative games, dance and activities with apparatus will comprise a major part of the course; it will also integrate various art forms with movement activities. Bases of movement for pre-school children, motor development, and suitable environments for learning will be discussed.

Enrolment limited to 40 students per section.

Prerequisite: PHED 1P91, 1P92, 1P93, 1P94; PSYC 1F90 or permission of the instructor.

Lectures, lab, 3 hours per week.

PHED 2P96

Measurement and evaluation

The measurement and evaluation process as it relates to human movement including basic descriptive statistics, an introduction to statistical inference, the principles of test construction, the criteria for evaluating tests, test administration and the interpretation of results.

Prerequisite: PHED 1P91, 1P92, 1P93, 1P94 or permission of the instructor.

Not open to students with credit in PHED 3P96.

Lectures, lab, 3 hours per week.

PHED 2P97

Physiology of exercise I

An examination of cardiovascular, muscular physiology, and bioenergetics (anaerobic metabolism) through factors such as age, sex and lifestyle.

Prerequisite: PHED 1P91, 1P92, 1P93, 1P94 or permission of the instructor.

Lectures, lab, 3 hours per week.

PHED 3P00

Movement orientation through advanced games

A continuation of the study of games. Emphasis will be upon analysis, motor skill development, and strategies in

advanced games. Application will be made of Laban's principles of movement as they apply to advanced games. Prerequisite: PHED 2P00, 2P03, 2P07, or permission of the instructor. Lectures, lab, 3 hours per week.

PHED 3P03

Movement orientation through advanced educational gymnastics
Designed to facilitate skill development and understanding in the area of educational gymnastics through advanced practical experience and theoretical application of Laban's movement principles. Prerequisite: PHED 2P00, 2P03, 2P07 or permission of the instructor. Not open to students with credit in PHED 3P93(393hc). Lectures, lab, 3 hours per week.

PHED 3P04

Physical education for the exceptional individual
Emphasis is placed on understanding major handicapping conditions. Programming procedures and practical work with exceptional individuals will be included. Prerequisite: PHED 2P00, 2P02, 2P03, 2P04, 2P05, 2P07 or permission of the instructor. Lectures, lab, fieldwork, 3 hours per week.

PHED 3P07

Movement orientation through folk dance
The analysis and structure of the principles of movement as they apply to folk dance as outlined by Rudolf Laban. Students will be given the opportunity to restructure existing traditional folk and square dance forms to bring them in line with current movement philosophy. Prerequisite: PHED 2P00 or 2P03 or 2P07 or permission of the instructor. Lectures, lab, 3 hours per week.

PHED 3P17

Movement orientation through advanced creative dance
Advanced sequential skill and knowledge development in the area of

creative dance. Advanced movement themes will be explored in the study of dance as an art form. Prerequisite: PHED 2P00, 2P03, 2P07 or permission of the instructor. Lectures, lab, 3 hours per week.

PHED 3P22

Movement orientation to physical education
The development and implementation of movement programs for children. Application of Laban's movement principles will be emphasized in order to give the student an understanding of these principles in a teaching setting. Prerequisite: PHED 2P00, 2P03, 2P07 or permission of the instructor. Not open to students with credit in PHED 302. Lectures, lab, fieldwork, 3 hours per week.

PHED 3P41

Health behavior
Selected contemporary problems in health education with a focus on problems that concern individuals in our society. Topics discussed will range from environmental health and drug education to selected aspects of human sexuality. Prerequisite: PHED 1P91, 1P92 or permission of the instructor. Not open to students with credit in PHED 340. Lectures, lab, 3 hours per week.

PHED 3P80

Clinical and field practices in athletic therapy
Clinical and field skills used in athletic therapy. Emphasis is placed on musculo-skeletal assessment, management of spinal injury, therapeutic modalities, advanced taping and wrapping procedures. A clinical internship in the athletic injury clinic is required. Prerequisite: PHED 2P04 and 2P70 or 2P91 with a minimum grade of B, and permission of the instructor. Lectures, 2 hours per week, internship, 3 hours per week.

PHED 3P81

Clinical assessments in athletic therapy
Functional and surface anatomy of the major joints; the clinical skills used in the assessment of sports injuries related to the lower appendage and lower back. Qualitative posture and gait assessment. Clinical internship required. Prerequisite: PHED 3P80 and permission of the instructor. Lectures, 2 hours per week, internship, 3 hours per week.

PHED 3P90

Physiology of exercise II
An examination of respiration bioenergetics (aerobic metabolism) and exercise prescription. Application of laboratory and field tests. Prerequisite: PHED 2P97 or permission of the instructor. Restricted to year 3 and year 4 students. Not open to students with credit in PHED 290hc. Lectures, lab, 3 hours per week.

PHED 3P92

Assessment and activity for special populations
An elective course designed for those students wishing to gain additional expertise in working with special populations. Particular attention will be given to assessment techniques and programming for mentally and physically handicapped persons. Practical work with special populations will be included. Prerequisite: PHED 3P04 or permission of the instructor. Lectures, lab, 3 hours per week.

PHED 3P93

Philosophy of physical education, sport and dance
An introduction to the philosophy of physical education, sport and dance perceived in terms of human movement. The nature of such philosophic discipline and the significance of its professional application to physical education, sport and dance are examined.

Physical Education

Prerequisite: restricted to year 3 and 4 Physical Education students.
Lectures, seminar, 3 hours per week.

PHED 3P94

Psychomotor learning and motor control

(formerly PHED 3P05)

The human performance model is examined focussing on information processing as it relates to attention and human performance. The perceptual mechanism, decision-making mechanism, the effector mechanism and associated factors are studied as they apply to skill acquisition. Contemporary theories of motor control are discussed in relation to a variety of physical education settings.

Prerequisite: PHED 2P05.

Not open to students with credit in PHED 3P05.

Lectures, lab/seminar, 3 hours per week.

PHED 3P95

Psycho-social aspects of sport

An integration of reading and research from selected areas of the sociology, psychology and physiology of sport. Analysis and discussion of research readings, theories, issues and trends as they relate to the performance of a superior athlete.

Prerequisite: PHED 2P02 or permission of the instructor. Enrolment limited to 25 students.

Lectures, lab, 3 hours per week.

PHED 3P97

Observation and analysis of movement

Studies and readings in selected areas of movement observation. Observational techniques, analysis of movement patterns, factors influencing movement behavior and the recording of movement patterns.

Prerequisite: PHED 3P00, 3P03, 3P17 and permission of the instructor. Enrolment limited to 7 - 10 students, chosen after an interview with the instructor.

Lectures, lab, 3 hours per week.

PHED 3P98

Special studies in physical education I

Lectures, seminars, and practical experiences offered in specialized areas of physical education.

Prerequisite: year 3 standing in Physical Education or permission of the chair.

PHED 3P99

Special studies in physical education II

Directed study in specialized areas of physical education. Approval of a faculty member and the chair.

PHED 3V27

Special studies in folk dance

The historical, geographical and cultural influences upon folk dance in selected countries. Practice in learning the dances of the countries will be offered, as well as introductions to the folklore and activities of various ethnic groups.

Prerequisite: PHED 0N02, 3P07.

Lecture, 1 hour per week; lab, 2 hours per week.

(Two 3-hour meetings per week for 5 weeks).

PHED 4F90

Research methods in physical education

Methods of research appropriate for use in physical education. Formulation of the problem, experimental design, and statistical evaluation. Hypothesis testing, statistical tests, and the application of computing hardware and software in research. Critical analysis of research in a variety of areas of physical education will be emphasized.

Restricted to honors candidates.

Tutorials, seminar, 4 hours per week.

PHED 4F91

Honors tutorial

Directed study in one of the following areas: movement education, health, motor learning, physiology, philosophy, history, dance, exceptional individuals, psychology and sociology

of sport. Areas of interest are to be chosen in consultation with faculty willing to supervise that study. Written proposals must be approved prior to registration.

Restricted to honors candidates.

Tutorials, seminar, 4 hours per week.

PHED 4F93

Advanced movement seminar

Designed to aid students in increasing their personal expertise and knowledge in movement education. Emphasis will be on improvement, refinement, and perfection of personal, observational and analytical skills in a wide variety of movement and experiences.

Restricted to honors candidates.

Not open to students with credit in PHED 403.

Tutorials, seminar, 4 hours per week.

PHED 4P95

Women and sport

(Also offered as WISE 4P95)

Historical and current issues relating to women's participation in sport. The influence on performance of physiological, psychological and sociological factors.

Prerequisite: PHED 3P95, or SOCI 2P51, or SOCI 3V81.

Lectures, seminar, 3 hours per week.

Physics

Officers of instruction

Chair

John A. Moore

Professors

John E. Black

Frans P. Koffyberg

John A. Moore

Colin A. Plint

Ramesh C. Shukla

Associate professors

Bozidar Mitrovic

Fereidoon S. Razavi

Assistant professor

Shyamal K. Bose

Research and teaching associate

Henryk Zaleski

Senior laboratory instructor

Frank A. Benko

General information

Mackenzie Chown, B210

The department offers a three-year pass and a four-year honors program leading to a BSc. Students may take a single major in Physics, or a combined major with Biological Sciences, Chemistry, Computer Science, Geological Sciences, or Mathematics. The core of the program is designed to provide a student with an understanding of the principles and fundamental interactions of classical and quantum physics.

Students are urged to give careful consideration to their choice of program, keeping in mind their areas of interest and capabilities as well as their long-term career goals.

Pass program

Year 1

PHYS 1F20 or 1F25 or 1F90 (preferred); MATH 1P93, 1P94 or MATH 1P93, 1P95; COSC 1P91 and MATH 1P12; CHEM 1P80, 1P81 or CHEM 1P90, 1P91 (preferred); one humanities or social science context credit.

Year 2

PHYS 2P20, 2P21, 2P30, 2P31, 2P41, 2P42; MATH 2F95; one humanities or social science context credit (whichever was not taken in year 1).

Year 3

PHYS 3F95, 3P20, 3P31, 3P50, 3P70, 3P91, 3P92; one elective credit.

Honors program

Years 1 and 2

As in pass program.

Year 3

As in pass program*.

*PHYS 4P41 or 4P70 may be taken in year 3 with permission of the instructor.

Year 4

PHYS 4F50, 4F90; two year 4 PHYS credits; one elective credit.

Concurrent BSc/BEd

The Faculty of Mathematics and Science and the Faculty of Education have developed a concurrent BSc/BEd program to meet the requirements of students interested in teaching science and mathematics at the junior/intermediate levels. (See index.)

Combined major programs

Typical programs are:

Physics and Biological Sciences**Pass program***Year 1*

PHYS 1F20 or 1F25 or 1F90 (preferred); BIOL 1F90; MATH 1P93, 1P94; one humanities and one social science context credit.

Year 2

PHYS 2P20, 2P21; BIOL 2F01 and one credit from BIOL 2P04, 2P05, 2P90, 2P91, 2P93, 2P98; CHEM 1P80, 1P81 or CHEM 1P90, 1P91 (preferred); MATH 2F95.

Year 3

One of PHYS 3P20, 3P50, 3P70; PHYS 2P30, 2P41, 2P42; one BIOL credit; one year 2 or 3 credit in BIOL or one year 3 PHYS credit; one elective credit.

To qualify for a pass degree, students must complete a minimum of three credits numbered 2(*alpha*)90 or above.

Honors program*Years 1, 2 and 3*

As in pass program.

Year 4

PHYS 4F90, 4F91 or BIOL 4F90, 4F91 or PHYS 4F90 and one elective credit, or BIOL 4F92 and one elective credit; one year 3 or 4 credit in PHYS; one year 3 or 4 credit in BIOL; one year 3 or 4 credit in PHYS or BIOL.

To qualify for a honors degree, students must complete a minimum of three credits numbered 3(*alpha*)90 or above.

Physics

Physics and Computer Science

Honors program

Year 1

PHYS 1F20 or 1F25 or 1F90 (preferred); COSC 1P01, 1P04; MATH 1P66, 1P67, 1P93, 1P94; one social science context credit.

Year 2

PHYS 2P20, 2P21; PHYS 2P30, 2P31 (or 2P41, 2P42); COSC 2F00; MATH 2F95; one humanities context credit (see Note 1.).

Year 3

PHYS 3P20; and one and one-half credits from PHYS 3F95, 3P50, 3P70; COSC 2P03; one-half credit from COSC 2Y04, 2Y05, 2Y06 or 2Y07; one COSC credit numbered 2(*alpha*)90 or above; MATH 1P12; one-half elective credit.

Year 4

Two credits from PHYS 4F50, 4F90, 4P41, 4P70; COSC 3F00, 3P02, 3P04; one COSC credit numbered 3(*alpha*)90 or above.

Notes:

1. ENGL 1F99 strongly recommended; it is a preferred prerequisite for COSC 3F00.

Physics and Mathematics

Pass program

Year 1

PHYS 1F20 or 1F25 or 1F90 (preferred); MATH 1P93, 1P94 or MATH 1P93, 1P95; MATH 1P12, 1P90; one humanities and one social science context credit.

Year 2

PHYS 2P20, 2P21, 2P30, 2P31, 2P41, 2P42; MATH 2F00 or 2F95; MATH 2F10.

Year 3

PHYS 3P20, 3P31, 3P50, 3P70; MATH 3F00; PHYS 3F95 or MATH 3F94; one elective credit.

Honors program

Years 1, 2 and 3

As in pass program.

Year 4

PHYS 4F50; two of PHYS 4P41, 4P70, 4P71; two of PHYS 4F90, 4F91, or any two year 4 MATH credits; one elective credit.

Physics and Chemistry

Physics and Geology

Please refer to the departmental listings in Chemistry and Geological Sciences for combined major programs with these subjects.

Master of Science (MSc) program

The department offers an MSc program in condensed matter physics. Experimental and theoretical studies are provided. The program must include PHYS 5F90 (MSc thesis) and two credits, of which at least one must be a graduate course.

Graduate courses

PHYS 5F90
MSc thesis

PHYS 5P50
Advanced quantum mechanics I

PHYS 5P51
Advanced quantum mechanics II

PHYS 5P70
Advanced solid state physics

PHYS 5P71
Defect solid state

PHYS 5P72
Manybody theory

PHYS 5P73
Light scattering in condensed matter

PHYS 5P74
Anharmonicity in crystals

For details, see the Graduate Calendar or contact the chair of the department.

Description of courses

Abbreviations:

ASTR Astronomy

CHEM Chemistry

MATH Mathematics

PHYS Physics

Please note that not all courses are offered in every session. Refer to the applicable term timetable for details.

ASTR 1F00

Introduction to astronomy

An introductory course in astronomy, designed for both non-science and science students. Topics include: a description of the appearance of the night sky, the properties of the sun and stars, and a discussion of the planets of the solar system, galaxies, history of astronomy, and the properties of some unusual astronomical objects such as pulsars and black holes.

Lectures, 3 hours per week.

Field trips and seminars: a trip to the McLaughlin Planetarium, a night of observing the stars, and some seminars.

PHYS 1F20

Introduction to classical physics

Fundamental classical physics phenomena and concepts; mechanics, optics, electromagnetism and thermal physics. This material should be of interest and use to students who plan to major in the physical or life sciences.

Lectures, 3 hours per week; problem sessions, 2 hours per week.

PHYS 1F25

Introduction to physics

Combines the lectures in PHYS 1F20 with the laboratory in PHYS 1F90.

The course is for science students, including those in pre-professional studies for the health sciences, who require an introductory physics course

with laboratory, but who do not have OAC physics.
Lectures, 3 hours per week; problem session, 2 hours per week; lab, 3 hours per week.
Not open to students with credit in PHYS 1F20.

PHYS 1F90

Principles of physics

A basic treatment of mechanics, electromagnetism, and optics, followed by an introduction to atomic and nuclear physics. This course is designed for students intending to major in physics (either as a single major or as part of a combined major), chemistry, mathematics, or computer science. Calculus is used in the later parts of the course. Credit in PHYS 1F90 is preferred for entry into all year 2 physics courses.
Prerequisite: OAC physics is strongly recommended.
Lectures, 3 hours per week; labs, 3 hours per week.

PHYS 2P20

Introductory mechanics

A treatment of the mechanics of particles and systems of particles by the Newtonian method; conservation of linear momentum, angular momentum and energy; elementary dynamics of rigid bodies; oscillators; motion under central forces; selected applications.
Prerequisite: PHYS 1F20 or 1F25 or PHYS 1F90 (preferred); MATH 1P93, 1P94 or 1P93, 1P95.
Lectures and problem sessions, 3 hours per week; lab, 3 hours per week.

PHYS 2P21

Physical optics and relativity

Wave theory; interference; scattering and diffraction; polarization; special relativity.
Prerequisite: PHYS 1F20 or 1F25 or PHYS 1F90 (preferred); MATH 1P93, 1P94 or 1P93, 1P95.
Lectures and problem sessions, 3 hours per week; lab, 3 hours per week.

PHYS 2P30

Electromagnetism

The theories of electricity and magnetism are developed up to the level of

Maxwell's equations.
Prerequisite: PHYS 1F20 or 1F25 or PHYS 1F90 (preferred); MATH 1P93, 1P94 or 1P93, 1P95.
Lectures, 3 hours per week; lab demonstration, tutorial, 2 hours per week.

PHYS 2P31

Electronics

Basic studies in conduction in metals and semiconductors; circuit analysis; semiconductor junction, diode and transistor; rectification, switching and amplification; digital and linear integrated circuits; electrical measurement instruments. No previous course in electricity/ magnetism/electronics is required. High school algebra and some basic calculus will be used in the quantitative sections.
Prerequisite: PHYS 1F20 or 1F25 or 1F90 and a MATH credit, or permission of the instructor.
Not open to students with credit in PHYS 232hc.
Lectures, 3 hours per week; lab, 3 hours per week. Laboratory will include student exercises and instructor demonstration.

PHYS 2P33

Electronic devices

Electrical concepts, wave mechanical concepts, conduction, semiconductors, energy bands, electronic devices, fabrication, I-V characteristics, rectifier, Zener, tunnel diodes, BJT, JFET, IGFET, LED, memory elements.
Prerequisite: PHYS 1F20 or 1F25 or 1F90 and a MATH credit, or permission of the instructor. No previous course in electricity/ magnetism/ electronics is required. High school algebra and some basic calculus will be used in the quantitative sections.
Lectures, 3 hours per week.

PHYS 2P41

Thermodynamics

Development of classical thermodynamics, fundamental equations, equations of state, thermodynamic potentials, Maxwell's relations, phase equilibria, stability.
Prerequisite: PHYS 1F20 or 1F25 or PHYS 1F90 (preferred); MATH 1P93,

1P94 or 1P93, 1P95.
Lectures, problem sessions, 3 hours per week.

PHYS 2P42

Statistical physics

Introduction to probability distribution functions, accessible states, entropy, temperature, partition functions.
Prerequisite: PHYS 2P41.
Lectures, problem sessions, 3 hours per week.

PHYS 3F95

Methods of mathematical physics

(also offered as MATH 3F95)
Calculus of variations, elements of group theory, eigenvalue problem, theory of small oscillations, special functions, complex variable theory, contour integration, summation of series, introduction to tensors.
Prerequisite: PHYS 2P20, 2P21, MATH 2F95.
Lectures, 4 hours per week.

PHYS 3P20

Classical mechanics

An advanced treatment of the mechanics of particles and rigid bodies; Lagrangian and Hamiltonian methods; small oscillations; Hamilton-Jacobi theory; relativity.
Prerequisite: PHYS 2P20, MATH 2F95.
Lectures, problem sessions, 4 hours per week.

PHYS 3P31

Electromagnetism I

Electric and magnetic fields in matter in the static case. Laplace's and Poisson's equations. Faraday's Law and Maxwell's displacement current. Maxwell's equations and electromagnetic waves in vacuum and in dielectric media.
Prerequisite: PHYS 2P30, MATH 2F00 or 2F95.
Lectures and problem sessions, 3 hours per week.

PHYS 3P50

Introduction to modern physics

Wave-particle aspects of electromagnetic radiation and particles. The structure of hydrogen and of atoms

Physics

containing many electrons; energy levels, orbital and spin angular momenta, magnetic momenta, optical and x-ray spectra, binding energies of nuclei, introduction to nuclear models, characteristics of nuclear decay and reactions.

Prerequisite: PHYS 2P20, 2P21.

Lectures, 3 hours per week.

PHYS 3P70

Introduction to wave mechanics

Wave particle dualism, Schrodinger equation, solution of simple one-dimensional barrier problems and the harmonic oscillator, hydrogen atom, angular momentum theory, introduction to perturbation theory and variational methods.

Prerequisite: PHYS 3P50, MATH 2F95.

Lectures and lab/problem sessions, 4 hours per week.

PHYS 3P91

Experimental physics I

Laboratory experiments to be selected from atomic physics, nuclear physics, solid state physics.

Prerequisite: PHYS 2P20, 2P21, 2P30, or permission of the instructor.

Not open to students with credit in PHYS 390.

Labs, 1 day per week.

PHYS 3P92

Experimental physics (Electronics) II

Operational amplifiers, converters, switches, microcomputers, and their application to physical measurements.

Prerequisite: PHYS 2P31 or permission of the instructor.

Not open to students with credit in PHYS 390.

Labs, 1 day per week.

PHYS 4F50

Quantum mechanics

Operator formalism, Hilbert space, Dirac's transformation theory, matrix mechanics, creation and annihilation operators, second quantization, variational method, perturbation theory, scattering theory.

Prerequisite: PHYS 3F95, 3P20, 3P70.

Lectures, 3 hours per week.

PHYS 4F90, 4F91

Research project

A small experimental, theoretical, or applied physics research project to be carried out under the supervision of a member of the department. Students must consult with the chair regarding their proposed program during the first week of lectures.

PHYS 4P32

Electromagnetism II

Electromagnetic wave propagation in vacuum, dielectrics, conductors, and ionized gases; reflection, refraction, polarization at the plane boundary between two media; wave guide and transmission line propagation; dipole and quadrupole radiation fields; antenna systems; electromagnetic radiation pressure; transformation of the electromagnetic fields.

Prerequisite: PHYS 3F95, 3P31.

Lectures, problem sessions, 3 hours per week.

PHYS 4P41

Statistical physics

Fundamental postulates, equilibrium statistical mechanics and its relation to thermodynamics. Maxwell-Boltzmann, Bose-Einstein and Fermi-Dirac statistics are derived and applied in appropriate physical situations of non-interacting and interacting particles; fluctuations; elementary treatment of transport theory.

Prerequisite: PHYS 2P41, 2P42, 3P70.

Lecture and problem sessions, 4 hours per week.

PHYS 4P61

Nuclear physics

Intrinsic properties of nuclei, nuclear binding energy; qualitative treatment of shell model; alpha, beta, and gamma radioactivities, nuclear fission, characteristics of nuclear reactions.

Prerequisite: PHYS 3P50, PHYS 3P70.

Lectures, problem sessions, 3 hours per week.

PHYS 4P70

Solid state physics 1a

Crystal structures and crystal binding. The vibration of atoms in solids and the

thermodynamics of solids. Introduction to transport properties of solids.

Prerequisite: PHYS 3P70.

Lectures, 3 hours per week.

PHYS 4P71

Solid state physics 1b

Energy bands in metals and semiconductors, lattice vibrations, transport properties of solids, magnetism, defects in solids.

Prerequisite: PHYS 4P70.

Lectures, 3 hours per week.

PHYS 4P80

Introduction to the theory of general relativity and cosmology

Review of special relativity; Lorentz transformations, Minkowski space, tensor algebra, principle of equivalence, general covariance, curved spacetime, Einstein equations, Schwarzschild metric, solution of Einstein field equations, cosmological models.

Prerequisite: PHYS 3F95, 3P20, 3P31.

Lectures and problem sessions, 4 hours per week.

Politics

Officers of instruction

Chair

David T. Siegel
William Mathie (as of July 1, 1991)

Professors

Carl Baar
William H.N. Hull
W.D. Kenneth Kernaghan
J. Patrick Sewell
Garth Stevenson

Associate professors

Nicolas Baxter-Moore
Leah Bradshaw
Terrance G. Carroll
Roderick Church
Gerald E. Dirks
Juris Dreifelds
Daniel Madar
William A. Matheson
William Mathie
David T. Siegel

Assistant professors

Charles Burton

Professor emeritus

Victor M. Fic

General information

Taro Building 468

Everyone engages in political activity, but not everyone takes the time to study politics. This is unfortunate because it is through politics that we shape the future of the world in which we live. Aristotle recognized the importance of politics and called it the master science. This was not an immodest claim, only an assertion of the pervasiveness and primacy of political affairs. Of course, the study of politics will not make us master scientists, but it will provide us with many engaging possibilities.

Politics is seldom dry or constraining. Political scientists are interested in things as diverse as conflict in city hall, the reform of abortion laws, the influence of special interest groups on Canada's environmental policy, the question of when citizens ought to disobey the law, the cultural revolution in China, the control of civil servants, the causes of revolution, and the prospects for international control of the sea. The focus is always on the ideas, institutions and processes by which people govern and misgovern themselves, but there are no narrow intellectual horizons.

The courses offered in year 2 and above fall into a number of fields, and the department advises Politics majors (pass and honors students) to select courses from at least three of these fields:

Political philosophy: course numbers ending with 00-09, plus POLI 2F90;
Canadian politics: course numbers ending with 10-19 (see also the public administration and public policy fields);

International relations: course numbers ending with 20-29;

Comparative politics: course numbers ending with 30-49;

Public administration: course numbers ending with 50-59;

Public policy: course numbers ending with 60-69;

Unclassified special topics: course numbers ending with 70-79, plus POLI 4F99;

Scope and methods: course numbers ending with 80-89.

Courses are also offered as part of interdisciplinary programs in Business, Asian Studies, Canadian Studies, Communications Studies, Labor Studies and Urban and Environmental Studies.

POLI 1F90 or the permission of the instructor is a prerequisite for all courses in the department. For requirements concerning political philosophy and empirical methods, consult the notes on pass and honors programs.

All students in Politics, especially those proceeding to graduate work or to a career in the public service, are encouraged to become proficient in a language other than English, normally French. Students who develop interests in a particular geographical area are urged to select related courses in history, language and literature. COSC 1P91 and MATH 1P98 provide a sound background in those skills often employed in modern social science research. Questions about the Politics program should be directed to the undergraduate officer.

Pass program

Students enrolled in the pass program are required to take seven POLI courses, normally POLI 1F90, three courses in year 2 and three in year 3. POLI 2P80 (or 2P81) is required. POLI 2P01 (or 2F90) is also required. Note that POLI 2F90 may be counted as a year 3 credit.

Year 1

POLI 1F90; one humanities and one science context credit; two other credits (one of which, with the consent of the instructor, may be a year 2 POLI course).

Year 2

Three credits in POLI numbered 2(alpha)00 - 2(alpha)99. Two elective credits.

Year 3

Three credits in POLI numbered 2(alpha)90 - 3(alpha)99. Two elective credits.

Honors program

Students in the honors program are required to take POLI 2P80 (or 2P81) and 3P91 (or 3P81). They are also required to take one credit chosen from either POLI 2F90 (recommended) or 2P01 and any one of POLI 3P04, 3P05,

Politics

4P01, 4P02, and 4P03.

Years 1, 2 and 3

As in pass program.

Year 4

Three credits in POLI numbered 4(alpha)00 - 4(alpha)99 or two year 4 and one year 3 POLI credits; two elective credits. Honors students may consider the preparation of an honors thesis on a subject of special interest (see POLI 4F99). It should be noted that 3 credits numbered 3(alpha)90 or above must be included in all honors degrees.

Combined major programs

For a pass degree the student should take a minimum of four credits in POLI over years 2 and 3; at least two of these should be numbered at level 2F90 or higher. For an honors degree, the student must take a minimum of six credits in POLI over years 2, 3 and 4; at least four credits should be numbered at the 2(alpha)90 level or higher and at least two credits at the 4(alpha)00 level.

Students in combined majors are required to take POLI 2P01 (or 2F90) and POLI 2P80 (or 2P81). With the permission of the undergraduate officer, a required methods course in another department may be considered an equivalent for POLI 2P80.

Students in combined honors programs are required to take one credit chosen from either POLI 2F90 (recommended) or 2P01 and any one of POLI 3P04, 3P05, 4P01, 4P02 and 4P03. They are also required to take POLI 2P80 (or 2P81) and 3P91 (or 3P81). With the permission of the undergraduate officer, methods courses which are required in other departments may be considered equivalents for POLI 2P80 and 3P91.

Politics and Business Administration

Together with the Faculty of Business,

the department of Politics offers a special program leading to an honors BA in Politics and Business Administration. The general requirements for this program are the same as for other combined honors programs involving politics, but course selection is concentrated in the areas of public administration and law. This program is designed for anyone with an interest in public administration, or administrative careers in governments, courts, and related organizations.

Year 1

POLI 1F90; MGMT 1P91, 1P92; ECON 1P91, 1P92; one science and one humanities context credit (FREN 1F90 recommended for those with necessary prerequisites).

Year 2

POLI 2F12; POLI 2P80 (or 2P81) or MGMT 1P94; one additional credit in POLI, usually 2F90 (2P01 and one of 3P04, 4P01, 4P02, 4P03 may be taken in place of 2F90); ACTG 2P11, 2P12; MGMT 2P40; MATH 1P98; one-half elective credit (ECON 2P21 recommended).

Year 3

POLI 3F51, one and one-half credits in POLI chosen from POLI 3P11, 3P15, 3P16, 3P18, 3P26, 3P27, 3P33, 3P52, 3P65 and 3P66; MGMT 3P41, 3P42; MKTG 3P22; one elective credit. (ECON 3P14, 3P15 recommended.)

Year 4

POLI 4P50, 3P91; one credit chosen from POLI 4P01, 4P11, 4P14, 4P15, 4P51, 4P53, 4P65, 4V10-4V19; FNCE 3P92, 3P93; MGMT 4P54; one of MGMT 4P40, 4P52, 4P61, 4P62, 4P63, 4P66, 4P67, 4P68, 4P69, 4P72; MGMT 3P30 and one-half elective credit.

Master of Arts (MA) program

The MA program is designed with an emphasis upon comparative political studies. Its focus is upon the relationship between internal politics and external policy with respect to one or more states, and upon the relationship between internal and external influ-

ences and the formulation of public policy. The main subject areas covered are those of comparative and international politics, law, administration and studies of political development and modernization. The geographic areas of concentration are Canada, Western Europe, South Asia and the Asia-Pacific nations. The department also offers a special concentration in public administration, including judicial administration and municipal administration streams.

For details about graduate courses and programs, see the *Graduate Calendar*.

Certificate program in public administration

The Politics department also offers a program leading to a certificate in public administration. It provides an overview for interested people who do not wish to proceed to a degree, and for those whose degree is in a different field. It is of special interest to people already employed in the public sector environment and wanting to embark on a program of part-time studies. The requirements for admission to the certificate program are the same as for admission to the degree program. The equivalent of seven full approved courses are required for the certificate. (For students already holding a degree, see certificate requirements under *Academic Programs and Regulations*, page 33.)

Course Program:

Federal/provincial government

POLI 1F90, 2F12, 3F51 (or 3P50 and 3P65), 4P52, and one of POLI 4P50, 4P51, 4P54; three elective credits.

Municipal government

UEST 1F90, POLI 1F90, 3F51 (or 3P50 and 3P65), 3P11, 4P11, 4P52, one of POLI 4P50, 4P51, 4P54; two elective credits.

Description of courses

Please note that not all courses are offered in every session. Refer to the applicable term timetable for details.

Note: POLI 1F90, or permission of the instructor, is a prerequisite for admission to all other politics courses except POLI 2P62.

POLI 1F90

Introduction to politics

The basic concepts and institutions of political systems and the various approaches used to study these systems. Topics include: ideologies such as liberalism, conservatism and communism; institutions of government including legislatures, bureaucracies and political parties; public opinion and voting; classes, elites and revolution.

Lectures, seminar, 3 hours per week.

POLI 2F12

The government and politics of Canada

Political institutions and processes of Canada. Major topics will include the constitution and federalism, regions and regionalism, the political attitudes and behavior of Canadians, parties and elections, and the policy process.

Lectures, seminar, 3 hours per week.

POLI 2F20

International politics

An introduction to international politics focusing on the characteristics of the international system, the process of foreign policy formulation in individual states, and the means of acting internationally.

Not open to students with credit in POLI 2P22 or 2P24.

Lectures, seminar, 3 hours per week.

POLI 2F90

Political philosophy

An examination of major works of political philosophy as these comprise the theoretical foundations of our own political order and fundamental alternatives to it. Among the writers and writings to be discussed are Plato,

Aristotle, *The Bible*, Machiavelli, Hobbes, Locke, Rousseau, Marx and *The Federalist Papers*.

Not open to students with credit in POLI 200, 291hc or 292hc.

Lectures, seminar, 3 hours per week.

POLI 2P01

Introduction to political philosophy

Critical examination of classical and contemporary liberal democracy and alternatives to liberal democracy.

Lectures, seminar, 3 hours per week.

POLI 2P41

The government and politics of the U.S.S.R.

Political institutions and processes of the Soviet Union and the historical, ideological, geographic and demographic factors which shape Soviet society. Special attention will be given to nationalism and ethnic tensions, economic debates, evolution of societal values and behavior, leadership composition and replacement, and forces affecting stability and division within the country.

Lectures, seminar, 3 hours per week.

POLI 2P42

The government and politics of China

Political institutions and processes of the People's Republic of China.

Lectures, seminar, 3 hours per week.

POLI 2P43

The government and politics of India

Society, government and political processes in India, with special attention to leadership, party politics, caste and communal relations, regionalism, economic planning and change in the villages.

Not open to students with credit in POLI 260hc.

Lectures, seminar, 3 hours per week.

POLI 2P45

The government and politics of the United Kingdom

The parliamentary form of government as it has evolved and is practised in the United Kingdom. Topics include: the development of constitutional principles and their application today; the operation of the executive and legisla-

ture; the roles of parties and pressure groups; the significance of extraparliamentary checks; and the impact of the system, especially on Canada and the United States.

Not open to students with credit in POLI 215hc.

Lectures, seminar, 3 hours per week.

POLI 2P46

The government and politics of the United States

The American political system and the institutions of the federal government in the context of the constitutional separation of powers and the political party structure. Related topics include federalism, elections and voting behavior, civil rights, and selected public policy issues.

Not open to students with credit in POLI 216hc.

Lectures, seminar, 3 hours per week.

POLI 2P62

Government and politics

An introduction to government and politics intended for students in the second year of the B.Acc. program. Prerequisite: year 2 standing in B.Acc. program.

Not open to students with credit in POLI 1F90.

Lectures, seminar, 3 hours per week.

POLI 2P80

Political analysis

(formerly POLI 2P81)

Research methodologies and skills commonly used by political scientists. Topics include the evolution of political science; the ways in which empirical political research is carried out; advantages and limitations of the scientific approach in political analysis. Research skills include the development of logical arguments; finding and presenting supporting evidence; and understanding common statistical measures.

Not open to students with credit in POLI 2P81, 299, or 205hc.

Lectures, seminar, 3 hours per week.

POLI 2P96

Leadership development

Good leadership and the ways we can lead well in the politics of everyday

Politics

life. Class activities draw on personal experience and theories of empowerment to help develop abilities to listen effectively, speak in public, oppose oppression, resolve conflicts, survive criticism, support others, and share visions of a better world.

Enrolment limited to thirty students. Not open to students with credit in POLI 3V70.

Seminar, workshop, small groups, 4 hours per week.

POLI 2V40-2V49

Government and politics of a selected nation state

The political processes and institutions of a nation state not included among regular departmental offerings.

Lectures, seminar, 3 hours per week.

POLI 3F30

Comparative politics: regimes and political life

Do regimes matter? Different forms of government, their origins, and their effects on people's lives. A comparison of different types, including Communist, democratic and traditional regimes, while emphasizing more detailed analyses of advanced democratic systems. Our goal will be to draw conclusions about the capabilities of different regimes to manage conflict and change.

This course is a prerequisite for most fourth-year courses in comparative politics.

Lectures, seminar, 3 hours per week.

POLI 3F51

Canadian public administration (also offered as MGMT 3F51)

Theory and practice of public administration in Canada. Some of the topics covered will be organization of departments, regulatory agencies, and crown corporations; financial and personnel administration; responsibility and accountability.

Prerequisite: POLI 2F12 or permission of the instructor.

Not open to students with credit in POLI 3P50.

Lectures, seminar, 3 hours per week.

POLI 3P04

Politics and morality

Contrasting accounts of the role of justice and other moral principles in political life and in the conduct of political leaders and states.

Prerequisite: POLI 2P01 or 2F90 or permission of the instructor.

Seminar, 3 hours per week.

POLI 3P06

Philosophy, politics, and the family

An examination of the relations that comprise the family and of the significance of these for the political community as both have been treated by ancient and modern political philosophers, and by contemporary feminists and their critics.

Prerequisite: POLI 2P01 or 2F90 or permission of the instructor.

Not open to students with credit in POLI 3P05 or 3V05.

Lecture, seminar, 3 hours per week.

POLI 3P11

Urban politics and administration

Local government and politics in Canada with particular reference to Ontario. Topics include municipal organization, metropolitan and regional government, provincial-municipal relations, elections, councils and councillors, citizen participation, property taxation and municipal finance, selected policy areas, and theories of local government.

Not open to students with credit in POLI 350 or 359hc.

Lectures, seminar, 3 hours per week.

POLI 3P15

Politics in Ontario

Major aspects of political life in Ontario, including province-building, voting behavior, party systems, policy-making and administrative apparatus.

Prerequisite: POLI 2F12 or permission of the instructor.

Not open to students with credit in POLI 314hc.

Seminars, 3 hours per week.

POLI 3P16

Politics in Quebec

Quebec's political, social and economic evolution since 1945. Topics to be considered include old and new

varieties of nationalism, the Quiet Revolution, the changing roles of church and state, the decline of the Anglophone minority, and Quebec's impact on Canadian federalism.

Prerequisite: POLI 2F12 or permission of the instructor.

Lectures, seminar, 3 hours per week.

POLI 3P17

Politics and the mass media in Canada

(also offered as COMM 3P17)

The Canadian mass media and their relationship to the political process.

Lectures, seminar, 3 hours per week.

POLI 3P18

Law and politics

Canadian constitutional law, including the division of powers and the protection of civil liberties (both before and after the Charter of Rights). An examination of the court system from both a legal and political perspective, including issues and consequences of their actions.

Not open to students with credit in POLI 231hc.

Lectures, seminar, 3 hours per week.

POLI 3P19

The Canadian judicial process

A continuation of POLI 3P18, with particular emphasis on new developments under the Charter of Rights.

Prerequisite: POLI 3P18.

Lectures, seminar, 3 hours per week.

POLI 3P24

International politics of the Third World

International relations in the Third World (Africa, Asia and Latin America) and international relations between Third World polities and others in the international system. Concerns include the political means and international consequences of Third World quests for autonomy, development and dignity. POLI 3P43 is recommended as preparation for this course.

Prerequisite: POLI 2F20 or permission of the instructor.

Not open to students with credit in POLI 375hc taken in 1985/86.

Seminars, 3 hours per week.

POLI 3P26**International law**

Principles of international law and their application in international politics.

POLI 3P27 is recommended as preparation for this course.

Lectures, seminar, 3 hours per week.

POLI 3P27**International organization**

Principles and problems of global and regional organizations as these constitute and reflect international law and politics. Recommended as preparation for POLI 3P26.

Lectures, seminar, 3 hours per week.

POLI 3P28**Canadian foreign policy**

The foreign policy formulation process in Canada; significant factors, both domestic and external, which contribute to the shaping of overall and specific policy objectives.

Prerequisite: POLI 2F12 or 2F20.

Not open to students with credit in POLI 425hc.

Seminars, 3 hours per week.

POLI 3P29**Canadian-American relations**

Canadian-American relations from the perspective of international politics.

Topics include the management of bilateral relations as an intergovernmental process, trade and transborder business activity, environmental issues, and defence.

Prerequisite: POLI 2F20 or permission of the instructor.

Not open to students with credit in POLI 375hc taken in 1985/86.

Lectures, seminar, 3 hours per week.

POLI 3P33**The state and economic life**

(also offered as LABR 3P33)

Political economy and the role of the state. Relationships between politics and markets and between democracy, capitalism and socialism. Topics discussed will include regulation, public ownership, taxation, fiscal and monetary policy, income support programs, regional development and the screening of foreign direct investment.

Lectures, seminar, 3 hours per week.

POLI 3P34**Comparative political parties**

An analysis of parties and party systems with an emphasis on Canada, Western Europe and the United States.

Prerequisite: POLI 3F30 or permission of the instructor.

Corequisite: POLI 3F30.

Not open to students with credit in POLI 334hc.

Lecture, seminar, 3 hours per week.

POLI 3P40**Communist political systems**

A comparison of selected states which define their systems as Marxist-Communist. This course analyses the impact of geographical, historical, demographic, economic, and cultural differences on the functioning of state institutions, on political behavior and on ideological variations.

Prerequisite: POLI 3F30 or 2P41, 2P42 (which may be taken concurrently) or permission of the instructor.

Lectures, seminar, 3 hours per week.

POLI 3P43**Politics in the Third World**

The comparative study of political institutions and processes of selected developing countries. Topics include such issues as: the nature of traditional societies; the impact of colonialism and neo-colonialism; nationalism; the role of elites, political parties and the military; state-building; and the quests for economic development and national integration.

Prerequisite: POLI 3F30 or 2P42, 2P43 (which may be taken concurrently), or permission of the instructor.

Not open to students with credit in POLI 338hc.

Lectures, seminar, 3 hours per week.

POLI 3P44**Canada and the politics of Japan, Korea, Taiwan and Hong Kong.**

Issues in comparative politics as they relate to these "economic dragons" of East Asia. Reference will also be made to Canada's increasing interdependence with the countries concerned.

Prerequisite: POLI 3F30 (may be taken concurrently) or permission of the instructor.

Seminars, 3 hours per week.

POLI 3P50**Introduction to public administration**

(also offered as MGMT 3P50)

The role of the public sector in the marketplace and the internal operation of government organizations. Special emphasis will be given to comparing public and business administration and to government-business relations.

Prerequisite: POLI 1F90.

Not open to students with credit in POLI(MGMT) 3F51 or POLI 351(MGMT 320).

Lectures, seminar, 3 hours per week.

POLI 3P52**Politics, ethics and public policy**

Issues of responsible and ethical behavior by elected and appointed government officials, with particular emphasis on the behavior of public servants. Among the topics to be examined are conflicts of interest, political rights of public servants, political neutrality, administrative responsibility, confidentiality/freedom of information, privacy, accountability, and the public interest.

Prerequisite: POLI 3F51 (MGMT 3F20) or POLI(MGMT) 3P50 or permission of the instructor.

Not open to students with credit in POLI 375 in 1986/87.

Lectures, seminar, 3 hours per week.

POLI 3P65**Introduction to public policy**

(also offered as LABR 3P65)

Major theories, approaches and concepts in the study of public policy. Topics may include the nature of public policy studies, contending theories of the state and public policy-making, the growth of the state and the expansion of the scope of public policy activities, and alternative modes of state intervention.

Prerequisite: POLI 2F12 or 3F51 or 3P50.

Lectures, seminar, 3 hours per week.

POLI 3P66**Environmental policy, law and administration**

Public policies, laws and agencies for the protection and management of the Canadian environments.

Politics

Not open to students with credit in POLI 352hc.
Lectures, seminar, 3 hours per week.

POLI 3P71

Gender, sex and politics

(also offered as WISE 3P71)

Theoretical and practical issues in the relationships among gender, sex and politics, such as sexual equality and its nature and implications for public and private life.

Lectures, seminar, 3 hours per week.

POLI 3P77

Politics and literature

(also offered as COMM 3P77)

Politics in literature, especially in selected novels and plays with emphasis on political issues and insights drawn from literary works. Some attention is given to the differing expectations of authors, literary critics, and students of politics.

Not open to students with credit in POLI 376hc.

Seminars, 3 hours per week.

POLI 3P91

Empirical research methods

The statistical analysis of quantitative political data and the use of computers in political research. Topics include central tendency and dispersion; association and correlation; regression and analysis of variance; statistical significance; and the SPSS* computer analysis program.

Prerequisite: POLI 2P80 or 2P81.

Not open to students with credit in POLI 3P81.

Lectures, seminar, 3 hours per week.

POLI 3V00-3V09

Politics and philosophy

Philosophic issues raised by various questions of immediate importance in contemporary moral and political life. Prerequisite: POLI 2P01 or 2F90 or permission of the instructor.

POLI 3V70-3V79

Special topics in politics

Topics selected from year to year on the basis of instructional expertise and student interest.

Lectures, seminar, 3 hours per week.

POLI 4F99

Honors thesis

A thesis based on individual study and research under faculty supervision. Topics may come from any field in the discipline and may involve library research, field work, and empirical analysis. The course is open only to students completing the honors program. Students must consult the undergraduate officer about topics, regulations, and a faculty adviser before registration.

Prerequisite: year 4 honors standing, or permission of the instructor.

POLI 4P01

The philosophy of law

Traditional and contemporary accounts of law and of their implications for issues of contemporary concern.

Prerequisite: year 4 honors standing, or permission of the instructor.

Seminars, 3 hours per week.

POLI 4P02

Principles of classical political philosophy

An examination of the character of pre-modern political philosophy through specific works of such philosophers as Plato and Aristotle. Special attention will be paid to those features of ancient philosophy that most markedly distinguish ancient political science and philosophy from that of modernity. Prerequisite: year 4 honors standing, or permission of the instructor.

Seminars, 3 hours per week.

POLI 4P11

Issues in local government and politics

Selected issues in local government and politics. Topics may include regional and metropolitan government, provincial-municipal relations and theories of local government.

Prerequisite: year 4 honors standing with credit in POLI 3P11 or permission of the instructor.

Not open to students with credit in POLI 459hc.

Seminars, 3 hours per week.

POLI 4P14

Federalism in Canada

Aspects of the Canadian federal

system. Specific topics will vary from year to year, but may include some of: social diversity and federal institutions; federalism and the party system; the role of the courts; federal-provincial financial relations; federalism and the policy process; the evolving role of provincial authorities; and intergovernmental relations.

Prerequisite: year 4 honors standing or permission of the instructor.

Seminars, 3 hours per week.

POLI 4P15

Canadian political economy

An historical perspective on the development of the political economy tradition in Canada, from the writings of Innis, Mackintosh, and Creighton to contemporary neo-Marxist and dependency theorists. Selected issues may include foreign investment, regional development, the labor movement, resources, and Canada's place in the new international economic order.

Prerequisite: year 4 honors standing or permission of the instructor.

Not open to students with credit in POLI 413hc in 1986/87.

Seminars, 3 hours per week.

POLI 4P20

International political, legal and organizational processes

A study of international phenomena in light of their relationship to theories of international relations. Seminar topics may include patterns of relations between the great powers, including spheres of influence; the use and disuse of international law by various actors as a means of co-ordinating international relations; and the difficulties of organizing effective international action.

Prerequisite: year 4 honors standing and a one credit course in international relations, or permission of the instructor.

Seminars, 3 hours per week.

POLI 4P22

Foreign policies of the great powers

Factors shaping the foreign policies of selected major powers along with the techniques adopted to achieve policy goals.

Prerequisite: year 4 honors standing, or permission of the instructor.
Seminars, 3 hours per week.

POLI 4P26

International politics and national security

Threat and the use of armed forces, conventional and nuclear, in the international system. The dynamics of deterrence, coercion and arms races will be examined, along with problems of arms control and non-violent conflict resolution.

Prerequisite: POLI 2F20 and year 4 honors standing, or permission of the instructor.

Seminars, 3 hours per week.

POLI 4P27

Theories of international relations

A critical examination of international relations theory with emphasis on the nature of the international system and its relationship to the choices and actions of individual states.

Prerequisite: year 4 honors standing, or permission of the instructor.

Not open to students with credit in POLI 325hc.

Seminars, 3 hours per week.

POLI 4P32

Comparative mass media
(also offered as COMM 4P32)

A critical examination of selected problems concerning the mass media and the political process in Canada and other states.

Prerequisite: POLI 3F30 and year 4 honors standing, or permission of the instructor.

Seminars, 3 hours per week.

POLI 4P33

Comparative federalism

The theory and practice of federalism as a system of government. Though emphasis will be upon the United States, Canada, and Australia, other applications of the federal principle may also be considered.

Prerequisite: year 4 honors standing with POLI 2F12 or 2P46 or permission of the instructor.

Seminars, 3 hours per week.

POLI 4P38

Ethnicity and politics

A comparative analysis of the relationships between ethnicity and politics focussing upon those ethnic communities that produce autonomist or separatist movements. Topics include: the nature of ethnic identities; persistence and change in ethnic communities; the politicization of ethnicity; ethnic politics and the state; ethnic nationalism and autonomist and separatist movements; inter-ethnic conflicts; and conflict regulation in plural societies.

Prerequisite: POLI 3F30 and year 4 honors standing or permission of the instructor.

Seminars, 3 hours per week.

POLI 4P39

Elites and power

The basis of power and of the degree of power concentration in government, industry, bureaucracy and the media in Canada, the United States and other selected countries and an analysis of the characteristics, life styles, interrelationships and actions of the individuals in senior positions of power.

Prerequisite: POLI 3F30 and year 4 honors standing or permission of the instructor.

Seminars, 3 hours per week.

POLI 4P40

Problems of Communism

Through assigned reading, research design, and research paper, the course explores problems in the field of communist studies.

Prerequisite: POLI 3F30 and year 4 honors standing, or permission of the instructor.

Lectures, tutorial, seminar, 3 hours per week.

POLI 4P43

Comparative politics of Southeast Asia

Through assigned reading, research design, and research paper, the course explores problems in comparative politics in selected countries of Southeast Asia.

Prerequisite: POLI 3F30 and year 4 honors standing, or permission of the instructor.

Not open to students with credit in POLI 461hc.

Lectures, tutorial, seminar, 3 hours per week.

POLI 4P45

Western European politics

A comparative study of political institutions and processes of selected states in Western Europe.

Prerequisite: POLI 3F30 and year 4 honors standing, or permission of the instructor.

Not open to students with credit in POLI 417hc.

Seminars, 3 hours per week.

POLI 4P50

Machinery of government

An advanced treatment of the structures and processes of federal and provincial government in Canada.

There will be particular emphasis on the operation of government departments, central agencies, regulatory agencies, and crown corporations.

Prerequisite: POLI(MGMT)3F51 or POLI(MGMT) 3P50 and year 4 honors standing.

Seminars, 3 hours per week.

POLI 4P51

Public administration theory

Selected major issues in the theory of public administration.

Prerequisite: year 4 honors standing, or permission of the instructor.

Seminars, 3 hours per week.

POLI 4P52

Personnel and financial administration in the public sector

(also offered as MGMT 4P52)

The politics and management of human and financial resources in Canadian governments. Special emphasis is placed on financial management, the budgetary process, collective bargaining, and such personnel processes and problems as recruitment, selection, training and affirmative action.

Prerequisite: POLI(MGMT)3F51 or POLI(MGMT) 3P50 and year 4 honors standing, or permission of the instructor.

Not open to students with credit in POLI 448hc or 452 or 454hc.

Seminars, 3 hours per week.

Politics

POLI 4P53

Comparative public administration

The theory of comparative public administration and a comparative analysis of administrative processes, institutions and problems in selected states.

Prerequisite: year 4 honors standing, or permission of the instructor.

Lectures, seminar, 3 hours per week.

POLI 4P54

Business-government relations

(also offered as MGMT 4P54)

The management of relations between business organizations and governments in Canada. Special emphasis is placed on current problems in business-government relations, the legislative and regulatory environment of business, government promotion of private enterprise, public enterprise, and the means by which business organizations influence government decision making.

Prerequisite: POLI(MGMT) 3F51 or POLI(MGMT) 3P50 and year 4 honors standing, or permission of the instructor.

Not open to students with credit in POLI 449hc or 452.

Seminars, 3 hours per week.

POLI 4P65

Public policy formulation in Canada

An evaluation of the contribution of political and administrative structures and processes to the definition of problems, selection of solutions and implementation of policies in selected areas in Canadian politics.

Prerequisite: year 4 honors standing, or permission of the instructor.

Not open to students with credit in POLI 412hc.

Seminars, 3 hours per week.

POLI 4V00-4V09

Selected problems in political philosophy

A particular writer, work or theoretical problem in political philosophy will be carefully examined.

Prerequisite: year 4 honors standing, or permission of the instructor.

Seminars, 3 hours per week.

POLI 4V10-4V19

Issues in Canadian politics

A course structured by a faculty member having specialized interest in an area within the discipline, normally offered on an experimental basis.

Prerequisite: year 4 honors standing or permission of the instructor.

POLI 4V20-4V29

Selected problems in international relations

Selected problems and issues drawn from both the system and nation-state levels of international politics.

Prerequisite: year 4 honors standing or permission of the instructor.

Seminars, 3 hours per week.

POLI 4V30-4V39

Selected problems in comparative politics

A comparative study of selected political institutions, processes or policies in various states.

Prerequisite: year 4 honors standing or permission of the instructor.

Seminars, 3 hours per week.

POLI 4V70-4V79

Politics tutorial

Guided readings on a particular topic which is not covered in the department's regular course offerings. Topics must be chosen in consultation with a faculty member willing to supervise the tutorial. Further information is available from the undergraduate officer.

Prerequisite: year 4 honors standing and permission of the instructor.

Pre-professional Studies for the Health Sciences

Brock University offers a selection of courses which meet the admission requirements for various professional schools in the health sciences.

Through the careful choice of electives each student's program can be designed to meet the requirements of a specific professional school or schools, and to provide a thorough education in areas essential to the intended profession. Students successfully completing this program will receive a BSc degree in general studies. The basic recommended courses for all students are:

Year 1

BIOL 1F90; CHEM 1P80, 1P81 or CHEM 1P90, 1P91; PSYC 1F90; MATH 1P97, 1P98; one humanities context credit.

Year 2

BIOL 2F01; one credit from BIOL 2P90, 2P91, 2P98; PHYS 1F20 or 1F90; CHEM 2P20, 2P21; one elective credit.

Year 3

Two credits from: BCHM 3P01, 3P02, BIOL 2P90, 2P91, 2P98 (if not taken in year 2), BIOL 3P22, 3P23, 3P28, 3P34, 3P35, 3P42, 3P50, 3P51; three elective credits.

Four elective credits are provided. In choosing them students should be familiar with the admission requirements of the intended professional school. A course pattern for years 2 and 3 must be approved by Professor D.J. Ursino, department of Biological Sciences, the designated faculty adviser, prior to registration for year 2. The following are examples of recommended electives for specific professional schools.

Dentistry and Medicine:

The basic course requirements for entry into medicine and dentistry can be fulfilled in two years and application to

most Ontario medical and dental schools may be made during the second- or third-year. Students in their third year should consider choosing their electives from the BIOL courses listed as year 3 options, BIOL 2P04, 2P05, CHEM 2P98, 3P20 and 3P21. Year 2 and year 3 PSYC courses are also recommended.

Physiotherapy, Occupational Therapy, Rehabilitation Therapy:

The basic course requirements for entry into most physical therapy schools are fulfilled in the first year. Students in their second- and third-year should consider choosing their electives from PHED 1P92, 1P94 for year 2, and PHED 2P02, 2P03, 2P04, 2P70, 2P97, 3P04, 3P90 and 3P92 for year 3.

Canadian Memorial Chiropractic College.

The basic course requirements for entry into CMCC are fulfilled by any modification of the first two years of the outlined program that includes: BIOL 2F01; ENGL 1F92 or 1F99 (English Literature not accepted); PHYS 1F25 or 1F90; PSYC 1F90; 2 additional humanities or social sciences credits.

Calendars of specific professional schools should be consulted for their particular entry requirements.

Psychology

Officers of instruction

Chair

Robert D. Ogilvie
Linda Rose-Krasnor (as of July 1, 1991)

Professors

Jack R. Adams-Webber
John G. Benjafeld
Harry T. Hunt
John J. Lavery
Daniel S. Lordahl
Robert D. Ogilvie
Edward W.G. Pomeroy
Joan M. Preston
Stanley W. Sadava
Sidney J. Segalowitz
Paul D. Tyson

Associate professors

Kathryn Belicki
James Bradford
David DiBattista
Nancy Johnston
Darla MacLean
John Mitterer
Peter Ramm
Linda Rose-Krasnor
Dawn E. Witherspoon

Assistant professors

H. Willard Bradley
Jane Dywan
Robert Nadon

General information

Mackenzie Chown, B326

General prerequisites

PSYC 1F90 or permission of the instructors is a prerequisite for all courses in the department of Psychology. For all year 3 courses (PSYC 3(alpha)00-3(alpha)99), three credits in PSYC beyond PSYC 1F90, third-year standing, or permission of the

instructor are required. For all year 4 courses (PSYC 4(alpha)00-4(alpha)99), admission to year 4 or permission of the instructor and the chair is required. See also additional prerequisites with course descriptions. The department believes that a broadly based liberal arts background is particularly appropriate in conjunction with a major in Psychology, and accordingly does not encourage students to take more than three Psychology courses in year 2 or 3. It is recommended that honors students acquire some background in Philosophy, Sociology, Biology or Mathematics as part of their undergraduate program.

Pass program

Pass students are required to take PSYC 1F90, 2F23, and five other credits in PSYC, three of which should be at the year 3 level.

Year 1

PSYC 1F90, one humanities and one science context credit; two elective credits.

Year 2

PSYC 2F23; two credits in PSYC numbered 2(alpha)00 - 2(alpha)99; two elective credits.

Year 3

Three credits in PSYC numbered 2(alpha)90 - 3(alpha)99; two elective credits.

Note:

PSYC 3F40 is required in an honors degree in Psychology and should be taken in year 3.

Honors program

Honors students are required to take PSYC 1F90, 2F23, 3F40, 4P92, 4P93 and two additional year 4 credits in PSYC.

Years 1 and 2

As in pass program.

Year 3

PSYC 3F40, two credits in PSYC numbered 2(alpha)90 - 3(alpha)99; two elective credits.

Year 4

(Note which courses can be taken for year 4 credit.)

PSYC 4P92, 4P93; two credits in PSYC 3(alpha)90 - 4(alpha)99; two elective credits.

Note:

1.) Students may apply to do an intensive individual study in any of the areas described in 4F01, 4F02 and 4F03 if they have already shown particular competence in the area. The subject of study must be chosen in consultation with a faculty member after acceptance into year 4. Permission of the chair and the faculty member is required.

2.) Students planning to undertake graduate studies in Psychology are strongly urged to take PSYC 4F91.

Entrance into honors Psychology for students with a pass BA in Child Studies

For the purpose of completing the honors program in Psychology, the following courses may be included as Psychology credits toward the 7 needed to enter the honors program: CHST 2F10, 3F96, 3P11, 3P23, 3P56, 3P60, 3P73, 3P74, 3P84.

PSYC 1F90 and 2F23 are required.

Year 4

PSYC 3F40, 4P92, 4P93; 2 credits at the year 4 level in PSYC (see above); one elective credit.

Combined major programs

Students may take a combined major in Psychology and a second discipline. The requirements in Psychology for a pass combined major are: PSYC 1F90,

2F23; three other credits in PSYC, one in year 2 and two in year 3. The requirements in Psychology for an honors combined major are: PSYC 1F90, 2F23, 3F40, 4P92, 4P93, three other credits in PSYC, one of which will be a year 3 credit and one a year 4 credit (see above). For requirements in the other discipline, the student should consult the relevant department. It should be noted that not all departments provide a combined major option. All combined major students should consult with the chair to avoid duplication of courses.

Description of courses

Please note that not all courses are offered in every session. Refer to the applicable term timetable for details.

PSYC 1F90

Introduction to psychology

Basic concepts and contemporary issues in psychology with special attention to learning, physiological, developmental, clinical and social psychology.

Prerequisite to all courses in Psychology.

Lectures, seminar, 3 hours per week.

PSYC 2F12

Life-span development

An introduction to the conceptual bases of life-span development, a survey of relevant research, and an overview of methodological issues. Topics illustrating life-span developmental research and theory will be drawn from the following areas: intellectual, moral, personality, physiological, sexual, and social development.

Prerequisite: PSYC 1F90.

Not open to students with credit in CHST 2F10.

Lectures, seminar, 3 hours per week.

PSYC 2F20

Cognition

(formerly PSYC 2F90)

The acquisition and utilization of knowledge. Topics may include:

attention and memory, concepts, imagery and cognitive maps, problem solving and reasoning, judgment and decision-making, language and thought, intelligence and creativity, cognitive development, applications of cognitive psychology.

Prerequisite: PSYC 1F90

Not open to students with credit in PSYC 2F90.

Lecture, seminar, 3 hours per week.

PSYC 2F23

Research design

Principles of experimental design, systematic assessment and data analysis will be dealt with in the context of psychological research.

Prerequisite: PSYC 1F90.

Lectures, tutorial, 4 hours per week.

PSYC 2F25

Dynamics of personality

Basic concepts and contemporary issues in personality theory and research including intrapersonal and interpersonal dynamics of coping, defence, growth, and self-actualization.

Prerequisite: PSYC 1F90.

Lectures, seminar, 3 hours per week.

PSYC 2F30

An introduction to social psychology

Theories, methods, research and issues of contemporary social psychology; topics include social perception and cognition, attitudes, influence, attraction, aggression, altruism, communication, conflict, group and collective behavior; the psychological study of social issues pertaining to prejudice, law, environment and health.

Prerequisite: PSYC 1F90.

Lectures, seminar, 3 hours per week.

PSYC 2F35

Motivation

Focus on principles of change in activity; topics include: achievement, intrinsic motivation, work satisfaction, personal causation, meaning and purpose, curiosity and exploration, social and biological motives.

Prerequisite: PSYC 1F90.

Lectures, seminar 3 hours per week.

PSYC 2F36

Physiological psychology
(formerly PSYC 2F98)

Biological aspects of behavior; the functional activities of the neuron and the interrelationships among neural systems (brain organization). Special topics will include the psychobiology of sensory and motivational systems, emotion and affect, learning, memory, language and consciousness.

Prerequisite: PSYC 1F90.

Not open to students with credit in PSYC 2F98.

Lectures, lab, 4 hours per week.

PSYC 2F45

Learning

A presentation of variables and/or conditions which contribute to the learning process including a survey of the basic experimental findings and theoretical issues related to learning. An emphasis will be placed on learning in nonhuman animals.

Prerequisite: PSYC 1F90.

Not open to students with credit in PSYC 335.

Lectures, seminar, 3 hours per week.

PSYC 2F85

Psychology of personal development

Practical applications of areas of psychology which have relevance to personal development. Interpersonal communication, personal change processes, problem-solving/decision-making strategies and life/career planning will each be explored through conceptual and experiential methods. Small group activities are an integral part of the course and successful completion requires active participation.

Enrolment limited to 70 students.

Prerequisite: PSYC 1F90.

Lectures, 1 hour per week; small group lab, 2 hours per week.

PSYC 2F91

Perception

After grappling with some of the theoretical problems of seeing and hearing, the actual mechanisms are discussed. Once the basic problems of pattern recognition, memory, and

Psychology

attention have been discussed, the horizon will broaden to include the influence of culture, motivation, personality, and pathology on perception.

Prerequisite: PSYC 1F90.

Lectures, seminar, 3 hours per week.

PSYC 2F95

Applied psychology

An introduction to the application of psychology in business and industry. Modern techniques of psychological record processing on computer systems will be stressed. Computer problems will be individually suited to the student's computer knowledge.

Admission limited to 20 students, to be determined by academic standing.

Prerequisite: PSYC 1F90.

Lectures, lab, 4 hours per week.

PSYC 2F97

Experiential psychology

Subjective experience (altered states of consciousness) and methods as an alternate way of 'doing' psychology. Phenomena of dreams, psychedelic drugs, hypnosis, schizophrenia, religious mysticism, and the eastern meditative traditions serve as the focus of discussion. Orienting conceptual frameworks come from the introspective and phenomenological traditions of psychology, social science and psychiatry, as well as holistic-constructivist approaches to cognition and symbol formation.

Prerequisite: PSYC 1F90.

Lectures, seminar, 3 hours per week.

PSYC 2P94

Introduction to psychological measurement

(formerly PSYC 3P15)

Measurement principles and techniques, with particular emphasis on issues in the construction, administration and evaluation of tests and other assessment tools. Treatment of reliability and validity concepts, and the role of evaluation in experimental, educational and observational contexts.

Prerequisite: PSYC 1F90 (PSYC 2F23 recommended).

Not open to students with credit in PSYC 330 or 3P15.

Lectures, lab, seminar, 3 hours per week.

PSYC 3F08

Psychology of language

(also offered as APLI 3F08 and COMM 3F08)

Psychological processes involved in language including the study of meaning, language development in children, language and thought, listening, as well as special interest topics such as bilingualism and written language.

Lectures, seminar, 3 hours per week.

PSYC 3F10

Psychology of television

(also offered as COMM 3F10)

Psychological aspects of the visual, auditory and content dimensions of television will be examined. The applicability to television of several psychological theories, such as cognitive and information processing, perceptual and attentional theories, social learning, interpersonal communication, mass communication and developmental perspectives will be evaluated.

Lectures, seminar, 3 hours per week.

PSYC 3F17

Child development

Theories and research on the normal development of children ages 2-12 years; topics include cognitive, language, social, emotional, moral and physical development as well as Canadian contributions to child psychology.

Prerequisite: PSYC 2F12 or third year standing.

Not open to students with credit in PSYC(CHST) 2F10.

Lectures, seminar, 3 hours per week.

PSYC 3F20

Abnormal psychology

Major theories which have emerged to explain aberrant and dysfunctional behavior are considered and evaluated. Consideration is given to the scientific, moral/ethical, and political foundation of this area of study.

Lectures, seminar, 3 hours per week.

PSYC 3F40

Psychological research

A laboratory and lecture course in which students are exposed to research

methods in several areas of psychology; emphasis is placed on developing the student's capacity to evaluate psychological hypotheses through participation in group and individual research projects.

Prerequisite: PSYC 2F23.

Lectures, lab, 5 hours per week.

PSYC 3F45

Comparative psychology

A lecture and laboratory course in problems of experimental method and research findings in comparative animal behavior; emphasis will be placed on the mechanisms of behavior pattern in infrahuman species.

Not open to students with credit in PSYC 240.

Lectures, seminar, lab, 3 hours per week.

PSYC 3F46

The psychology of eating

Biological and environmental factors influencing food consumption in animals and in humans, both theoretical and applied issues. Topics discussed will include physiological control of food intake; the nature and importance of taste and smell; biological, social and cultural factors influencing the choice of foods; the effects of food upon behavior; abnormal food-related behaviors, such as overeating, anorexia nervosa and bulimia.

Not open to students with credit in PSYC 2F93.

Lectures, seminar, 3 hours per week.

PSYC 3F91

Neuroscience

The central nervous system. First term treats neurophysiology and neurochemistry, and the neurochemical bases of mental illness. Second term topics include visual neurophysiology, and human neuropathology including epilepsy, migraine, infarct and neoplasm. Emphasis is on physiological causes of neuropathology, rather than on functional disabilities of patients. Lab topics include surgery, histology and autoradiography.

Prerequisite: PSYC 2F36 or permission of the instructor.

Lectures, lab, 3 hours per week.

PSYC 3F96**Psychology of the exceptional child**
(also offered as CHST 3F96)

An integration of theoretical, experimental and clinical approaches to the development of the child with special needs; i.e. the child who is mentally retarded, perceptually handicapped. Students will be required to fulfil a supervised practicum working with an atypical child. Field trips will be arranged.

Limited to one section per semester with a maximum enrolment of 35--to be determined by academic standing.

Prerequisite: CHST 2F10 or three PSYC credits beyond PSYC 1F90.

Not open to students with credit in PSYC(CHST)300.

Lectures, seminar, 3 hours per week.

PSYC 3F97**Personality assessment and research**

Current issues in the general areas of individual social development, interpersonal communication, person perception, friendship formation, personality change, implicit personality theory, schizophrenia, neurosis, marital, individual and group therapy, perception of the environment, professional training and role playing. Assessment will be on the basis of individual contracts.

Lectures, seminar, 3 hours per week.

PSYC 3P11**Theories in developmental psychology**
(also offered as CHST 3P11)

Current theories in developmental psychology and recent controversies and evidence concerning them. The student will study human development from an integrated approach. Enrolment limited to 65 students per section.

Prerequisite: third year standing in CHST or PSYC with CHST 2F10 or PSYC 2F12 or permission of the instructor.

Not open to students with credit in PSYC(CHST) 3F11.

Lectures, seminar, 3 hours per week.

PSYC 3P18**Adolescent development**

Theories and methods of life-span

development as they apply to the special issues that emerge during adolescence. Topics include thinking processes, identity formation, physiological change, sexuality and sex roles, family and peer relationships, schooling, vocational choices and moral development.

Prerequisite: CHST 2F10, PSYC 2F12 or 3F17 or permission of the instructor.

Not open to students with credit in PSYC 2F96 or 387hc.

Lectures, seminar, 3 hours per week.

PSYC 3P19**Special topics in adolescent development**

Discussion of those factors that provide special challenges for adolescents, their families and educators during the transition from childhood to adulthood. Topics include abnormal development, special problems of the handicapped adolescent, school, pregnancy and parenting, substance abuse, delinquency, and mental health.

Prerequisite: PSYC 3P18 or permission of the instructor.

Not open to students with credit in PSYC 2F96 or 387hc.

Lectures, seminar, 3 hours per week.

PSYC 3P23**Psychology of parenting**
(also offered as CHST 3P23)

The determinants, varieties and consequences of parenting.

The focus is on psychological research findings in contemporary parenting/parenthood issues. Topics to be examined include the transition to parenthood, different styles of parenting, dual-career parents, and abusive parents.

Enrolment limited to 65 students per section.

Prerequisite: CHST 2F10 or PSYC 2F12.

Lectures, seminar, 3 hours per week.

PSYC 3P39**Intermediate statistics**

Complex analysis of variance designs, including three or more independent variables. Special tests following ANOVAs are considered in detail. Special case designs and repeated

measures, including violations of assumptions. An introduction to multivariate designs. Optional topics allow students to study their particular research designs.

Prerequisite: PSYC 2F23.

Lectures, seminar/tutorial, 3 hours per week.

PSYC 3P41**Computer data analysis**

A hands-on introduction to computer packages for analysing psychological data. The theory of advanced techniques will be explained in lectures and packages such as SPSS will be used in labs.

Prerequisite: PSYC 2F23, 3P39 or permission of the instructor.

Lectures, 2 hours per week; lab, 2 hours per week.

PSYC 3P48**Directed readings I**

(formerly part of PSYC 3F49)

A readings course on a topic not included in the regular course offerings of the department. Topic and readings to be chosen in consultation with a faculty member who is willing to supervise the student.

Prerequisite: third-year standing and permission of the instructor.

Not open to students with credit in PSYC 3F49.

PSYC 3P49**Directed readings II**

(formerly part of PSYC 3F49)

A readings course on a topic not included in the regular course offerings of the department. Topic and readings to be chosen in consultation with a faculty member who is willing to supervise the student.

Prerequisite: third-year standing and permission of the instructor.

Not open to students with credit in PSYC 3F49.

PSYC 3P54**Psychology of Western consciousness**
(formerly part of PSYC 3F55)

Attention, memory, hemispheric laterality, and language are examined from a general systems theory perspective. Topics include altered states of

Psychology

consciousness, lucid dreams, self-concepts, and the effects of stress on consciousness. Western approaches to consciousness are contrasted and integrated with American Indian shamanistic techniques for altering consciousness.

Not open to students with credit in PSYC 3F55.
Lectures, seminar, 3 hours per week.

PSYC 3P55

Psychology of Eastern consciousness (formerly part of PSYC 3F55)
Asian psychology is approached from a Buddhist perspective and includes the history and evolution of Buddhism, as it migrated from India to China, Japan and Tibet. Topics include meditation, Taoism, Zen Buddhism, Sufism, and Western applications such as biofeedback and therapy. Eastern approaches to consciousness are contrasted and integrated with Western psychology by examining attention, memory and language.

Prerequisite: PSYC 3P54.
Not open to students with credit in PSYC 3F55.
Lectures, seminar, 3 hours per week.

PSYC 3P56

Biological perspectives in developmental psychology (also offered as CHST 3P56)
Current research on the role of biological factors in psychological development. Topics include the role of genes and early biological environment in normal and abnormal development, and developmental neuropsychology. Enrolment limited to 65 students per section.
Lectures, seminar, 3 hours per week.

PSYC 3P60

Conflict and development (also offered as CHST 3P60)
An overview of the role of conflict in early human development, including the causes, types and phases of conflicts. Particular attention will be focussed on cognitive and social strategies used to resolve conflicts. Students' participation in labs and research projects will permit a detailed analysis of the positive as well as

negative outcome of conflicts. Enrolment limited to 65 students per section.
Prerequisite: CHST 2F10, PSYC 3F17 or permission of the instructor.
Lectures, seminar, 3 hours per week.

PSYC 3P67

Human psychophysiology
The effects of psychological events upon physiological activity will be examined as a research strategy in psychology. Historical through to current issues and experiments will be studied in lectures and demonstrated in weekly labs. Several autonomic and higher neural systems will be recorded. Experiments encouraged in lieu of essays.
Prerequisite: PSYC 2F36 or permission of the instructor.

Not open to students with credit in PSYC 2F98 taken before September, 1988.
Lectures, 2 hours; lab, 2 hours per week.

PSYC 3P68

Sleep and wakefulness
The functions, mechanisms, rhythms, physiology, and psychology of sleep will be contrasted with counterparts during wakefulness. Current issues in sleep and dream research will be raised in lecture/seminar and labs. Experimentation encouraged.
Prerequisite: third-year standing or permission of the instructor.
Lecture/seminar 2 hours; lab, 2 hours per week.

PSYC 3P73

The psychology of reading (also offered as CHST 3P73) (formerly PSYC 3P88)
Psychological processes involved in beginning and skilled reading. Current theories of reading will be presented and evaluated in the light of current research findings. Theories of reading disability and prospects for remediation will also briefly be considered. Enrolment limited to 65 students per section.
Recommended background: PSYC 2F20 or 3F08 or 3F11 or 3P11.
Prerequisite: PSYC 1F90, and one of

PSYC 2F23, MATH 1F92 or SOCI 2F10 (may be taken concurrently).
Not open to students with credit in PSYC(CHST) 3P88.
Lectures, seminar, 3 hours per week.

PSYC 3P74

Psychology of computers in education (also offered as CHST 3P74) (formerly PSYC 3P89)
Current and potential uses of computers in education will be carried out in light of current theories of child development. The emphasis is on putting the use of computers in education on firm theoretical and empirical footing.
Recommended background: PSYC 2F20 or 3F08 or 3F11 or 3P11.
Note: This is **not** a computer programming course.
Enrolment limited to 65 students per section.
Prerequisite: PSYC 2F23 or MATH 1F92 or SOCI 2F10 (may be taken concurrently).
Not open to students with credit in PSYC(CHST) 3P89.
Lectures, seminar, 3 hours per week.

PSYC 3P75

Introduction to human factors (also offered as COSC 3P75)
The effect of machines on individuals and groups. Key questions include: How does the design of a machine affect the quality of life of the machine user? How does automation affect group interaction? The physical, mental and sensory characteristics of human beings with an emphasis on how these characteristics should influence the design of machines and systems.
Prerequisite: PSYC 2F23 and permission of the instructor.
Lectures, 3 hours per week.

PSYC 3P80

Psychology of interpersonal behavior
The social psychology of interpersonal attraction and relationships, as studied through experimental, correlational and longitudinal designs. Reinforcement, exchange, attributional, equity and balance models. Levels of relation-

ships. Aspects of the maintenance and dissolution of relationships, and of interpersonal psychopathology.

Prerequisite: PSYC 2F30 recommended.

Not open to students with credit in PSYC 3F96.

Lectures, seminar, 3 hours per week.

PSYC 3P81

Health psychology

Psychological aspects of health and illness. The prevention and treatment of illness and the maintenance of wellness. The behavioral and social factors that play a role in the etiology of health and illness. Contributions from scientific investigation and from professionals in the health care system will be reviewed.

Not open to students with credit in PSYC 3F95.

Lectures, seminar, 3 hours per week.

PSYC 3P82

Psychology of the arts

(also offered as FAPA 3P82)

Psychological responses to art. Topics include: color, form, motion, rhythm, space and their relationships; proportion and balance; empathy and aesthetic distance; abstraction and symbols. The relation of aesthetic behavior to other aspects of psychological functioning will also be considered.

Lectures, seminar, 3 hours per week.

PSYC 3P83

Adult development

Focus will be on theories and methods of life-span development as they apply to the special issues that emerge during the adult years. Topics include physiological, cognitive, sexual, social and moral development as related to the tasks of young adulthood and middle age.

Prerequisite: CHST 2F10, PSYC 2F12 or 3F17 or third-year standing, or permission of the instructor.

Not open to students with credit in PSYC 3F91 or 3P93.

Lectures, seminar, 3 hours per week.

PSYC 3P84

Advanced topics in social development

(also offered as CHST 3P84)

Social competence, aggression, friendship and other topics in social development will be examined from a variety of developmental perspectives. Methodological and training issues relevant to the study of social development will also be examined.

Enrolment limited to 35 students per section.

Prerequisite: CHST 2F10, PSYC 2F12 or 3F17.

Not open to students with credit in CHST 392 or PSYC(CHST) 383.

Lectures, seminar, 3 hours per week.

PSYC 3P85

Theories of personality: Freud and Jung

Major clinically derived theories of personality with special attention to their bases in case study/life history methodology. The focus will be on Freud and Jung and their continuing relevance for current personality, developmental, and transpersonal psychology. The possibly unique relation of "depth psychology" to numinous experience (mysticism, creativity, psychosis) will be studied through selected life histories.

Lectures, seminar, 3 hours per week.

PSYC 3P86

Theories of personality: developments in psychodynamic and transpersonal psychology

Major developments in the psychoanalytic tradition (Kohut, Winnicott, Klein) as they relate to analogous developments within transpersonal and Jungian approaches to "higher" states of consciousness. The conflicts and congruencies between these perspectives will be illustrated by selected life histories (e.g. Melanie Klein, Wilhelm Reich, G. Gurdjieff).

Lectures, seminar, 3 hours per week.

PSYC 3P90

Psychogerontology

Focus will be on the debilitating conditions that occur in old age and the

implications these have for personal coping and for the care of the unwell elderly. Topics may include the dementia and other physiological factors that affect cognitive and personality functioning, personal and community support systems, institutionalization, and palliative care.

Prerequisite: PSYC 3P94 or permission of the instructor.

Lectures, seminar, 3 hours per week.

PSYC 3Q90

The nature of consciousness

(also offered as PHIL 3Q90)

A review of competing understandings of human consciousness, ranging from phenomenology to neural and computational models. Special attention will be given to research and theory on imagery and metaphor. A central historical component will trace the development of approaches to consciousness as a dynamic synthesis of the senses (*sensus communis*, sixth sense) from Aristotle, through the Romantic tradition of philosophy and aesthetics, the "unconscious" of Freud, Jung, Hillman, and Gendlin, and into current research on synesthesias and related states of consciousness.

Prerequisite: PSYC 1F90.

Lecture, seminar, 3 hours per week.

PSYC 3P92

Drugs and behavior

Basic principles of drug action and the effects of psychoactive drugs on behavior and experience. Focus on recreational drugs and the use of drugs in psychiatry.

Not open to students with credit in PSYC 299 or 3F92.

Lectures, 3 hours per week.

PSYC 3P93

Infant development

(formerly PSYC 3P16)

The development of infants from the pre-natal period through the second year of life. Major topics will be perception, cognition, attachment and social development. Additional topics of special interest, including at-risk infants and infant intervention programs.

Psychology

Prerequisite: CHST 2F10, PSYC 2F12 or 3F17 or permission of the instructor. Not open to students with credit in PSYC 3P16.

Lectures, seminar, 3 hours per week.

PSYC 3P94

The psychology of aging

Focus will be on theories and methods of life-span development as they apply to the special issues that emerge during late adulthood; how physiological, social and cognitive factors interact as individuals cope with the tasks of later years.

Prerequisite: CHST 2F10, PSYC 2F12 or 3F17; or third-year standing, or permission of the the instructor.

Lectures, seminar, 3 hours per week.

PSYC 3P95

Stress

Examination of stress in terms of occupations, environments, life events; methods of appraisal, coping strategies and health factors. Emotion is viewed both as part of the stress response and as a separate source of motivation. Cognitive and behavioral factors in the experience and expression of specific emotions are also explored.

Not open to students with credit in PSYC 3F95(395) or 350.

Lectures, seminar, 3 hours per week.

PSYC 3P98

Neuropsychology I

The principles of brain-behavior relations as they relate to clinical neuropsychological syndromes. Topics include disorders of language, attention, spatial skills, and memory; other selected issues such as closed head injury, epilepsy and developmental disorders.

Lectures, seminar, 3 hours per week.

PSYC 3P99

Neuropsychology II

The principles of brain-behavior relations as they relate to cognitive neuroscience; empirical issues in the study of higher cortical functions and dysfunctions.

Prerequisite: PSYC 3P98 or permission of the instructor.

Lectures, seminar, 3 hours per week.

Note:

The topics discussed each year in 4F01, 4F02, and 4F03 will vary.

PSYC 4F01

Issues in personality, social and developmental psychology

Analysis of special problems such as behavior change, social attitudes, social communication, etc.

Prerequisite: admission to year 4 and permission of the instructor.

Directed readings, to be arranged in advance with appropriate faculty before registration.

PSYC 4F02

Special problems in comparative and physiological psychology

How some brain functions relate to behavior and subjective experience.

Prerequisite: admission to year 4 and permission of the instructor.

Directed readings; to be arranged in advance with appropriate faculty before registration.

PSYC 4F03

Advanced seminar in learning, thinking, cognition and consciousness

Special topics in these areas will be discussed each year.

Directed readings, to be arranged in advance with appropriate faculty.

Prerequisite: admission to year 4 and permission of the instructor.

PSYC 4F50

Introduction to clinical psychology

Issues in assessment techniques, major theories of psychotherapy, and research findings concerning treatment strategies for specific disorders.

Prerequisite: admission to year 4.

Lectures, seminar, 3 hours per week.

PSYC 4F70

Introduction to cognitive science

(also offered as COSC 4F70 and PHIL 4F70)

An overview of the modern study of the mind from a computational, psychological and philosophical perspective. Computer models of human information processing are examined in three ways: as a branch of computer science related to artificial

intelligence, as psychological theories of human functioning, and as a source of philosophical puzzles about minds. The interdisciplinary nature of cognitive science is stressed. Note: a previous knowledge of computer programming is not necessary for registration in the course.

Prerequisite: admission to year 4 and permission of the instructor.

Not open to students with credit in COSC 3V90 or 4V90(1987-88).

Lectures, 3 hours per week, lab, 1 hour per week.

PSYC 4F91

Thesis tutorial

A research project carried out with a faculty adviser whose permission must be obtained prior to registration.

Prerequisite: admission to year 4.

PSYC 4P20

Emotion

Theories of emotion in psychology. Emphasis on emotions as a source of motivation and adaptation.

Prerequisite: admission to year 4 and permission of the instructor.

Lectures, seminar, 3 hours per week.

PSYC 4P21

Psychology of addictive behavior

Theory and research on substance use. Focus on psychopharmacological cognitive, psychodynamic and social psychological models, and on longitudinal research. Implications for treatment and prevention.

Prerequisite: PSYC 3P92 and admission to year 4.

Lectures, seminar, 3 hours per week.

PSYC 4P22

Advanced seminar in human memory

Historic and current ideas about memory and the implications these have for our approach to memory in research, in medical and in legal contexts. Topics to be covered include hypnosis and memory, eyewitness testimony, varieties of memory disorders and the question of rehabilitation. Students will be introduced to various clinical and experimental tools

used in the assessment of memory.

Prerequisite: admission to year 4.

Background in normal developmental processes is strongly recommended; eg. CHST 2F10, PSYC 2F12, 2F20, 3F17, PSYC(CHST)3P11.

Lectures, seminar, 3 hours per week.

PSYC 4P31

Treatment alternatives for children and adolescents: dynamic therapies (also offered as CHST 4P31)

The theoretical background, research and evaluation of current therapeutic approaches to emotionally and behaviorally disturbed children and adolescents. All students will participate in a practicum placement. Major topics: a) play therapies, including non-directive, expressive and Gestalt approaches; b) group methods, including use of modelling, goal setting and evaluation methods.

Prerequisite: PSYC 2F12 and admission to year 4.

Lectures, seminar, 3 hours per week.

PSYC 4P32

Treatment alternatives for children and adolescents: cognitive and behavioral approaches (also offered as CHST 4P32)

Behavioral theory and techniques will be presented. Social skills training, cognitive theories, contingency management and relaxation will be included in this section. All students will participate in a practicum placement.

Prerequisite: PSYC 2F12 and admission to year 4 in Psychology.

Lectures, seminar, 3 hours per week.

PSYC 4P41

Parent-child relations

The origins and developmental course of adaptive and nonadaptive parent-child relationships. Parental beliefs, and the socialization of social and cognitive skills will be analysed in a seminar format. Strategies for assessing parent-child interactions and measuring the nature of relationships.

Prerequisite: CHST 2F10, PSYC 2F12 or 3F17 and admission to year 4 in

Psychology or Child Studies.

Lectures seminar, 3 hours per week.

PSYC 4P45

Community psychology

Community psychology as conceptualized in the past 20 years. Emphasis on the interplay between community psychology, de-institutionalization and the community mental health movements. The contemporary drive for consumer involvement in the development and provision of service will be a major perspective.

Prerequisite: admission to year 4.

Lectures, seminar, 3 hours per week, plus field work.

PSYC 4P92

History of psychology

The historical development of different orientations to psychology. Topics include: philosophical and physiological influences in psychology; introspectionism; functionalism; behaviorism; Gestalt theory; psychoanalysis.

Prerequisite: admission to year 4 or permission of the chair and instructor.

Lectures, seminar, 3 hours per week.

PSYC 4P93

Honors seminar

A comprehensive look at the fundamental issues in the various areas of psychology, with various faculty members responsible for specific areas.

Prerequisite: PSYC 4P92 and admission to year 4.

Not open to students with credit in PSYC 490.

Lectures, seminar, 3 hours per week.

PSYC 4P94

Thesis seminar

A seminar in which thesis students will undertake a detailed study of current research in various areas of psychology.

Prerequisite: admission to year 4.

Co-requisite: PSYC 4F91.

Seminar, 3 hours per week.

Recreation and Leisure Studies

Officers of instruction

Chair

John K. Larsen
Ann Marie Guilmette (as of July 1, 1991)

Professor

David Ng

Associate professors

Ann Marie Guilmette
John K. Larsen
George S. Nogradi

Assistant professors

Michael Kanters
Simon Priest
Laurel Reid
John K. Yardley

General information

Physical Education and Recreation centre 213

This course of study is designed to meet the growing need for people to administer and develop programs in recreation and leisure. Students will be required to take introductory courses in recreation program planning, recreation for special populations outdoor recreation, recreation administration, and leisure studies. All students must complete at least one credit from each of the three groupings of core and context: humanities, social sciences, sciences (see page 29). In addition to required courses students must elect at least two credits in Recreation and Leisure Studies and four credits outside of Recreation and Leisure Studies. Creative individual and group leisure service planning and administration will be emphasized in course work and the required third-year field placement.

Upon completion of all requirements, graduating students will be awarded the degree, Bachelor of Recreation and Leisure Studies (BRLS).

Challenge for credit

In conjunction with page 34 of the Brock University calendar and in preparation for the approval of a challenge, students shall: a) prepare a written rationale for the challenge request; b) include the background, experience and/or knowledge which warrants the challenge; and c) prepare a resume which identifies the length of time and duties assigned for any work experience.

Pass program

Year 1

One credit in RECL at year 1 level (RECL 1P00, 1P02, 1P06, 1P10); one social science context credit; one science or humanities context credit; two elective credits. (See Note 1.)

Note 1.

Students majoring in Recreation and Leisure Studies are encouraged to take two credits (i.e., four half credits) in RECL in their first year. In accordance with page 28 of the Brock University Undergraduate Calendar, a grade of C in each of RECL 1P00, 1P02, 1P06, 1P10 is required to continue as a major in Recreation and Leisure Studies. Those students who do not achieve at least a C grade in each of these classes will be restricted to two half credit electives (courses at the 3(alpha)00 level) in Recreation and Leisure Studies until the course is repeated and the mandatory C grade is achieved.

Year 2

Another credit (i.e., two half credits) in RECL at year 1 level (if not taken in the first year-See Note 2.); RECL 2P01, 2P07 plus one RECL elective credit; one science or humanities context credit (whichever was not taken in year one); COSC 1P90; one-half elective credit.

Note 2.

Among the first ten credits, students should have completed all four of the required first-year classes in Recreation and Leisure Studies.

Year 3

RECL 3P01, 3P05, plus one RECL elective credit; three elective credits. (See Note 3.)

Note 3.

RECL courses may be taken as electives but at least four elective credits must be taken outside of the department of Recreation and Leisure Studies.

Honors program

In addition to honors standing and RECL 3P07, a faculty review is required for admission to year 4 of the honors BRLS program.

Years 1, 2 and 3

As in pass program, including RECL 3P07.

Year 4

RECL 4F01, 4F05, 4F07; two elective credits (chosen in consultation with adviser).

Non-Recreation and Leisure Studies majors

Students in other disciplines who wish to enrol in credit courses in Recreation and Leisure Studies may select from the following approved courses: RECL 1P00, 1P02, 1P06, 1P10, 2P01, 2P07, 3P00, 3P01, 3P02, 3P03, 3P04, 3P06, 3P07, 3P08, 3P09, 3P11, 3P12, 3P13, 3P16, 3P20, 3P22, 3P94 and 3P99.

It should be noted that there is a limit of five credits in Business and designated courses in Education, Physical Education, and Recreation and Leisure Studies which may be included in a pass BA or BSc program.

Career planning

The BRLS degree program is designed to qualify graduates for a wide range of positions in the rapidly expanding field of leisure services: city recreation and parks departments; YM/YWCAs; community activity programs; leisure services for special populations (the aged, intellectually, physically, emotionally, socially and culturally disadvantaged); outdoor recreation programs and camps; company/employee recreation programs; and private clubs and resorts in the tourism/hospitality industry.

Description of courses

Please note that not all courses are offered in every session. Refer to the applicable term timetable for details.

Course numbering plan

The last digit of the course number of all courses in Recreation and Leisure Studies indicates the subject matter, as follows:

- 0 = administrative
- 1 = leisure studies - theory
- 2 = special populations
- 3 = undesignated elective
- 4 = undesignated elective
- 5 = placements
- 6 = outdoor
- 7 = research
- 8 = tourism
- 9 = undesignated elective

†RECL 3PXX - recreation elective course which is cycled every two years.

RECL 1P00

Introduction to recreation program planning

The principles of recreation program planning and development within a community setting. Emphasis is placed

on the factors influencing participation and on planning considerations such as analysis of needs, program construction and design, implementation and evaluation. Field trip fee approximately \$60.00.

Not open to students with credit in RECL 2P00.
Lectures, seminar, 3 hours per week, plus field trip.

RECL 1P02

Introduction to recreation for special populations

The nature and needs of special populations (e.g. the aged, intellectually and physically disadvantaged) in recreational settings. Emphasis will be placed on understanding the normalization process and on the physiological and psychological characteristics of special populations.

Not open to students with credit in RECL 2P02.
Lectures, seminar, 3 hours per week.

RECL 1P06

Introduction to outdoor recreation

The use of the outdoor environment as a recreation setting; an exploration of the broad scope of activities, practices and concepts important to the outdoor recreation practitioner. Field experience fee approximately \$60.00.

Not open to students with credit in RECL 2P06.
Lectures, seminar, 3 hours per week, plus field experience.

RECL 1P10

Introduction to recreation administration

The fundamental principles of administration applied to the organization and operation of a recreation agency. The need for developing goals and objectives and the criteria for evaluation in both the public and private sector. Not open to students with credit in RECL 2P10.
Lectures, seminar, 3 hours per week.

RECL 2P01

Introduction to leisure studies

Leisure concepts and the emerging discipline of leisure studies are introduced in theoretical, historical,

methodological and socio-cultural contexts.

Prerequisite: one credit in RECL. Not open to students with credit in RECL 1F91.

Lectures, seminar, 3 hours per week.

RECL 2P07

Tests and surveys for recreation

Community evaluation and needs assessment to facilitate decision-making in recreation.

Prerequisite: one credit in RECL.
Lectures, lab, 3 hours per week.

RECL 3P00

Community development processes in recreation administration

Various theoretical perspectives on community organization and development, as well as methods available to the recreation practitioner to facilitate the development of recreation services in communities.

Prerequisite: RECL 1P00, 1P10.
Lectures, seminar, 3 hours per week.

RECL 3P01

Principles of play and leisure (formerly RECL 2P91)

Classical, modern, and contemporary concepts of play, recreation, and leisure are reviewed and analysed. Research strategies, lifestyle implications and models for interpreting leisure are explored.

Prerequisite: RECL 2P01 and 2P07.
Not open to students with credit in RECL 2P91.

Lectures, seminar, 3 hours per week.

†RECL 3P02

Recreation programs for special populations

A review of the more critical issues in recreation for special populations. Current trends and future social alternatives; facilitation of change by government and various agencies; the role of the volunteer; building and community accessibility. The major focus will be on program design. A ten hour practicum is included.

Prerequisite: RECL 1P00, 1P02.
Lectures, seminar, 3 hours per week.

Recreation and Leisure Studies

RECL 3P03

Introduction to recreation services

The delivery of recreation services with particular emphasis on contemporary Canadian society.

Not open to students with credit in RECL 1F91.

Lectures, seminar, 3 hours per week.

†RECL 3P04

Leisure lifestyle assessment

The physical, psychological and social factors that impact on leisure lifestyle choices.

Not open to students with credit in RECL 2P94.

Lectures, 3 hours per week.

RECL 3P05

Leisure services fieldwork

Practical experiences in specific leisure service agencies. In addition to course work in leadership, programming and community resource development, students will be placed in an existing community recreation setting.

Prerequisite: year 3 standing in RECL. Seminars, 3 hours per week, plus fieldwork.

RECL 3P06

Outdoor recreation programs

(formerly part of RECL 3F06)

Risk management and organizational skills necessary to plan and execute safe and environmentally sound outdoor recreation experiences.

Prerequisite: RECL 1P06.

Not open to students with credit in RECL 3F06.

Lectures, lab, seminar, 3 hours per week.

RECL 3P07

Interpretive analysis of recreation data

An introduction to research design and the means to understand, evaluate, and interpret statistical information.

Prerequisite: RECL 2P07.

Lectures, lab, 3 hours per week.

RECL 3P08

Introduction to tourism

Socio-cultural, environmental and economic impacts of tourism. Interdisciplinary in emphasis, with elements drawn from Recreation, Sociology,

Psychology, Geography, Economics and Business.

Prerequisite: one credit in RECL.

Not open to students with credit in RECL 3V99.

Lectures, seminar, 3 hours per week.

RECL 3P09

Commercial leisure services

The development and role of commercial leisure services in Canadian society. An overview of the concepts, principles and practices for developing a commercial recreation business.

Prerequisite: RECL 1P00, 1P10.

Lectures, seminar, 3 hours per week.

†RECL 3P11

The social psychology of leisure and recreation

(formerly RECL 2P11)

The social psychological dimensions of human behavior during free time including an examination of lifestyle, social habits and motives for leisure and recreation.

Prerequisite: RECL 2P01.

Not open to students with credit in RECL 2P11.

Lectures, seminar, 3 hours per week.

†RECL 3P12

Leisure and aging

The philosophy and role of leisure throughout life and the development of strategies for education, planning, and counselling.

Prerequisite: RECL 1P02, 1P10.

Lectures, seminar, 3 hours per week.

RECL 3P13

Play and culture

Play in socio-cultural contexts; children's play and playgrounds; games and gaming; word play (storytelling, drama, humor); adult play and leisure; festivals and celebrations.

Prerequisite: RECL 2P01, 3P11.

Not open to students with credit in RECL 3V98.

Lectures, seminar, 3 hours per week.

RECL 3P16

Outdoor recreation leadership

(formerly part of RECL 3F06)

The instructional and group management skills necessary to lead outdoor recreation experiences. Emphasis is

placed on problem solving, decision making, and the use of sound judgment.

Field trip fee: approximately \$40.

Prerequisite: RECL 3P06.

Not open to students with credit in RECL 3F06.

Lectures, lab, seminar, 3 hours per week.

RECL 3P20

Administration problems in recreation

Problems relating to the delivery of recreation services in Canada. Decision-making theories and principles of planning as they apply to selected sectors of the recreation delivery system.

Prerequisite: RECL 1P10.

Lectures, 3 hours per week.

RECL 3P22

Leisure assessment for special populations

Leisure counselling topics include tools/techniques and strategies for leisure education, assessment, and evaluation. A facilitative approach to change in recreation behavior is emphasized.

Prerequisite: RECL 1P02, 2P07.

Not open to students with credit in RECL 3V92.

Lectures, lab, 3 hours per week.

RECL 3P94

Interpersonal communication in recreation

(Also offered as COMM 3P94)

The interpersonal qualities, abilities and insights that play an important role in facilitating a recreation experience.

Special emphasis placed on self-concept, perception/values, language, non-verbal communication, listening, disclosure, relationships and resolving conflicts in the recreation setting.

Not open to students with credit in COMM 2P55 or SOCI 2P55.

Prerequisite: one credit in RECL.

Lectures, lab, 3 hours per week.

†RECL 3P99

Employee wellness programs

Employee recreation, fitness, assistance and service programs and their impact in the workplace.

Field trip fee: approximately \$15.
Prerequisite: RECL 1P00, 1P10.
Lectures, seminar, 3 hours per week.

RECL 3V50-3V99

Special studies in recreation and leisure

A series of lectures, seminars and practical experiences offered in specialized areas of recreation and leisure.

Prerequisite: third-year standing in RECL or permission of the chair.

Spring 1991: (3V50) Gender issues in recreation and leisure services

Gender issues affecting the management and delivery of recreation and leisure services, such as gender-based legislation in the workplace, gender biases in management styles, the design of gender-appropriate leisure services, future policies for work and family.

Prerequisite: third-year standing or permission of the instructor.

Lectures, seminar, workshop, 40 hours for the week.

(offered in Spring 1991 only.)

Winter 1991: (3V58) Tourism planning and development

The nature and scope of tourism planning; markets, attractions, services, transportation: economic, environmental and social impacts; regional/community planning aspects.

Prerequisite: RECL 3P08.

Lectures, seminar, 3 hours per week.

RECL 4F01

Contemporary issues in leisure studies

Significant historical, contemporary and future issues and concerns in recreation and leisure studies. Emphasis on creative lifestyle development and change at all ages.

Prerequisite: year 4 honors standing in RECL.

Lectures, seminar, 3 hours per week.

RECL 4F05

Fieldwork project

A program of practical experience in which students are placed in community recreation agencies which may be government funded or privately owned. In this placement, students are responsible for a project of master planning or rehabilitative change in recreation behavior or needs assessment.

Prerequisite: year 4 honors standing in RECL.

Seminars, 3 hours per week, plus fieldwork.

RECL 4F07

Research project

Development of appropriate and relevant research designs in recreation and leisure studies. Students will propose a research problem, review the literature, discuss methodology, collect and analyse the data, discuss the results and make a formal presentation of their research project.

Prerequisite: RECL 3P07, year 4 honors standing in RECL.

Lectures, seminar, 3 hours per week.

RECL 4P97

Honors project

Students may engage in further work on their research project in consultation with a faculty advisor. A number of options are available to the student including: a formal honors project, a research journal manuscript or a presentation for a research symposium or professional conference.

Prerequisite: RECL 4F07 (may be taken concurrently).

Seminars, 3 hours per week.

Science

Director

W. H. Cade, Dean
Faculty of Mathematics and Science

General information

Mackenzie Chown complex F234

Science courses (SCIE) are special offerings from the Faculty of Mathematics and Science which provide an overview of scientific endeavor, rather than concentrating on any single discipline. These courses treat the growth of theory and practice in the context of historical development and social issues. The courses are designed primarily for the non-science major and fulfill the core and context Science requirement, but they are also valuable elective credits for the science and mathematics student.

The courses are administered by the department of Chemistry and students should consult the Chemistry chair for more information.

Description of courses

SCIE 1F20

Science, its growth and consequences

Designed for the non-science major, this course traces the development of Western and non-Western science and technology. In the second term the focus is on the social, political, ethical and environmental consequences of modern scientific and technological activities and their implications for the future. Topics will include nuclear weapons, energy sources, pesticides, herbicides, drugs (medical and non-medical), food additives, waste disposal and pollution.

High School chemistry not required.
Lectures, 3 hours per week; seminar, 1 hour alternate weeks.

SCIE 1F30

Science and society

Exploration of the impacts of science and technology on society, for the non-science student. Starting from a definition that science is the art of the "knowable" and technology is the art of the doable", topics will include: What is pollution?; How are scientific theories formulated?; Science, ethics, and public policy. Invited speakers will provide the bases for seminar discussions.

Lectures, 3 hours per week, seminar, 1 hour, alternate weeks.

SCIE 3P91

Science at the junior/intermediate level

Designed for students in the concurrent science and education program.

Science teaching at the junior and intermediate level will be explored from the viewpoint of student participation in experiments, observations and demonstrations. Materials, exercises, and other required resources for doing "hands-on" teaching in the schools will be surveyed. A school based practicum is required.

Prerequisite: open only to students who have successfully completed year 2 of the combined BSc/BEd program.

Lectures, 2 hours per week; lab, 3 hours per week.

Sociology

Officers of instruction

Chair

Judith C. Blackwell

Professors

Susan M. Clark

Gary B. Rush

Terrence H. White

Associate professors

Ann D. Duffy

Daniel G. Glenday

Deborah A. Harrison

Victor A. Tomovich

Walter Watson

Assistant professors

Judith C. Blackwell

Ester Reiter

Lloyd G. Ward

General information

Mackenzie Chown

The disciplines encompassed by the department of Sociology--social anthropology, social psychology and sociology--are concerned broadly with social processes and structure and with behavior conditioned by participation in such contexts. The department at Brock is committed to a conception of the social sciences as scientific disciplines and to the belief that sound social action projects should be based on rigorous scientific effort. The department is also committed, however, to the view that social analysis is a complex process and that no one discipline can provide a complete perspective.

Business, government, organized labor and voluntary associations increasingly require an understanding of group behavior. Sociology in Canada has made significant contributions to our knowledge of elites and the class

structure, the tensions between Quebec and the rest of the country, gender relations, ethnic and sex segregation in the workforce, crime and delinquency, regional underdevelopment, equality of opportunity, and Canada's role in the Third World. Sociological input has been invited and contributed to the Royal Commission on Bilingualism and Biculturalism, the Task Force on Canadian Unity, the Commission on the Non-medical Use of Drugs, etc. Public policy in the areas of education, crime and delinquency, official languages, and regionalism have all benefitted from sociological analysis. Undergraduate training in Sociology provides students with a broad and scientific approach to society that both enhances understanding of social issues and provides a valuable basis for employment in human service industries.

Pass program

Note: Students declaring a major in Sociology (pass, honors, single or combined) are responsible for ensuring that their programs satisfy departmental requirements. To assist in this, faculty advisement is available on request to the department.

The following courses are required: SOCI 1F90, 2F01, 2F10, 3F01; three additional Sociology credits. For the latter, courses given outside the department may be credited, provided that they are basic to an integrated program, and written approval is obtained from the student's adviser and the department chair. Students considering an honors degree must include SOCI 3F10 in year 3.

Suggested program:

Year 1

SOCI 1F90; one humanities and one science context credit; two elective credits.

Year 2

SOCI 2F01, 2F10; one SOCI credit; two elective credits.

Year 3

SOCI 3F01; two SOCI credits (SOCI 3F10 is strongly recommended); two elective credits.

A minimum of three credits from courses numbered 2(alpha)90 or above must be included in a pass degree.

Honors program

The following courses are required: SOCI 1F90, 2F01, 2F10, 3F01, 3F10, 4F01 and either 4F90 or 4F91. The student is required to take three additional credits in SOCI.

Years 1 and 2

As in pass program.

Year 3

SOCI 3F01, 3F10; one SOCI credit; two elective credits.

Year 4

SOCI 4F01 and either 4F90 or 4F91; one credit in SOCI numbered 3(alpha)90 or above; two elective credits.

A minimum of three credits from courses numbered 3(alpha)90 or above must be included in an honors degree.

Combined major program

Pass program

A student taking a combined major pass program is required to complete five credits in Sociology. These will normally include 1F90, 2F01, 2F10, 3F01 and one additional credit.

Honors program

In addition to the requirements for a pass program, combined honors majors must complete SOCI 3F10, 4F01 and either 4F90 or 4F91. Equivalent thesis

Sociology

or practicum work in the other discipline may be substituted for SOCI 4F90 or 4F91.

Description of courses

Please note that not all courses are offered in every session. Refer to the applicable term timetable for details.

SOCI 1F90

Introduction to sociology

Principles and methods of social analysis as developed in sociology, social anthropology and social psychology, including elements of social structure, social relations, culture, norms and values, groups, stability and change, introduction to comparative analysis. Emphasis will be placed on field experience, independent student research, and data analysis.

Lectures, seminar, 3 hours per week.

SOCI 2F01

History of social thought

The central ideas of the social sciences, their intellectual origin and their change over time. The works of major social philosophers from the 18th and 19th centuries as well as classical social theorists will be examined.

Prerequisite: SOCI 1F90; may be taken concurrently with SOCI 2F10.

Not open to students with credit in SOCI 200, 320 or 421.

Lectures, seminar, 3 hours per week.

SOCI 2F10

Research methods in social relations

Introduction to the methods and procedures employed in social science research: research design and methods of data collections as well as the processing and analysis of data.

Lectures emphasize the logic underlying research design and appropriate methods. Labs concentrate on data processing management and analysis.

Prerequisite: SOCI 1F90; may be taken concurrently with SOCI 2F01.

Not open to students with credit in SOCI 230, 231hc or 232hc.

Lectures, lab, 3 hours per week.

SOCI 2F54

Documentary film

(also offered as COMM 2F54 and FILM 2F54)

Documentary film from its beginnings in photography and the actualités of the Lumières through traditions and developments in documentary practice. The history, theory and aesthetics of documentary film and its cultural implications.

Prerequisite: SOCI 1F90, FILM 1F94, or permission of the instructor.

Lectures, seminar, 3 hours per week, plus weekly film lab.

SOCI 2P22

Schools and society

Social analysis of educational institutions emphasizing the influence of society on organizational structure, curriculum and goals; schools as formal organizations; the relationship of education to other aspects of society, particularly the occupational and class structures; schools and society in Canada.

Not open to students with credit in SOCI 291hc.

Lectures, seminar, 3 hours per week.

SOCI 2P23

Mass media

(also offered as COMM 2P23)

The organization of the mass media, with special emphasis on the Canadian media and their unique difficulties. Topics may include the media's use for socialization, reproduction of the social structure, and social change.

Not open to students with credit in SOCI 248hc.

Lectures, seminar, 3 hours per week.

SOCI 2P31

Political sociology

The social processes underlying political domination and conflict; different state structures such as the voluntary, authoritarian, liberal, democratic, and socialist; interrelationships between political institutions and other social institutions and the nature of oppositions to the established political regimes.

Not open to students with credit in SOCI 218hc.

Lectures, seminar, 3 hours per week.

SOCI 2P32

The sociology of work

(also offered as LABR 2P32)

Understanding changes in the organization of work and the composition of the workforce with particular emphasis on the Niagara Peninsula. Topics include unionization, management strategies, pay equity and employment equity, the international division of labor and other current issues in the Canadian labor movement. Those with work experience are encouraged to enrol.

Not open to students with credit in SOCI 311hc.

Lectures, seminar, 3 hours per week.

SOCI 2P33

Sociology of deviance

Theories of conforming and deviant social behavior and methodologies used in their investigation; problems of causal analysis in studies of deviance, conformity and over-conformity. Attention will be directed towards various forms of anti-social behavior, particularly those which are socially induced.

Not open to students with credit in SOCI 292hc.

Lectures, seminar, 3 hours per week.

SOCI 2P34

The labor process and trade unions

(also offered as LABR 2P34)

Labor process theories which focus on the relationship between technology, the division of labor, social relations of production and the manner in which the state, business and trade unions have responded to changes in the labor process. Seminars will deal with practical problems of contemporary labor relations.

Not open to students with credit in SOCI 3P32 or 351hc.

Lectures, seminar, 3 hours per week.

SOCI 2P41

Urbanism

The rise of cities, migration and urbanization; the ecology of city areas; the urban environment and social relations in cities; neighborhood perception, structure and interaction.

Not open to students with credit in SOCI 295hc.

Lectures, seminar, 3 hours per week.

SOCI 2P42**Community**

Communities in rural, urban and suburban settings; the impact of industrialization and increased social scale on community structure and identity; community decision-making and the exercise of power.

Not open to students with credit in SOCI 371hc.

Lectures, seminar, 3 hours per week.

SOCI 2P43**Human ecology**

The impact of the physical and cultural environment on the spatial and social structure of human aggregates.

Not open to students with credit in SOCI 372hc.

Lectures, seminar, 3 hours per week.

SOCI 2P51**Gender and society**

(also offered as WISE 2P51)

An examination of the ways in which gender functions as an organizing principle in society. The social construction of masculinity and femininity will be addressed from historical and cross-cultural perspectives. Particular attention will focus on gender in principal institutions of Canadian society: economy, state, family, education and military. Selected gender issues will include men and women in non-traditional occupations, women in the military, gender and power.

Not open to students with credit in SOCI 346hc.

Lectures, seminar, 3 hours per week.

SOCI 2P52**Socialization**

The development of shared meanings of symbols and commonly accepted forms of behavior. Sources of influence including parents, peers and television; studies of variations in patterns of socialization both within Canada and cross-nationally.

Not open to students with credit in SOCI 266hc.

Lectures, seminar, 3 hours per week.

SOCI 2P53**Personality and role**

The influence of culturally-determined socialization practices, role expectations and values upon the formation of personality; the self as a social process.

Not open to students with credit in SOCI 267hc.

Lectures, seminar, 3 hours per week.

SOCI 2P55**Interpersonal communication**

(also offered as COMM 2P55)

Perspectives on human communication including both verbal and non-verbal communication.

Not open to students with credit in SOCI 247hc.

Seminars, 3 hours per week.

SOCI 2P61**Introduction to criminology**

The nature of criminal behavior, its social causes and consequences; organized crime; white-collar crime; forms of patterned evasion of legal norms; correctional institutions as social systems.

Not open to students with credit in SOCI 293hc.

Lectures, 3 hours per week.

SOCI 2P71**Class, status and power**

Classical and contemporary approaches to the study of social class. Topics may include forces and relations of production, the division of labor in society, class relations and class conflict, gender relations, social stratification, social mobility, the role of the state, and culturally-based differentiation (ethnicity, religion, language). Special attention will be given to the Canadian class structure through comparison with other industrialized nations.

Not open to students with credit in SOCI 216hc.

Lectures, seminar, 3 hours per week.

SOCI 2P72**Social inequality**

Classical and contemporary approaches to the study of social inequality. Topics to be discussed include the distinction

between natural and social inequalities; political and social philosophies of equality and inequality; contrasting explanations for world inequality.

Special attention will be given to Canada and its location in the world economy.

Not open to students with credit in SOCI 217hc.

Lectures, seminar, 3 hours per week.

SOCI 2P73**Issues in development**

A comparison of alternative explanations of underdevelopment in the Third World. The level of industrialization, urbanization, education and literacy; the distribution of wealth; the development of the nation-state and prospects for change or revolution in the Third World will be examined.

Not open to students with credit in SOCI 352hc.

Lectures, seminar, 3 hours per week.

SOCI 2V80-2V89**Selected topics in sociology**

Selected issues in sociology.

Lectures, seminar, 3 hours per week.

1991-92: (2V82) Introduction to anthropology

Social and cultural life from an anthropological perspective. Exploration of the scope and nature of the discipline through the study of selected cases drawn largely from non-Western, technologically simple communities.

Prerequisite: second-year standing.

Lectures, seminar, 3 hours per week.

1991-92: (2V83) Social anthropology

Concepts, such as kinship and marriage, and theories underlying the comparative study of the social institutions of non-literate peoples.

Prerequisite: SOCI 2V82.

Lectures, seminar, 3 hours per week.

SOCI 2V90-2V99**Directed studies**

Guided readings on a particular topic which is not covered in the department's regular course offerings. Topics must be chosen in consultation with a

Sociology

faculty member willing to supervise the tutorial.

Prerequisite: permission of the instructor.

Seminars, 3 hours per week.

SOCI 3F01

Modern social theory

Major contemporary theories of society, such as structural functionalism, symbolic interactionism and neo-Marxist and feminist theories. Consideration will be given to their origins and development in historical context. Theories will be compared and contrasted in terms of their assumptions, conceptual distinctions, methodological features and ethical implications.

Prerequisite: SOCI 2F01.

Not open to students with credit in SOCI 220 or 300.

Lectures, seminar, 3 hours per week.

SOCI 3F10

Research design

Research design with special emphasis on relating systematic theory to the development of research strategies.

Prerequisite: SOCI 2F10; may be taken concurrently with SOCI 3F01.

Not open to students with credit in SOCI 390 or 391hc/395hc.

Seminars, 3 hours per week.

SOCI 3F21

The family

(also offered as WISE 3F21)

Family patterns including gender roles and the dynamics of family change and development. Topics include examination of marriage and family issues, gender role socialization and change, dual careers, alternative life styles, gender roles in cross-cultural perspective, and marital and family relationships past, present and future.

Not open to students with credit in SOCI(CHST)3P21 or 3P51.

Lectures, seminar, 3 hours per week.

SOCI 3P26

Medical sociology

Social factors associated with physical health, illness and impairments; health

care delivery systems and the factors which influence their utilization.

Not open to students with credit in SOCI 304hc.

Lectures, seminar, 3 hours per week.

SOCI 3P27

Psychiatric sociology

Social factors associated with psychiatric illness. The course will emphasize the increased utilization of social science theory and research in the field of psychiatry.

Not open to students with credit in SOCI 303hc

Lectures, seminar, 3 hours per week.

SOCI 3P28

Introduction to clinical sociology

Application of sociological knowledge to intervention for individual and social change. The translation of symbolic interactionist and related theories into action will be emphasized. Units of analysis are groups or group settings rather than isolated individuals whose problems are considered intrapsychic.

Not open to students with credit in SOCI 305hc.

Seminars, 3 hours per week.

SOCI 3P30

Sociology of women and work (also offered as LABR 3P30 and WISE 3P30)

Both quantitative and qualitative research will explore the societal significance and implications of the change in women's participation in paid employment and domestic labor in this century. Attention will focus on specific areas: the ghettoization of the female labor force, women in professional and non-traditional occupations, microtechnology, part-time work and unionization.

Lectures, seminar, 3 hours per week.

SOCI 3P31

Bureaucracy and complex organizations

Distinctive sociological theories of bureaucracy and complex organizations. Comparisons will be made

between state-funded and profit-oriented organizations in North America, Japan and Western Europe. Attention will be paid to differences in managerial ideologies, authority and discipline, and the impact of informatics technologies on decision-making and communication.

Not open to students with credit in SOCI 345hc.

Lectures, seminar, 3 hours per week.

SOCI 3P33

Law and society

Comparative analysis of the forms and functions of law in society; influence of culture and social organization on law; the role of law in social change and the social sources of legal change.

Not open to students with credit in SOCI 318hc.

Lectures, seminar, 3 hours per week.

SOCI 3P34

Information technology and work (also offered as LABR 3P34)

The application of information technology to the labor process. Topics to be discussed include the relationship of this technology to the number and types of jobs available, to the total number of required hours worked over a lifetime, and to the increased importance given education and work.

Lectures, seminar, 3 hours per week.

SOCI 3P42

Canadian society

Analysis of Canadian society through issues selected from regionalism, the women's movement, aboriginal and Francophone political and legal claims, Canadian elites and the nature of the Canadian state.

Not open to students with credit in SOCI 348hc.

Lectures, seminar, 3 hours per week.

SOCI 3P46

Native peoples and Canadian society

The relationship between Canada's Native Peoples and selected institutions in Canadian society such as education, industry and government. Topics will

include the European impact on indigenous culture, the conflict between traditional life styles and Canadian institutions, and the Native Peoples' responses.

Not open to students with credit in SOCI 249hc.

Lectures, seminar, 3 hours per week.

SOCI 3P47

Ethnic groups

How relations among ethnic groups in various parts of the world represent contemporary examples of the ways in which physical and cultural differences are used to justify intergroup hostility, prejudice and discrimination. Understanding the nature of ethnic relations in Canada through topics such as multiculturalism, racism, immigration policy, and the maintenance of ethnic identity.

Not open to students with credit in SOCI 349hc.

Lectures, seminar, 3 hours per week.

SOCI 3P52

Beliefs and values

Social analysis of belief systems as organized into ideologies; the interrelationship among ideological systems, emphasizing especially religious and political ideologies.

Not open to students with credit in SOCI 316hc.

Lectures, seminar, 3 hours per week.

SOCI 3P55

Interpersonal behavior

The processes through which individuals relate to one another, primarily in two-person and three-person contexts.

Not open to students with credit in SOCI 366hc.

Lectures, seminar, 3 hours per week.

SOCI 3P56

Small groups

Group properties, their development over time, their maintenance or modification in the face of changing situations; the impact of group membership on experience and behavior of individuals.

Not open to students with credit in SOCI 367hc.

Lectures, seminar, 3 hours per week.

SOCI 3P57

Gerontology and the aging process

Humanistic, social, historical and cross-cultural perspectives on gerontology and aging. Topics include: examination of conceptual and methodological approaches to studying aging; surveys of programs and prospects for the elderly; cultural, social and personal images of aging; the impact of social, psychological and biological processes affecting aging and the elderly within communities; social planning for the elderly.

Lectures, seminar, 3 hours per week.

SOCI 3P61

Sociology of correction

An investigation of society's agencies of social control that are entrusted to work on rehabilitation of the deviant behavior of juvenile delinquents and adult criminals. Provincial jails and detention centres, and federal penitentiaries are studied. Examples from other societies are also used in tracing innovative methods in correction.

Prerequisite: SOCI 2P61 or permission of the instructor.

Not open to students with credit in SOCI 306hc.

Lectures, 3 hours per week.

SOCI 3P66

Social movements

(also offered as LABR 3P66)

Either a general survey of the impact of ideology on behavior and the subsequent development of social movements, or specific examinations of particular movements such as: separatism, nationalism, fascism, Marxism, feminism, etc. The topic will vary from year to year.

Not open to students with credit in SOCI 317hc.

Lectures, seminar, 3 hours per week.

SOCI 3P76

Technology and change

(also offered as LABR 3P76)

The political and social contexts of scientific and technological developments. Topics may include the impact of computer technology, the gendered effects of technological innovation, and the nature of the information society.

Not open to students with credit in SOCI 312hc.

Lectures, seminar, 3 hours per week.

SOCI 3V10-3V19

Selected research topics

Selected methodological issues in sociology.

SOCI 3V80-3V89

Selected topics in sociology

Selected issues in sociology.

1991-92: (3V83) Family and violence

Conflict within modern family relationships. Considerations include contemporary research on spousal violence, power and decision-making, sexual abuse and child abuse. Particular attention will be given to the socio-historical factors which contribute to increased family stress. Institutional and interpersonal strategies for reducing family conflict will be examined.

Lectures, seminar, 3 hours per week.

SOCI 3V90-3V99

Directed studies

Guided readings on a particular topic which is not covered in the department's regular course offerings. Topics must be chosen in consultation with a faculty member willing to supervise the tutorial.

Prerequisite: permission of the instructor.

Seminars, 3 hours per week.

SOCI 4F01

Honors seminar

The seminar will provide a forum for honors students to discuss their current research. The seminars' goals are to broaden the students' perspectives by exposing them to a variety of research topics, problems and settings, and to enable them to examine and discuss their own work and that of their peers.

Prerequisite: admission to year 4, or permission of the instructor.

Not open to students with credit in SOCI 490.

Seminars, 3 hours per week.

Sociology

SOCI 4F90

Honors thesis

Students electing this honors option will be required to undertake an independent research project under the supervision of a member of the department. The results of the project will be presented as a thesis. The course will be conducted as a tutorial. Prerequisite: SOCI 2F01, 2F10, 3F01, 3F10. SOCI 4F01 required and may be taken concurrently.

Not open to students with credit in SOCI 491.

SOCI 4F91

Honors practicum

A student electing this honors option typically will serve as a research associate with a local social service agency. The exact nature of projects will vary with the agency; however, the faculty director, agency supervisor and student will negotiate a mutually acceptable set of expectations. The student will meet bi-weekly with the faculty director.

Prerequisite: SOCI 2F01, 2F10, 3F01, SOCI 3F10. SOCI 4F01 required and may be taken concurrently.

Not open to students with credit in SOCI 495.

SOCI 4P23

Research on popular culture (also offered as COMM 4P23)

Topics relevant to the mass media and popular culture. Students will design their own reading lists and projects, and work in a largely self-directed manner. The methodological range of the projects will vary with the interests of instructor and students, but will likely include content analysis, political economy, semiology, discourse analysis, audience receptivity, and poststructuralism.

Prerequisite: SOCI 1F90 and 2P23, or permission of the instructor.

Not open to students with credit in

SOCI 4V81.

Seminars, 3 hours per week.

SOCI 4P33

Women and the State (formerly SOCI 4V81)

The historical and structural roles of the state in the exercise of patriarchy, with special emphasis on Canada. How the state has responded to reactionary and progressive social movements. Topics may include: female sexuality, marriage and property, childrearing, the New Right, education, work, the public sphere, the courts, violence against women, and military violence.

Not open to students with credit in SOCI 4V81.

SOCI 4P42

Special topics in Canadian society

An exploration of a substantive area in the study of Canadian society. The topics will cover Canadian communities, Quebec society, Native Peoples, regionalism, ethnic groups and the intellectual traditions of Canadian political economies.

Not open to students with credit in SOCI 440hc.

Seminars, 3 hours per week.

SOCI 4P45

Comparative social analysis

Application of the comparative method of analysis to the study of similarities and differences between whole societies (modern and/or traditional), particular structures and processes of given societies (e.g., politics, family, law, organization of work), or between groups or regions of a single society.

Not open to students with credit in SOCI 420hc.

Seminars, 3 hours per week.

SOCI 4P52

Sociology of knowledge

Knowledge as a social product; the

cultural and temporal variations in knowledge as causal and as limiting factors in human behavior.

Not open to students with credit in SOCI 315hc.

Seminars, 3 hours per week.

SOCI 4V10-4V19

Selected research topics (formerly SOCI 4F10)

Selected methodological issues in sociology. Advanced methods for the measurement of variables and the analysis of data in the social sciences with special emphasis on the implications of various theoretical categories of data, multiple approaches to the estimation of reliability and validity, and the use of computer-assisted analytic procedures.

Seminars, lab, 3 hours per week.

SOCI 4V80-4V89

Special topics in sociology

Selected issues in sociology. Course content will vary, depending upon the interests of instructors and students.

SOCI 4V90-4V99

Directed studies

Guided readings on a particular topic which is not covered in the department's regular course offerings. Topics must be chosen in consultation with a faculty member willing to supervise the tutorial.

Prerequisite: permission of the instructor.

Seminars, 3 hours per week.

Institute of Urban and Environmental Studies

Officers of instruction

Director

Bruce W. Krushelnicki
John Middleton (as of July 1, 1991)

Professor

Fikret Berkes

Associate professors

Bruce W. Krushelnicki
John Middleton

Professors emeriti

A.W. Frank Banfield
Robert C. Hoover

Co-operating faculty from the departments of Biological Sciences, Chemistry, Economics, Geography, Geological Sciences, Philosophy, Politics, and Sociology.

General information

Mackenzie Chown, F202

The Institute of Urban and Environmental Studies offers combined major programs leading to BA and BSc degrees at the pass and honors levels in conjunction with seven collateral departments. It also offers a certificate program in Urban and Environmental Studies and administers a BSc program in Environmental Science. A major in Urban and Environmental Studies is always taken in conjunction with a major in a social science or science discipline.

The Institute's courses are taught by its own faculty, by faculty from other departments and occasionally by outside professionals. The aim is to provide an understanding of current

urban and environmental issues, training in appropriate methods of investigation and analysis, and experience in developing creative solutions. The approach is interdisciplinary and system-oriented, combining the principles and methods of the physical and social sciences. Topics such as pollution, resource management, land-use conflict, food supplies, quality of life and urban planning are examined in various contexts--political, legal, social, economic and physical--with special attention paid to the Niagara Peninsula, Ontario and Canada, and to the formulation of policy for change.

Urban and Environmental Studies are united into a single program, reflecting all aspects of the environment. Year 1 and 2 courses are taken by all students, to provide a background of basic concepts and principles. In year 3 students may concentrate in one or more areas through a combination of courses. Fourth-year courses allow in-depth examination of research and policy issues.

Students who wish to pursue a pattern of studies which does not coincide with existing combined major programs, may follow a general or integrated studies program in urban and environmental studies specifically designed for their interests.

Co-operative studies

The Institute's co-operative studies program, organized in conjunction with public and private agencies outside the University, enables students to gain on-the-job practical experience for credit over a four- or eight-month period. Full-time students who have completed year 2 of a combined major in Urban and Environmental Studies are eligible for the program.

Environmental science program

See separate calendar entry under Environmental Science.

Urban and Environmental Studies

(for Spanish see page 143/
for Theatre see page 136)

Certificate program

The program leading to a certificate in Urban and Environmental Studies provides specialized knowledge for interested persons who already have a degree in a different field, or equivalent professional experience. The admission requirements are the same as for the degree program. Prospective students should consult with the Institute director before beginning the certificate program.

The certificate is awarded on completion of at least four credits in UEST, beyond a degree, with an overall average of 70 percent, and one credit consisting of MATH 1P98 and COSC 1P90 or 1P91 for a total of five credits. The MATH/COSC requirements will be waived if equivalent courses have already been completed. Courses cannot be counted twice; therefore, no UEST course can count for both a degree and a certificate.

Required courses

UEST 2F96, 2F97; two year 3 or year 4 credits in UEST, chosen in consultation with the director; MATH 1P98 and COSC 1P90 or 1P91 if not already taken. Year 2 and year 4 courses may not be taken concurrently. Certificate students are not eligible for UEST 3V80, 3V81.

Combined major programs

The Institute participates in combined major programs with the following collateral departments: Biological Sciences, Chemistry, Economics, Geography, Geological Sciences, Politics and Sociology. The course requirements for these are described below.

Combined major programs involving other disciplines are also possible, and any student wishing to pursue one of these should consult the Institute director and the chair of the department in question.

Urban and Environmental Studies

The BA degree is granted if the majority of a student's courses is in the social sciences. The BSc degree is granted if the majority of a student's courses is in the sciences. For this purpose, the following Institute courses carry science credit: UEST 2F97, 3P41, 3P42, 3P51, 3P53, 3P55 and 3V10-3V15.

Pass Program

The normal program sequence, including the required courses in Urban and Environmental Studies, is as follows:

Year 1

UEST 1F90; one credit from collateral department; MATH credit as specified by the collateral department, otherwise, MATH 1P98; COSC 1P90, 1P91; two electives, one or both of which should be used to satisfy core and context requirements.

Year 2

UEST 2F96, 2F97; two credits in collateral department; one elective credit (chosen in consultation with the Institute and the collateral department; see *Electives* below).

Year 3

Two year 3 credits including at least one credit from UEST 3V10-3V15, 3V20-3V24, 3V25-3V29, or 3V30-3V34 (excluding 3V80-3V81); two credits in collateral department; one elective credit.

Honors program

Students who wish to pursue an honors combined major program must qualify for honors status in both Urban and Environmental Studies and the collateral department.

Years 1, 2 and 3

As in pass program.

Year 4

UEST 4F90, 4F91 or 4F95; two credits in collateral department; one or two elective credits (depending on whether UEST 4F90, 4F91 are taken); thesis strongly recommended. To qualify for an honors degree, students must complete a minimum of three credits numbered 3(*alpha*)90 or higher.

Course requirements for collateral departments

Biological Sciences

Pass

BIOL 1F90, 2P04, 2P05; two of BIOL 2P90, 2P91, 2P93, 2P98; two year 3 BIOL credits; MATH 1P97, 1P98.

Honors

As for pass degree, plus: two credits in BIOL, one of which must be at the year 4 level.

Chemistry

Pass

CHEM 1P80, 1P81 or CHEM 1P90, 1P91, CHEM 2P01, 2P02, 2P12, 2P20, 2P21, 2P32 and 2P42; one of CHEM 3P20, 3P21, 3P30, 3P31; CHEM 3P40; PHYS 1F20 or 1F90; MATH 1P93, 1P94.

Honors

As for pass degree, plus: two credits in CHEM at the year 3 or year 4 level, one of which must be at the year 4 level.

Economics

Pass

ECON 1P91, 1P92, 2P21, 2P22, 2P31, 2P32; ECON 2P90 (MATH 1P98 is its prerequisite); two year 3 ECON credits; MATH 1P60, 1P97.

Honors

Consult department.

Geography - BA

Pass

GEOG 1F90, (GEOG 1F91 is strongly

recommended as a science context credit); GEOG 2P07, 2P08, two of GEOG 2P02, 2P03 and 2P06; GEOG 3P57; three year 3 level half credits from Group A (see listing in Geography section of the calendar) excluding GEOG 2P90, 2P91 and 2P92.

Honors

As for pass degree, plus: GEOG 4F99; one year 4 credit in GEOG from group A. The courses selected cannot include both GEOG 4F90 and UEST 4F90, 4F91.

Geography - BSc

Pass

GEOG 1F91; MATH 1P97, 1P98; GEOG 2P07, 2P08, two of GEOG 2P04, 2P05 and 2P09; GEOG 3P56; three year 3 half credits from group B (see listing in Geography section of the calendar).

Honors

As for pass degree, plus: GEOG 4F99; one year 4 credit in GEOG from group B. The courses selected cannot include both GEOG 4F90 and UEST 4F90, 4F91.

Geology

Pass

GEOL 1F95, 2P31, 2P42, 3P31, 3P61; one of GEOL 3P24, 3P25; one of GEOL 2P01, 2P21; one credit in GEOL at the year 2 or year 3 level; CHEM 1P80, 1P81 or 1P90, 1P91; MATH 1P97, 1P98.

Honors

As for pass degree, plus: two GEOL credits at the year 3 or year 4 level (one of which must be at the year 4 level); or GEOL 4F90 and one year 4 GEOL credit.

Politics

Pass

POLI 1F90 and four credits in POLI at the year 2 level and above. These must include: POLI 2P01 (or 2F90) and 2P80 (or 2P81).

Honors

As for pass degree, plus: two credits in POLI which must include 3P91 (or 3P81); and if POLI 2P01 was taken instead of 2F90, one of 3V00-3V09, 4P01, 4P02 and 4V00-4V09.

Sociology

Pass

SOCI 1F90, 2F01, 2F10, 3F01; one credit in SOCI.

Honors

As for pass program, plus: SOCI 3F10 (preferably taken in year 3); SOCI 4F01 and one of SOCI 4F90, 4F91 or UEST 4F90, 4F91.

Description of courses

Please note that not all courses are offered in every session. Refer to the applicable term timetable for details.

Most year 3 courses are offered in alternate years in a two-year cycle. With permission of the instructor, they are open to suitably qualified second-year students. By planning their programs one year in advance, students would have a wider range of courses and combinations from which to choose.

UEST 1F90

Introduction to urban and environmental studies

Principles needed for understanding the human environment from an interdisciplinary perspective. Examples are chosen from the urban, rural and natural environments of southern Ontario and from other parts of the world. The course discusses acute problems such as pollution, as well as positive aspects of human activity such as environmentally appropriate cities. Policy options, possibilities for creative social action and planned change are emphasized.

Lectures, seminar, 3 hours per week.

UEST 2F96

Principles of planned urban change

The theory and practice of managing and governing urban systems. Public policy-making, plan-making, and the process of community development. Roles of citizens, professionals and elected officials in the process of planned urban change. Studies of the city as human community, polity, administrative unit and physical plant. Prerequisite: completion of year 1 requirements for Urban and Environmental Studies or permission of the instructor.

Lectures, seminar, 3 hours per week.

UEST 2F97

Principles of environmental studies

Basic ideas and concepts of environmental sciences. Major variables of the global ecosystem including food and agriculture, population and health, biological conservation, water, energy, human settlements, policies, and institutions. Special attention to the linkages between global and local issues.

Prerequisite: completion of year 1 requirements for Urban and Environmental Studies or permission of the instructor.

Lectures, seminar, 3 hours per week; occasional field trips.

UEST 2V90-2V95

Special topics

A tutorial/seminar/special projects or directed readings course in an area of urban and environmental studies not represented by other courses.

Prerequisite: completion of year 1 requirements for Urban and Environmental Studies and permission of the instructor.

Seminars, tutorial, 3 hours per week.

UEST 3P41

Marine resources

Introduction to oceanography and marine ecology, and the management of living resources of the sea. Ecological, economic and policy issues in coastal and oceanic fisheries and in aquaculture, with emphasis on Canadian examples. Effect of pollution and other stresses on marine resources. The

enclosure of ocean resources: law of the sea.

Prerequisite: UEST 2F96, 2F97 or permission of the instructor.

Lectures, seminar, 3 hours per week.

UEST 3P42

Conservation planning

Application of ecological theory to environmental planning for conservation of species and ecosystems in a world dominated by human activities. Parks, reserves, zoos, co-existence with man in productive landscapes. Combining conservation with development. Effects of habitat fragmentation, genetic problems of small populations. The World Conservation Strategy, policies for governments and other organizations.

Prerequisite: UEST 2F96, 2F97 or permission of the instructor.

Lectures, seminar, workshop, 3 hours per week.

UEST 3P51

Environmental microbiology

An introduction to environmental microbiology, emphasizing the role of micro-organisms in the polluted human environment. Aspects of basic microbial processes within the context of waste treatment, toxicology, nutrient recycling and microbial interactions. Prerequisite: BIOL 1F90 or UEST 2F97 or permission of the instructor.

Lectures, seminar, 3 hours per week.

UEST 3P52

Urban planning analysis

The theories, processes and methods of urban and regional planning in Canada. Topics include: population projection; survey techniques; land/space allocation; environmental service theory and practice; land change process; use of computer mapping and statistical analysis; municipal taxation and budgeting.

Prerequisite: UEST 2F96, 2F97 or permission of the instructor.

Lectures, seminar, 3 hours per week.

UEST 3P53

Environmental impact assessment

The development of environmental impact assessment in Canada and in

Urban and Environmental Studies

other countries; government regulations and legislation; methods of environmental impact assessment; ecological, social, economic, and political aspects.

Prerequisite: UEST 2F96, 2F97 or permission of the instructor.

Lectures, seminar, workshop, 3 hours per week.

UEST 3P55

Management of fisheries and wildlife resources

Management and conservation of fishery and wildlife resources with an emphasis on interdisciplinary aspects, current issues and policy questions in the management of living resources. Some training is provided in management tools and techniques. The course has largely Canadian content with case studies from the North, the Great Lakes area and the Atlantic and Pacific coasts.

Prerequisite: UEST 2F96, 2F97 or permission of the instructor.

Lectures, workshop, seminar, 3 hours per week.

UEST 3P56

Urban countryside policy planning

The urban-related countryside and its agricultural and environmentally sensitive resource areas. Policy problems of urban containment, boundary definition, density control and expansion in areas of high food-production potential and environmental sensitivity. Comparative approaches to countryside planning policies in other areas of heavy urban impact. Field observation and study assignments on urban countryside policies.

Prerequisite: UEST 2F96, 2F97 or permission of the instructor.

Lectures, seminar, 3 hours per week.

UEST 3P57

Human services planning in the urban region

Community objectives for quality of life through social services. Constitutional basis for social services, role of grants and transfer payments. Regional planning for social and area-development services. Social planning aspects of provincial planning legislation.

Policy planning to reduce recidivism and promote prevention. Integration of social planning for quality of life, administrative planning for service-provision, and planning for service centres.

Prerequisite: UEST 2F96, 2F97 or permission of the instructor.

Lectures, seminar, workshop, 3 hours per week.

UEST 3V10-3V15

Interdisciplinary perspectives on pollution

Mainly a science-oriented course, dealing with sources, effects and eventual fate of different types of pollutants; their metabolic and other biological effects, chemical transformations, dispersal and geological deposition; selected case studies of air and water pollution with emphasis on the interaction of relevant disciplines; scientific knowledge and the formulation of regulations to control pollution.

Prerequisite: UEST 2F97 or permission of the instructor.

Lectures, seminar, 3 hours per week.

UEST 3V20-24

Interdisciplinary perspectives on human settlements

Specific topics to be selected annually.

Prerequisite: UEST 2F96, 2F97 or permission of the instructor.

1991-92: (3V21)

The evolving relationship of human settlements to the social, biological and physical needs of humans. The variety of form and structure of the Western city through history and in various locations.

Prerequisite: UEST 2F96 and 2F97 or permission of the instructor.

Lectures, seminar, 3 hours per week.

UEST 3V25-3V29

Interdisciplinary perspectives on international issues

Specific topics to be selected annually. Prerequisite: UEST 2F96 and 2F97 or permission of the instructor.

Lectures, seminar, workshop, 3 hours per week.

1991-92: (3V25) International development and environment

The relationship between environment and development/underdevelopment, environmental implications of global resource dependencies, environmental policies and practices of Canadian and other development agencies in the third world.

Prerequisite: UEST 2F96 and 2F97 or permission of the instructor.

Lectures, seminar, 3 hours per week.

UEST 3V30-34

Interdisciplinary perspectives on environmental issues

Specific topics to be selected annually.

Prerequisite: UEST 2F96 and 2F97 or permission of the instructor.

Lecture, seminar, 3 hours per week.

UEST 3V60-3V65

Selected issues in urban policy

An examination of specific issues of urban policy. These may vary from year to year.

Prerequisite: UEST 2F96, 2F97 or permission of the instructor.

Lectures, seminar, 3 hours per week.

1991-92: (3V61) Housing and housing policy in Canada

Concept of home and house; types and tenure of housing; real estate and the housing industry; housing policy in Ontario and Canada.

Lectures, seminar, 3 hours per week.

UEST 3V80-3V81

Co-operative education

A program of practical experience in the career opportunities available to students of Urban and Environmental Studies. Students must submit a final report for assessment. The course may commence in either May, September or January of each year.

Prerequisite: third- or fourth-year standing in Urban and Environmental Studies co-major.

Eligibility will also be determined by academic standing.

May be repeated once.

UEST 4F90

Honors thesis

To be taken in conjunction with UEST

4F91. Each student will undertake an original research project under faculty supervision, with a schedule including tutorials and class meetings held throughout the year. An oral defense of the final report will be required.
Prerequisite: admission to year 4 honors program.
Co-requisite: UEST 4F91.
Seminars, tutorial, 3 hours per week.

UEST 4F91

Literature research and seminar
To be taken in conjunction with UEST 4F90. Each student will undertake a detailed study of the literature relevant to the topic of the honors thesis, under faculty supervision. The review will be included in the thesis.
Prerequisite: admission to year 4 honors program.
Co-requisite: UEST 4F90.
3 - 5 hours per month.

UEST 4F95

Advanced seminar in urban and environmental policy
A seminar course on selected topics in urban and environmental policy chosen in conjunction with Institute faculty and faculty from co-operating departments.
Prerequisite: completion of year 3 as a combined major in urban and environmental studies, or permission of the instructor.
Seminars, 3 hours per week.

Electives in Urban and Environmental Studies programs

Electives should be chosen in consultation with the faculty of Urban and Environmental Studies and of the collateral department. Normally, students should take such courses in one or more departments outside their collateral major. In planning their programs, students should be certain to fulfil necessary prerequisites for such courses.

Women's Studies

Director

Cecilia Reynolds, Faculty of Education

Associated Faculty

Judith Blackwell, Sociology

Ann Duffy, Sociology

Ann Marie Guilmette, Recreation and Leisure Studies

Deborah Harrison, Sociology

Joan Nicks, Film Studies, Dramatic and Visual Arts

Ester Reiter, Sociology

Cecilia Reynolds, Faculty of Education

Mary Frances Richardson, Chemistry

Viola Shuart, Child Studies

Stella Slade, English

A. Victoria Soady, Classics

Jean Wilson, Physical Education

General information

The combined major program in Women's Studies is designed for students who realize the value of interdisciplinary, cross-cultural approaches to learning and who wish to participate in a program whose subject matter and perspective are neither androcentric nor ethnocentric. The program offers to students a critical awareness of the importance of gender as an essential factor in cultural expressions, human relations and scholarly production.

Students are expected to develop the analytical skills to test hypotheses derived from feminist theories, as well as to evaluate scholarship that does not take this perspective into account. The program also encourages students to undertake self-generated projects, in order to explore the validity of established theoretical frameworks as well as feminist alternatives.

The Women's Studies program examines how gender influences both men and women. It encourages students to develop a critical perspective on assumptions about institutions, ideologies, history, human nature,

science, language and culture. Women's Studies serves as an alternative to the traditional curriculum which tends to describe and analyze phenomena from an androcentric viewpoint. One of the strengths of the program is its diversity of perspectives in the critical examination of theoretical and empirical issues. Its ultimate aim is to further human understanding through exploring and respecting differences.

Although the primary objectives of the Women's Studies program are academic, the program also provides an environment supportive to women in the University and in the community at large. Hence, the Women's Studies program emphasizes the importance of women's perceptions and self-definition. Because of the level of community interest in and support for Women's Studies, the program promotes activities and encourages research that benefits both the Brock community and women in the greater Niagara Region. It provides a forum for community issues of relevance to women and maintains a liaison with community organizations.

The academic program in Women's Studies is based upon a combined major in a humanities, science, or a social science discipline. The interdisciplinary emphasis of the program will encourage any combined major programs that are consistent with its academic objectives and the interests of students.

The following course patterns are based on the normal combined major requirements: five credits in each discipline plus five additional credits for a pass degree; seven credits in each discipline plus six additional credits for an honors degree. Students enrolling in a combined humanities and WISE major will be required to complete one credit in a language other than English. Students should consult the collateral department with respect to ancillary requirements.

Students will meet with the director of Women's Studies and with the chair of the collateral department at the end of

the first year of study, to ensure that the choice of courses will meet the criteria for the combined major degree.

Pass program

WISE 1F90, 2F90, 2F91; two credits from the list of approved WISE courses. Students may take both WISE 2F90 and 2F91 in second-year, or delay one until third-year. Either way both are required by the end of the third-year.

Year 1

WISE 1F90; one credit from collateral department; one science context credit (SCIE 1F30 or BIOL 1F25 are recommend for non-science majors); one humanities context credit; one elective credit.

Year 2

WISE 2F90, 2F91; two credits from collateral department; one elective credit.

Year 3

WISE 3F91; one credit from the list of approved WISE courses; two credits from collateral department; one elective credit.

Honors program

WISE 1F90, 1F91, 2F90, 2F91, 3F91, 4F90; two credits from the list of approved WISE courses. Students intending to pursue an honors degree should take WISE 2F90 and 2F91 in year 2. Students are encouraged to discuss the thesis requirement with the program director well before Year 4.

Years 1, 2 and 3

As in pass program

Year 4

WISE 4F90; one credit from the list of approved WISE courses; two credits

from collateral department; one elective.

Description of courses

Please note that not all courses are offered in every session. Refer to the applicable term timetable for details.

WISE 1F90

Introduction to women's studies
An exploration of the gendered nature of society and culture from women's perspectives. Areas of enquiry may include science, politics, work, health, history, knowledge, and popular culture.

Not open to students with credit in EXST 1F92.
Lectures, seminar, 3 hours per week.

WISE 2F80

Gender differences in language and language use

(also offered as TESL 2F80)
Gender in the structure and use of language at different levels of linguistic analysis (speech style/pronunciation, vocabulary, sentence construction, discourse). Discussion of selected cultural variables and their relationship to language.

Examples from English as well as a wide range of other languages.
Lectures, seminar, 3 hours per week.

WISE 2F85

Francophone feminists of the 20th century

(also offered as FREN 2F85)
Women writers in France and Quebec who are rethinking traditional women's roles and who have some very different solutions to this basic issue.

Prerequisite: FREN 1F90 or higher, or permission of the instructor.
Not open to students with credit in FREN 3F91 or 3F81.
Lectures, 3 hours per week.

WISE 2F90

Feminist theories and research strategies

Paradigms in feminist theory: liberal feminism; Marxist feminism; radical

feminism; socialist feminism; feminist phenomenology and post-Modern feminism. Topics may include: feminist theories of psychological development; feminist theory and the state.

Prerequisite: WISE 1F90 or EXST 1F92 or permission of the instructor.
Lectures, seminar, 3 hours per week.

WISE 2F91

The status of women: historical perspective

Primary source materials, written and visual, reveal the evolution of women's views of themselves, first as imposed by men, then as expressed by women once they began to speak for themselves. Sources may include: Aristotle (on biology), Soranus (on gynaecology), Sappho, George Eliot, female Romantic Poets, Florence Nightingale and the Suffragists, de Beauvoir, Greer, and Atwood; silent to contemporary films by women. Canadian history, including Native women, the early settlers, immigrant women and the feminist movement in Canada.

Prerequisite: WISE 1F90 or EXST 1F92 or permission of the instructor.
Lectures, seminar, 3 hours per week.

WISE 2P51

Gender and society
(also offered as SOCI 2P51)

An examination of the ways in which gender functions as an organizing principle in society. The social construction of masculinity and femininity will be addressed from historical and cross-cultural perspectives. Particular attention will focus on gender in principal institutions of Canadian society: economy, state, family, education and military. Selected gender issues will include men and women in non-traditional occupations, women in the military, gender and power.

Not open to students with credit in SOCI 346hc.
Lectures, seminar, 3 hours per week.

WISE 2P61

Women in the ancient world
(also offered as CLAS 2P61)

Problems and issues of particular relevance to women in Greek and

Roman society. Topics will include: social, political, and legal rights, prostitution, religious duties, marriage and children, birth control and abortion.
Lectures, seminar, 3 hours per week.

WISE 2P62

The politics of gender in Archaic and Classical Greece

(also offered as CLAS 2P62)
Social issues of Ancient Greece as viewed by a modern perspective. Topics include: familial bonding, female and male identity, domestic and civil violence, sexuality and social status, power dynamics within the family and city-state.

Lectures, seminar, 3 hours per week.

WISE 3F21

The family

(also offered as SOCI 3F21)
Family patterns including gender roles and the dynamics of family change and development. Topics include: marriage and family issues, gender role socialization and change, dual careers, alternative life styles, gender roles in cross-cultural perspective, and marital and family relationships past, present and future.

Not open to students with credit in SOCI(CHST) 3P21 or 3P51.
Lectures, seminar, 3 hours per week.

WISE 3F54

Screened women

(also offered as FILM 3F54)
A critical study of women's representation as aesthetic and cultural subject, from classical Hollywood cinema to contemporary women's cinema, in the context of feminist film theories and including other popular media (i.e. music videos, television).

Prerequisite: FILM 1F94, 2P91 and 2P92, or WISE 1F90 and 2F91, or permission of the instructor.
Lectures, seminar, 3 hours per week, plus weekly film lab.

WISE 3F91

Feminist research seminar

An interdisciplinary seminar, team-taught by instructors from different faculties, which examines recent feminist research and its distinctive approaches and methods. Students will

Women's Studies

initiate and execute their own projects.
Prerequisite: WISE 2F90 or 2F91 or permission of the instructor.
Seminar, 3 hours per week.

WISE 3P30

Sociology and women at work
(also offered as LABR 3P30 and SOCI 3P30)

Both quantitative and qualitative research will explore the societal significance and implications of the change in women's participation in paid employment and domestic labor in this century. Focus on: the ghettoization of the female labor force, women in professional and non-traditional occupations, microtechnology, part-time work and unionization.
Lectures, seminar, 3 hours per week.

WISE 3P71

Gender, sex and politics
(also offered as POLI 3P71)

Theoretical and practical issues in the relationships among gender, sex and politics, such as sexual equality and its nature and implications for public and private life.
Lectures, seminar, 3 hours per week.

WISE 3P92

Gender and sexuality in childhood and adolescence

(also offered as CHST 3P92)
Interdisciplinary perspective on gender acquisition and sexual development based on social psychological, sociological, historical and cross-cultural accounts. Special topics include child sexual abuse, juvenile prostitution and sex education.

Prerequisite: PSYC 1F90 or SOCI 1F90 or WISE 1F90 or CHST 2F10.
Lectures, seminar, 3 hours per week.

WISE 4F90

Honors thesis

An independent research project under the supervision of a faculty adviser.
Prerequisite: admission to year 4 or permission of the director.
Directed studies tutorial.

WISE 4P95

Women and sport

(Also offered as PHED 4P95)

Historical and current issues relating to women's participation in sport. The influence on performance of physiological, psychological and sociological factors.

Prerequisite: PHED 3P95 or SOCI 2P51 or SOCI 3V81.

Lectures, seminar, 3 hours per week.

Departmental offerings which are approved Women's Studies credits:

CLAS 2P30	Origins of human culture
DRAM 2F98	The forms of tragedy
EXST 2F50	Aspects of human sexuality
ENGL 2M92	Women novelists and the development of the novel
FILM 3F24	Canadian cinema
SOCI 2V81	Women and development
SOCI 3V80	Sexuality and society
SOCI 3V81	Women in cross-cultural perspective
SOCI 3V83	Family and violence
SOCI 4V81	Women and the state
SOCI 4V82	medicalization of the female body

Scholarships, awards and financial assistance

Medallists

Spring Convocation 1990

Governor General's Gold Medal:
Anne Elizabeth Cowan, Thorold

Governor General's Silver Medal:
Hartmut Bueckert, St. Catharines

Vice-chancellor's Medals:
Robert Craig McLean, St. Catharines
Son Ha Nguyen, St. Catharines
Darwin John Penner, Ottawa

Fall Convocation 1990

Vice-chancellor's Medals:
Paula Marie Argenta, Niagara Falls
Paul Lawrence Ingram, St. Catharines
Elisabeth Teunis, Niagara Falls

Deans' honors list and in-course scholarship winners 1990-91

Deans' Honors List

Business Administration

Ruth Avery, Gloucester
Michael J. Boulanger, St. Catharines
Luigi Celli, Fruitland
Kerry E. Duff, Minesing
Jeffrey H. Flanagan, Peterborough
Derek W. Foote, Port Hope
Danny G. Forbes, Hamilton
Susan A. Froese, St. Catharines
Kiron Ghosh, Scarborough
Andrea L. Gillespie, Etobicoke
David D. Gregoire, Thorold
Todd W. Hart, Stratford

R. Tyler Hicks, Kingsville
Jennifer L. Houghton, Ottawa
Jefferson A. Huebner, St. Catharines
Paul F. Keul, Elmira
Jeffrey M. Kushner, St. Catharines
Laurie L. Lengyell, Cambridge
Rosemary Loewen, St. Catharines
David R. McEllistrum, Guelph
N. Brent Mountford, Hamilton
Janet L. Nelson, St. Catharines
Bradley D. Newton, Burlington
Wayne S. O'Connell, Alexandria
Daniel C. Pembleton, Ingersoll
Jeffery Plate, St. Catharines
Lisa M. Price, Fenwick
Rajini Rasasingham, Scarborough
Diana E. Riedel, Niagara Falls
Daniel Sawatsky, St. Catharines
Nicky Sestili, Stoney Creek
Werner Rudolf Siemens, Virgil
Neil A. Sinclair, Pickering
Barbara J. Small, St. Catharines
R. Jay Thomblison, Burlington
Elizabeth F. Thompson, Campbellford
Shannon L. Tone, Durham
Jennifer J. Vandermeij, Prescott
Allan Wedsworth, Welland
David A. Wells, Sarnia
Linda Wenham, Georgetown
Scott Whitty, Brantford
Jonathan R. Whitton, Burlington
Lois M. Wolfram, Stratford
Stephan Young, St. Catharines

Humanities

Craig Alan Beam, Niagara Falls
Anna-Marie Bernhardt, Hamilton
Robert A. Bown, Fenwick
Meredith K. Browne, Mount Brydges
Michelle L. Coons, Welland
Patrick T. Crocco, Niagara Falls
Jody F. Dibartolomeo, Port Colborne
Elenore R. Fast, Jordan Station
Angela Gibson, St. Catharines
Anita L. Huard, Niagara Falls
Anita C. Inkes, Welland
Carrie A. Lavis, Niagara Falls
William E. Liddell, St. Catharines
Malcolm G. Macleod, St. Catharines
Tracey S. McBride, St. Catharines
Patricia E. McIlroy, St. Catharines
Stephen D. Moore, Whitby

Gabriele Nagel, Georgetown
John P. Novak, St. Catharines
D. Kevin O'Neill, St. Catharines
Anne R. Panke, Orleans
Carrie A. Perkins, Kincardine
Maria T. Rae, Port Colborne
Daegan L. Reimer, Laval, Quebec
Melissa Vadicchino, Welland
Shelly A. Van Helvert, Fonthill
Rosalinda Verdile, Thorold
Paul D. Wiebe, St. Catharines

Mathematics and Science

Teddy F. Barnowski, St. Catharines
Allen J. Braun, Virgil
Kevin D. Brett, West Hill
Hartmut Bueckert, St. Catharines
Philip K. Chan, St. Catharines
Laura F. DeGasperis, Thorold
Frances L. Fiore, Niagara Falls
Peter W. Harris, Niagara Falls
Janet R. Matthews, Welland
Michael R. Muller, St. Catharines
Amy E. Peaire, St. Catharines
Linda Ida Pietrelli, Port Colborne
Douglas L. Richards, Welland
Barmak Shemirani, Oakville
Judith A. Shiels, Burlington
Meena Srivastava, St. Catharines
Lisa A. Stanwick, St. Catharines
Kevin F. Strelaw, St. Catharines
Denise L. Toy, Niagara Falls
Terence Trofymowych, Oshawa
Noel C. Walker, Beamsville
Lee T. Yee Kin Tet, Mauritius

Physical Education and Recreation

Marlo P. Amy, Waterloo
Joe Curto, Stoney Creek
Sheri L. Macrae, Stoney Creek
Scott R. Manktelow, Etobicoke
Mary E. Patterson, Elliott Lake
Lisa J. Redmond, Barrie
Patricia A. Reininger, Niagara Falls

Social Sciences

Amy S. Allard, St. Catharines
Lisa M. Andres, Niagara-on-the-Lake
Janet E. Arthur, Otterville
Lisa L. Austin, Oakville

Scholarships and Awards

Melissa K. Baldry, Lindsay
Jennifer M. Beaton, Orangeville
Tracy L. Bedard, Seaforth
Susan M. Bromley, Grimsby
Patricia A. Brouwer, Jordan
Mary L. Calvert, Lambeth
Debra R. A. Capson, West Hill
Kimberley S. Chittick, Lakefield
Doug J. Churchill, Fonthill
Lori A. C. Clanfield, Dundas
Rhonda M. Cook, Lindsay
Sandra L. Corte, St. Catharines
Sherry L. Cosby, Smithville
Christine A. Crawford, St. Catharines
Giancarlo Cristiano, Niagara Falls
Patricia M. Cullen, Ancaster
Mitchell H. Cunningham,
St. Catharines
Mary T. Dalla Pozza, Woodstock
Catherine A. Davis, Bognor
Catharine A. Denstedt, Listowel
Brenda M. Devries, Hagersville
Catharine A. Duff, London
Lisa Ann Durose, Brantford
Brenda-Joy Fahey, St. Catharines
Bonnie L. Famme, Stratford
Vikki Ferrando, St. Catharines
Anabela Ferreira, Fonthill
Jeffrey R. Filliter, Stoney Creek
Beverly A. Gillmore, Burlington
Terry-Anne Graham, St. Catharines
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Amanda R. Hayne, Wainfleet
Jennifer M. Healey, Niagara Falls
Lynne M. Henwood, Hamilton
Susan E. Irwin, St. Catharines
Barbara J. Jalsevac, Grimsby
Kelly J. Janzen, St. Catharines
Suzanne M. Johnson, Waterford
Teresa C. Kamutzki, Dundas
Dana M. Kielbasa, Hamilton
Laurene Klassen, St. Catharines
Catrina D. Kraan, Niagara-on-the-Lake
Dena L. Lambertson, Mississauga
Cecilia M. Laveck, St. Catharines
Kathy Lee, Brampton
Lori J. Lemon, Owen Sound
Teresa A. Lichty, Millbank
Kimberly A. Lloyd, New Brunswick
Jane E. Marshall, St. Catharines
Gail M. Martin-Dyck, Thorold
Wendy McDonnell, Caledon East

Michele M. McFee, Brantford
Andrea A. McKechnie, Burlington
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Marie F. Moran, Alliston
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St. Catharines
Russell J. Myers, Grimsby
Brenda J. Nash, St. Catharines
Julianna D. Nedeljkovic, Niagara Falls
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Christina M. Oeggerli, Bainsville
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Laura F. Perri, St. Catharines
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Ralph L. Regis, Terrace Bay
Marian E. Reimer, St. Catharines
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Michael A. Ronson, Nepean
Frances J. Ross, Brantford
Nancy-Jean Rummenie, Aurora
Maryann Sabelli, Niagara Falls
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Christine D. Sevigny, Mississauga
Judith A. Shackleton, Stratford
Sheila A. Sikora, Thunder Bay
Ralph F. Skilton, St. Catharines
Tricia G. Skowby, Stratford
Suzanne M. Stewardson, Waterford
Claire E. Taylor, Brooklin
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Robin L. Vittoria, Niagara Falls
Susan J. Vowles, Stoney Creek
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Susan J. Williamson, Gloucester
Fred J. Winterburn, St. Catharines
Kamil Zaniewski, Thorold

Donor in-course scholarship winners 1990-91

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David D. Gregoire, Thorold
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Aileen Hood Memorial Scholar

Marlo P. Amy, Waterloo

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Brenda J. Nash, St. Catharines
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Meena Srivastava, St. Catharines
Lee Tyn Yee Kin Tet, Mauritius
Lisa Vandenhoeck, Hamilton
David A. Wells, Sarnia
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Gail M. Martin-Dyck, Thorold
Kristen L. Ott, St. Catharines

**Molson-CHSC-Folk Arts Council
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Heather A. MacPherson, St. Catharines

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**Niagara District Chartered Account-
ant Association Prize**
Paul Ingram, St. Catharines

P. M. Magruder Scholar
Nicole L. Rosmarin, St. Catharines

Niagara Credit Union Scholarships
Pietro C. Rosati, Niagara Falls
Tara L. Anderson, St. Catharines

**Partridge, Pelissero Iggulden &
Company Scholarship**
Stephen Young, St. Catharines

Scholler Foundation Scholars
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Cindy L. Stansfield, Burlington

Senior Scholarship - Visual Arts
Michelle L. Coons, Welland

Senior Scholarship in Music I
Neva. Tesolin, St. Catharines

Senior Scholarship in Music II
Andrew Kovacs, Welland

Sophia Gampel Memorial Scholars
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Spencer Williams Scholar
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Anniversary Scholar**
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tion**
Janet Nelson, St. Catharines

Wood Gundy Scholar
Lisa M. Andres, Niagara-on-the-Lake

Brock entrance scholars

C. Boyd Slemon Scholarship
Poon-Yun Johnny Sum, St. Catharines

C. Bruce Hill Scholarship
Greg Smith, Grimsby

Dr. G. C. Shaver Scholarship
Charles McMahon, Niagara Falls

**Quebec and Ontario Paper
Company Scholars**
Lisa Andres, Niagara-on-the-Lake
Lisa Stanwick, St. Catharines
Poon Yun Johnny Sum, St. Catharines

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Pamela Alway, Grimsby
Sarah J. Anderson, St. Catharines
Tara Lynn Anderson, St. Catharines
James Kevin Ansley, Barrie
Paula Diane Arbour, Clearwater
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Stephen S. Arnott, Mississauga
Jodi Lynn Ashbaugh, Hamilton
Lisa Jane Assaly, Vankleek Hill
Jennifer Austin, Oakville
Terry Lynn Balicki, Wainfleet
Stephanie C. Bennett, St. Catharines
Daniel Berhe, Toronto
Frank Bevilacqua, Niagara Falls
Barbara Bingleman, Vittoria
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Carl Frank Bocchinfuso, St. Catharines
Kristen Elizabeth Bogart, Belmont
Heather Lynn Bogie, Goderich
Rebecca L. Bond, Hamilton
Nadia Borsato, Milton
Beth Erin Bowerman, North York
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Niagara-on-the-Lake
Tracy Boyd, Pickering
Janice Yolanda Boyer, Welland
Rhea Brillinger, Listowel
Joni Michelle Brown, Burlington
Chad Barry Brownlee, Finch
Marijse Bruinooge, St. Catharines
Linda Bruni, Welland

Scholarships and Awards

Lisa Bruno, Niagara Falls
Tricia Anne Bunnett, Belleville
Jacqueline Grace Byl, Everett
Mark Alexander Campbell, Listowel
Stephen William Campbell, Dresden
Janet L. Carroll, Smiths Falls
Lucy Christina Cavezza, Niagara Falls
John T. Charette, St. Catharines
Cheryl-Ann Cheeseman, St. Catharines
Melissa Leigh Cibic, Kitchener
Dana Clark, Oshawa
Karen Elizabeth Clark, Fenwick
Tracey Annette Clark, Neustadt
Shelly Anne Clelland (Cooper),
Scotland

Louise Cleveland, Brantford
David Cole, Thorold
Susan Jane Coleman, Fonthill
Anita Collee, Niagara Falls
Geoffrey Ross Colley, Peterborough
Shelley Collins, Fonthill
Jennifer Ann Copeland, Fenwick
Victor James Costiff, Thorold
Karin Ann Coulter, St. Catharines
Tanya Dini Courchesne, St. Catharines
Jason Mark Crabtree, Aurora
Kelly Lynn Csordas, Welland
Alyson Cuthbert, Brampton
Christine Valerie Czapkik, Oshawa
Janice Czop, Thorold
Daniela Debellis, Hamilton
Kent Bowman Daboll, Fenwick
Patricia Lynn Dafoe, Consecon
Jacqueline Patricia Davidson,
Burlington

Richard Rupert Davies, St. Catharines
Laura Michelle Dawson, Brantford
Andrew Nicholas DeGelder,
Stoney Creek

Christina DeLuca, Stoney Creek
Michael Demelo, Mississauga
Daryn M. Deon, St. Catharines
Julia Nancy Depalo, Niagara Falls
Lisa Erin Derosa, Sault Ste Marie
David Destefano, St. Catharines
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Cheryl Didine, South Porcupine
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Lissa Marie Dona, Brantford
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Stephen Harold Ellison, St. Catharines
Bradley Foster Elms, Hannon
Teresa Emerson, Grimsby
Naomi A. Enns, Gloucester
Laurie Lynn Ewart, Niagara Falls
Julie Ann Fabris, Niagara Falls
Pauline Kay Farough, Maidstone
Margo Fenton, Nepean
Heather Ferguson, Elliott Lake
Kimberly I. Ferguson, Cobourg
Betty Ferko, Hamilton
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Jennifer Kathleen Gardiner, Brantford
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Jennifer Noelle Giles, Chatham
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Monica E. Goertz, St. Catharines
David Gondar, Stoney Creek
William John Clare Gott, Barrie
John William Gotts, Niagara Falls
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Anita Lynn Harrison, Corunna
Jennifer Hebert, Elliott Lake
Michael P. Hennessy, St. Catharines
Jennifer Grace Hiemstra,
St. Catharines

Stephanie Corrine Highgate, Chatham
Paul Hildebrand, Jordan
Andrea Lynn Hildebrandt, Fonthill
Matthew Richard Hillier,
Niagara Falls

John M. Holjak, St. Catharines
Rachel Suzanne Holly, Chatham
Michael Duane Horlings, Newmarket
Todd Arthur Horton, Fenwick
Jody Houghland, Oshawa
Robyn A. Humphrey, St. Catharines
Robert Hurst, Beamsville
Marian Dianah Hyatt, Welland
Amy Marie Iamarino, Burlington
Diana Iezzi, St. Catharines
Michael Walter Ilnicki, St. Catharines
Brian Charles Jaques, Brigden
Scott Christopher Jarvis, St. Catharines
Suzanne Elizabeth Jarvis, Burlington
Erin L. Johnson, Brantford
Krista Darlene Johnson, London
Sheryl Johnston, Grimsby
Philip Johnston, Beamsville
Lisa J. Kamphuis, St. Catharines
Karen Keleher, Guelph
Melissa Ann Kempe, Sombra
Deborah May Kensis, Brantford
Anita Kesimaat, Welland
David Andrew Khan, Welland
Katharine Ann King, Port Colborne
Sherri L. Kinch, Jasper
Angela Lorraine Klages, Desboro
Jim Kniaz, Hamilton
Charles Koop, Vineland
Jeffrey Michael Kormos, Fonthill
Kelly Lynn Kozub, Ridgeville
Michael P. Kranz, St. Catharines
Sally A. Kuijer, Virgil
Kenith Kyriacou, Niagara Falls
Barbara Ellen Lalonde, New Lowell
Andrew S. Lang, St. Catharines
Ivan Lara, St. Catharines
Rosemary Lynn Laroche, North Bay
Pamela Lauber, Kitchener
Len LeBlanc, Thorold
William Edward Leighfield,
Burks Falls
Joelle Lesco, Welland
Cathy E. Lewies, St. Catharines
Sharon Lindars, North York
Karen Ann Lindert, Aylmer
Rosaleen Deborah Lopes, Whitby

Scholarships and Awards

Paul M. Lorenz, St. Catharines
 Linda Debbie Louie, Fort Erie
 Kathy Lowe, Oshawa
 Kristi G. MacDonald, Hamilton
 Shannon MacDonald, Schumacker
 Tamara Lee MacKenzie, Welland
 Marni Elizabeth MacLachlan,
 Niagara Falls
 Mark MacLeod, Whitby
 Brian H. MacNeil, Kitchener
 James MacNeil, Pickering
 Heather A. MacPherson,
 St. Catharines
 Renae Maher, Mississauga
 Nicole Maheu, Niagara Falls
 Karen Elizabeth Mahoney, Listowel
 Susan Majercik, Oshawa
 Lisa Marie Makinson, St. Catharines
 Brian David Mako, Ridgeway
 Rosalie Maltese, St. Catharines
 Teresa Mandalfino, Burlington
 Melissa Maney, Thorold
 Cheryl Alyssa Marcinkow, Sarnia
 Karen Marquardt, North York
 Anne-Marie Masgoret, Dundas
 Christina Louise Massicotte, Sarnia
 Rosa Mastroianni, Niagara Falls
 Tracey Matthews, Mississauga
 Kevin Maynard, Bowmanville
 Kathy McAllister, Paris
 Melanie P. McComb, Scarborough
 Susan McCracken, Welland
 Kimberley Lois McElwain, Phelpston
 Catherine F. McGarrell, St. Catharines
 Jane McGillivray, Brampton
 Susan Leslie McGirr, Sarnia
 Michelle C. McLeod, Vinemount
 Charles McMahan, Niagara Falls
 Julie McMillan, Port Dover
 Heather C. McNeil, Georgetown
 Colleen Marie McPolin, Gloucester
 Kirsten Meiche, Hanover
 Chantal L. Mercier, St. Catharines
 Garnet Craig Miller, Florence
 Lee-Anne Mills, Burlington
 Heidi Lynn Moore, Hamilton
 Tracy Marlene Moorey, Pickering
 Charlene A. Morrell, Whitefish
 Kristin Morrison, Bolton
 Jeffrey John Morrow, Belleville
 Theresa Mary Muileboom, Wainfleet
 Catherine D. Mundle, St. Catharines
 Rebecca Murdoch, St. Catharines

Nellie Nassif, St. Catharines
 Fiona Newman, St. Thomas
 Kerrie Lynn Niven, Niagara Falls
 Jennifer Anne Nolan, London
 Julie E. Northfold, Peterborough
 Bridie L. Nunn, St. Catharines
 John O'Doherty, Thorold
 Jason B. O'Halloran, Branchton
 David Edward O'Neill, Hamilton
 Kent Orr, Welland
 Kari Osmar, Cambridge
 Jeff Robert Ostrow, McGregor
 Marie C. Pacecca, St. Catharines
 Robert Palleschi, Niagara Falls
 Dina Panucci, Niagara Falls
 Jeffrey Gary Park, Hamilton
 Kristen Lynn Parissi, Richmond Hill
 Rupa P. Patel, St. Catharines
 Michael Patterson, Thorold
 Dana Lee Paul, Brockville
 John Andre Pavone, St. Catharines
 Tricia Penney, Niagara-on-the-Lake
 Christina Perkovic, Schumacker
 Nancy Perkovic, Schumacker
 Rinaldo Petrarola, St. Catharines
 Danielle Phaneuf, St. Catharines
 Jan Phillips, Holland Landing
 Colleen E. Pielechaty, Wainfleet
 Louisa Pivato, Guelph
 Jack Joseph Pollock, St. Catharines
 Karen Elizabeth Poole, Lambeth
 Josef Leszek Rabcaniack, Geraldton
 Heather Marie Rae, St. Catharines
 Jennifer Stobhan Raes, Clearwater
 Derek Mark Ranjitsingh, Cambridge
 Grant Roger Rawluk, Burlington
 Stephanie Recker, Brantford
 Scott Redekop, St. Catharines
 Kendra Lynn Regan, Kitchener
 Kareena F. Rego, Hamilton
 Blair Edward Reid, Burlington
 Debra Lynn Rempel,
 Niagara-on-the-Lake
 Bryna Marie Repath, Burlington
 Marnie Reynolds, Sault Ste Marie
 Angela M. Rhodes, St. Catharines
 Bradley Leonard Rice, Markham
 Ian David Richardson, Hillsburgh
 Larissa A. Rikkerink, St. Catharines
 Lisa M. Robbins, St. Catharines
 Jennifer Lee Robertson, Hamilton
 Julie Susanne Robertson, Morrisburg
 Erin Alicia Robinson, Stoney Creek

F. Michelle Robinson, Norval
 Kelley Diane Rodgers, Brantford
 Debra Karin Astr Rofner, Richmond
 Lynn Catherine Romain, Mississauga
 Pietro Calogero Rosati, Niagara Falls
 John-David Maxwell Ross, Stratford
 David Iain Ross, Burlington
 Timothy F. Rutherford, Peterborough
 Danielle Lynn Rylko, Millgrove
 Suzanne D. Rymsha, St. Catharines
 Nuzhat Samji, Scarborough
 Debra Jean Satchell, Mitchell
 Josephine A. Scavuzzo, Scarborough
 Robert James Schram, Niagara Falls
 Brenda Marie Schuster, Codrington
 Debra Jane Seliga, Ridgetown
 Blair Servos, St. Catharines
 May Seto, St. Catharines
 Deanna Patrice Sim, Lindsay
 Anthony D. Sirianni, Niagara Falls
 Lara Skiba, Niagara Falls
 Alan Smith, Niagara Falls
 James Smith, Sault Ste Marie
 Brenda L. Smith, Mooretown
 Greg Smith, Grimsby
 Pamela Maria Smith, St. Catharines
 Robert Brito Sousa, Burlington
 Alison Springer, Waterloo
 Susan Lynne Sproul, Monkland
 Hemant K. Srivastava, St. Catharines
 Wendy A. Stapleford, St. Catharines
 Scott Patrick Staring, Shanty Bay
 Leslie Ann Ste. Croix, St. Catharines
 Melissa Marlene Stenger, Rothwell
 Paula Stenyk, Mississauga
 Julie A. Stevens, St. Catharines
 Sharon Stevens, Cambridge
 Johnny Poon Yun Sum, St. Catharines
 Deanna L. Sundin, Hamilton
 Daniel Francis Sullivan, St. Catharines
 Teresa R. Tang, Toronto
 Tracy Corrine Taylor, Orton
 Tracey R. Tennant, Cobourg
 Kevan H. Thin, Fenwick
 Lucy Toon, Bolton
 Paul B. Topp, Etobicoke
 Bradley Charles Treverton, Plainfield
 Delaney Turner, Welland
 Krista Marie Ubbels, Millgrove
 Daniela Carmen Vacca, Niagara Falls
 Nicole V. VanEngelen, Oakville
 Katherine M. VanLeeuwen, Alliston
 Lina Lois Van velzen, Grimsby

Scholarships and Awards

Michael Vandervelde, Smithville
Debbie Ann Vellenga, Springfield
Jennifer L. Vergette, Nepean
Jodi M. Vermeersch, Brights Grove
Linda Joanne Versteeg, Wingham
Nancy Walpac, Grimsby
Amanda Warren, Hamilton
Kathryn E. Watson, Durham
Rachel Jane Watson, Burlington
Fiona Webb, Thorold
Jerry Weber, Mount Forest
Jennifer Wells, Weston
Kal B. Whitnell, Peterborough
Christopher R. Whittington, Ingersoll
Chris T. Wiens, Niagara-on-the-Lake
Margaret Ann Willans, Sarnia
Victoria Willoughby, Pickering
Sheryl Wilson, St. Catharines
Shelley Diane Winsor, Welland
Tamara Witlox, Glanworth
Judith Woehl, Fort Erie
Tari Woodhouse, Virgil
Timothy Duane Woolaver, Petrolia
Craig William Worden, Niagara Falls
Marion Louise Wright, Fenwick
Patricia Wydeven, Whitby
Andrea Michelle Zimmer, Chatham
Mariza J. Zister, Peterborough

Canada Scholars

Daniel Berhe, Toronto
Brian Boese, St. Catharines
Rhea Brillinger, Listowel
Linda Bruni, Welland
Jennifer Copeland, Fenwick
Kent Daboll, Fenwick
Laura DeGasperis, Thorold
David DeStefano, St. Catharines
Frances Fiore, Niagara Falls
Marvin Franz, Virgil
Michelle Freitag, Simcoe
Robert Game, St. Catharines
David Gondar, Stoney Creek
Robin Gray, Niagara Falls
Lisa Kamphuis, St. Catharines
Charles Koop, Vineland
Jeffery Kormos, Fonthill

Andrew Lang, St. Catharines
Cheryl Marcinkow, Sarnia
Jane Marshall, St. Catharines
Janet Matthews, Welland
Maria Pacecca, St. Catharines
Amy Peaire, St. Catharines
Karen Poole, Lambeth
John-David Ross, Stratford
Blair Servos, St. Catharines
May Seto, St. Catharines
Anthony Sirianni, Niagara Falls
Brenda Smith, Mooretown
Hemant Srivastava, St. Catharines
Meena Srivastava, St. Catharines
Lisa Stanwick, St. Catharines
May Tajima, Penetanguishene
Denise Toy, Niagara Falls
Daniela Vacca, Niagara Falls
Noel Walker, Beamsville
Sheryl Wilson, St. Catharines
Kamil Zaniewski, Thorold

Medals

Prior to each Convocation the academic records of graduands are reviewed and, on the recommendation of Senate, medals are presented to students with exceptional standing in their university careers.

The Governor General's medals are presented at Spring Convocation to graduating students from that Convocation or the previous Fall Convocation in recognition of outstanding scholastic and personal achievement.

Vice-chancellor's Medals are presented at each Convocation to students whose consistent work at a superior level warrants recognition.

Scholarships

Students need not apply for scholarships; the academic records of all full-

time students are regularly reviewed to assess and compare their qualifications for scholarships. Normally, to be eligible for other than an entrance scholarship, a student must be presently registered full-time at Brock and have successfully completed five or more credits in the previous fall/winter session. Awards based on donations cannot be guaranteed by the University, and can only be forwarded after the funds have been received from the donor. Awards will be credited to the student in two equal parts, in November and on January 31. A student who withdraws from the University will not receive a refund for that part of tuition fees paid out of scholarship monies.

Entrance scholarships

Entrance scholarships are administered by the Senate of Brock University. All applicants who enter into full-time university study on the basis of an O.S.S.D. are automatically considered for entrance scholarships. Subject to the availability of funds, consideration will be given to other Canadian applicants.

The minimum average required for the award of a scholarship is determined each year by the Senate Committee on Awards and Bursaries. Notification of an award is made together with the offer of admission.

Awarded to incoming first-year students with the highest averages:

C. Boyd Slemon Scholarship
C. Bruce Hill Scholarship
Dr. G. C. Shaver Scholarship

Awarded to an incoming first-year student from a Niagara region high school with the highest average:

Brock University Founders' Scholarships
Brock University Admission Scholarships

The St. Catharines Jaycees 50th Anniversary Scholarship
 Value: \$500. To be awarded to an outstanding student who is entering the first year of the honors Bachelor of Business Administration degree program and who is a permanent resident of St. Catharines.

Niagara Credit Union Scholarship
 Value: \$500. To be awarded to two outstanding students who are graduates of secondary schools in the Niagara Region, and who are taking an undergraduate degree program.
 Donor: Niagara Credit Union

Molson - CHSC - Folk Arts Council Scholarship
 Value: To be determined. To be awarded to a student(s) entering university from a St. Catharines high school.

Peat Marwick Thorne Scholarships
 Values: to be determined. An entrance scholarship will be awarded to a student from the Niagara Region with the highest academic standing entering the Co-op Accounting program.
 Donor: Peat Marwick Thorne Chartered Accountants
 Established: 1990

Quebec and Ontario Paper Company Scholarship
 Value: \$3000. \$900 to be awarded in the first year, \$700 in each of the three remaining years to outstanding full-time students who are graduates of Niagara regional high schools and are presently taking an undergraduate degree program.
 Donor: The Quebec and Ontario Paper Company Limited
 Established: 1967

Canada scholarships

A national scholarship program intended to recognize outstanding students and to encourage them to pursue undergraduate studies in natural sciences and related areas. At least half of the awards are made to women. Applications should be made through the Office of the Registrar by students who will enrol in first-year programs leading to a BSc degree. These scholarships may be reviewed three times on condition that a first-class academic standing is maintained.

In-course scholarships

Brock in-course scholarships are administered by the Senate of Brock University. To be considered for Brock in-course scholarships and a number of donor scholarships, full-time students must normally have completed five credits or more in the previous fall/winter session with a minimum overall average of 80 percent. The minimum average required for the award of an in-course or donor scholarship is determined each year by the Senate Committee on Awards and Bursaries.

Alumni Scholarships
 Value: to be determined. To be awarded at the discretion of Senate to students with records of academic excellence.
 Donor: Brock University Alumni Association
 Established: 1985

The Lily Bell Memorial Award for English
 Value: \$250. To be awarded to the most deserving female student in second- or third-year English.
 Donor: University Women's Club of St. Catharines
 Established: 1974

J.P. Bickell Foundation Scholarship
 Value: \$3000. Payable \$1000 in the second-, third- and fourth-year. To be awarded to an outstanding student majoring in Geological Sciences. The scholar must have obtained an average of 75 percent or better at the end of his or her first year, and must maintain this average throughout the subsequent years of the program or relinquish the scholarship.
 Donor: J.P. Bickell Foundation
 Established: 1968

Birks Family Foundation Scholarship
 Value: to be determined. To be awarded to outstanding students at the discretion of Senate.
 Donor: Birks Family Foundation
 Established: 1968

Raffaele DeLuca Memorial Scholarship
 Value: to be determined. To be awarded annually to a student of Italian language on the basis of a distinguished scholastic performance.
 Donor: friends of the late Professor
 Established: 1984

Joseph Dennis Scholarship in Italian
 Value: \$300. To be awarded to a first; second- or third-year student in Italian on the basis of a distinguished scholastic performance.
 Donor: The Grand Lodge of the Order Sons of Italy of Ontario
 Established: 1975

Dr. Alan Earp Alumni Scholarship
 Value: minimum \$500. To be awarded at the discretion of Senate to a student with a record of academic excellence.
 Donor: Brock University Alumni Association
 Established: 1988

25th Anniversary Scholarships
 Value: \$1000. Eligible candidates will be full-time students returning to Brock for the fourth-year. There will be one

Scholarships and Awards

award for each of the six faculties.
Donor: Faculty and Staff of Brock University.

Faculty and Staff Club Scholarships

Value: to be determined. To be awarded to part-time students (including part-time graduate students) on the basis of academic excellence at the discretion of the Senate Committee on Awards.

Donor: Brock University Faculty and Staff Club

Established: 1980

Sophia Gampel Memorial Scholarships

Value: to be determined. To be divided between two eligible students from the city of Niagara Falls, Ontario.

Donor: Mr. Abraham Gampel, Niagara Falls, Ontario

Established: 1970

George Head Memorial Scholarship

Value: \$200. To a student majoring in Business Administration who demonstrates superior ability.

Donor: Purchasing Management Association of Canada

Established: 1973

Club Heidelberg Scholarship

Value: \$200. To be awarded to the top student in the department of Germanic and Slavic Studies pursuing studies in the German language and literature or in the German area studies program, entering second-, third- or fourth-year.

Donor: The St. Catharines Heidelberg Social Club

Established: 1965

Aileen Hood Memorial Scholarship

Value: to be determined. To be awarded to a student of superior ability entering fourth-year and majoring in Physical Education.

Donor: Aileen Hood Estate

Established: 1982

The Hyde Houghton Centennial Scholarship

Value: \$1000. To be awarded to a student of high scholastic standing entering their fourth-year in the Bachelor of Accounting program.

Sir Isaac Brock Music Scholarship

Value: \$700. To be awarded to a student majoring in Music entering third- or fourth-year who has the highest session average.

Established: 1990

H. H. Knoll Memorial Scholarships

Value: to be determined. To be awarded to students of honors standing, who are graduates of secondary schools in the Niagara Region, and who are taking an undergraduate degree program.

Donor: The family of H. H. Knoll

Established: 1987

Lubrizon of Canada Ltd. Scholarship

Value: to be determined. To be awarded to a student of honors standing in the second; third- or fourth-year, majoring in Physics.

Donor: Lubrizon of Canada Ltd.

Established: 1971

P.M. Magruder Memorial Scholarship

Value: \$600. To be awarded to a third- or fourth-year student in Chemistry. Students taking a combined or interdepartmental major degree are also eligible.

Donor: Anonymous

Established: 1973

Gertrude Millward Scholarship

Value: \$200 annually. To be awarded to a student in the Faculty of Humanities for outstanding performance.

Donor: Earl Mountbatten Chapter, IODE

Established: 1977

Senior Scholarship in Music I

Value: to be determined. To be awarded to a second-year student with the highest average marks in Music courses entering a third-year BA major in Music.

Donor: Dr. and Mrs. J. A. Gibson

Established: 1975

Endowed: 1981

Senior Scholarship in Music II

Value to be determined. To be awarded to a student of distinguished musical achievement entering the final year of a degree program with a major in Music.

Donor: Dr. and Mrs. J. A. Gibson

Established: 1986

Endowed: 1986

Niagara District Chartered Accountants Association Prize

Value: \$500. To be awarded to the graduating student in the Accounting Co-op program with the highest overall average. The successful candidate must have completed his/her work terms with a Chartered Accountant firm.

Donor: Niagara District Chartered Accountants Association

Established: 1987

The Melvin Perlman Scholarship

Value: to be determined. To be awarded annually to the student with the highest average, and with a major in Sociology. The scholarship is in memory of the substantial contribution Professor Perlman made to the University during his years of teaching at Brock.

Donors: The family and friends of Dr. Melvin L. Perlman.

Established: 1988

Partridge Pelissero Iggulden & Company Scholarship

Value: \$250. To be awarded to a full-time student enrolled in the Business Administration program, who has obtained the highest overall standing at

Scholarships and Awards

the end of the second-year and who has chosen to enrol in the third-year Accounting option.

Donor: Partridge Pelissero Iggulden & Company, Chartered Accountants.
Established: 1971

Peat Marwick Thorne Scholarships

Values: to be determined.
An in-course scholarship will be awarded to the Co-op Accounting student with the highest academic standing after completing the first-year of the program.

Donor: Peat Marwick Thorne Chartered Accountants
Established: 1990

Club Rheingold of Welland Scholarships

Value: \$300. To be awarded to the two top students in German, at the beginning of their third-year, on the basis of their performance in second-year.

Donor: Club Rheingold of Welland
Established: 1968

Rose, Horne & Stevenson Insurance Agency Scholarship

Value: \$200. To be divided between two students of superior ability.
Donor: Rose, Horne & Stevenson Insurance Agency Ltd.
Established: 1970

Scholler Foundation Scholarship

Value: to be determined. To be awarded to a student of honors standing majoring in Chemistry.
Donor: Scholler Foundation
Established: 1973

St. Catharines Advertising and Sales Association Scholarship

Value: To be determined
To be awarded to an outstanding student who is entering the fourth-year of the Marketing stream of the honors Bachelor of Business Administration degree and who is a permanent resident of St. Catharines.

Mel Swart Scholarship

Value: to be determined. To be awarded annually to a senior student with a single major in Politics. The scholarship honors Mel Swart's forty-years of service at the municipal, regional, and provincial levels of government, including thirteen-years as M.P.P. for the Welland-Thorold riding.
Donor: Friends of Mel Swart
Established: 1988

Gordon V. Thompson Scholarship in Music

Value: \$100. To be awarded to the student with the highest average marks in music courses in the first-year of a single or combined major in Music.
Donor: Gordon V. Thompson
Established: 1973

Tomarin Scholarship in Marketing

Value: to be determined. To be awarded to the student with the highest academic standing entering their fourth-year majoring in Marketing.
Donor: Harry Tomarin, Seymour Tomarin
Established: 1989

Lillie A. Traver Scholarship

Value: to be determined. To be awarded to a student of honors standing majoring in History.
Donor: Miss Lillie A. Traver
Established: 1976

Senior Scholarship in Visual Arts

Value: to be determined
To be awarded to a second- or third-year student with high academic standing and distinguished artistic achievement entering a third-year BA major or a fourth-year honors program in Visual Arts.

The Spencer Williams Scholarship

Value: to be determined. To be awarded to an outstanding student in the Faculty of Physical Education.

Donor: The Rotary Club of St. Catharines South
Established: 1973

Willmot Scholarship in Administration

Value: \$500. To be awarded annually to an outstanding student majoring in Business Administration.
Donor: D.G. Willmot
Established: 1972

Wood Gundy Scholarship

Value: to be determined. To be awarded to students of superior ability.
Donor: Wood Gundy Securities Limited
Established: 1970

Prizes

Departmental prizes are awarded for excellence in a particular area of study. No application is required; selection and award is made by the department.

Business Administration

John Edds Prize in Accounting

To be awarded to the graduating student in the Faculty of Business with the highest average in accounting courses prescribed for Accounting majors.
Donor: J.A. Edds
Established: 1986

Business Administration Book Prize

A book prize awarded to a student or students of outstanding academic achievement in year 4 of a Business Administration program.

Maurice Perkins Medal

To be awarded to the graduating student in the Faculty of Business with the highest academic standing in accordance with the standards used in awarding their faculty medal.
Donor: Dr. Maurice F. Perkins

Scholarships and Awards

Biological Sciences

Biology Faculty Book Prizes

Book prizes are given annually to the student achieving the highest grade in BIOL 1F90, to the second- and third-year students receiving the highest marks in biology courses and to the fourth-year graduating honors students with the best overall record in biology.

Chemistry

Chemistry Alumni/Faculty Book Prizes

A series of book prizes shall be awarded each autumn to second-year Chemistry majors. Book prizes are also awarded each autumn to third-year Chemistry majors and combined majors with outstanding achievement.

The Chemical Institute of Canada Prize

A silver medal, Institute book plates, and \$25 awarded to the student with the highest standing in the penultimate year of the honors Chemistry program.
Donor: Chemical Institute of Canada
Established: 1967

Society of Chemical Industry Merit Award

A medal and \$50 awarded to the honors Chemistry student with the highest standing in the graduating class. In addition, the student must have obtained a minimum average of 75 percent in his or her final year and have completed the course in four years.
Donor: Society of Chemical Industry
Established: 1967

Chemical Rubber Company Book Prize

A book prize awarded annually to the best first-year student in Chemistry.
Established: 1964

Classics

Marilyn Atamian Memorial Book Prize in Classics

A book prize awarded annually to the continuing education student who graduates with the highest average in Classics.

Donors: Colleagues of Marilyn Atamian in the Lincoln County Board of Education
Established: 1981

Department of Classics Book Prize

A book prize awarded to a graduating student for high standing in Classics.
Established: 1972

Department of Classics Book Prize in Greek

A book prize awarded to a graduating student for high standing in Greek.
Established: 1972

Department of Classics Book Prize in Latin

A book prize awarded to a graduating student for high standing in Latin.
Established: 1972

Computer Science and Information Processing

Department of Computer Science and Information Processing Book Prize

Two book prizes to be awarded to second- and third-year students, having the highest marks in computer science courses.
Established: 1981

Digital Equipment of Canada Ltd. Award of Merit

Value: \$200 and medal to be awarded to the top honors student graduating in Computer Science and Information Processing.

Sassoon Cohen Prize

Two book prizes to be awarded to outstanding students in the first- and second-year computer science programs.

English Language and Literature

English Department Book Prize

A book prize to a student or students of outstanding academic achievement in English for years 3 and 4.

The Carole LaMothe Memorial English Essay Prize

To be awarded for the best essay submitted as part of the required workload in any English or Drama/English course during the academic year. Any entry must be submitted to the competition by the student himself.
Donors: Department of English and friends of Carole LaMothe
Established: 1981-82

Freshman English Essay Prize

Value: \$75. To be awarded for the best essay submitted as part of the required workload in ENGL 1F91 or 1F99. Any entry must be submitted to the competition by the student.
Donor: Department of English
Established: 1981-82

Film Studies, Dramatic and Visual Arts

The F. Janet Dolman Prize in Playwriting

To be awarded to a student or students who show outstanding promise in playwriting.
Established: 1989

The M.E. and L.E. Miller prize in Drama and Theatre Arts

Value: \$75 is awarded to the student who achieves the highest standing in DRAM 1F93 and THEA 1F99 (est. 1971 as Dram/Thea/Film).

Dr. Marion B. Smith Prize in Fine Arts

For excellence over three- or four-years standing in fine arts courses. Established: 1976

The Jane Forrest Prize in Dramatic and Theatre Arts

Value: \$75 is awarded to the student who excels in year 2 or year 3 theatre courses. (est. 1979)

Jean Harding Prize for Festival Achievement

A book prize awarded annually to the student judged to have made the most outstanding contribution to the spring festival of the department of Film Studies, Dramatic and Visual Arts.

The J.H. and J.F. Harding prize in Dramatic Literature and Theatre

Value: \$75 is awarded to the student who excels in year 2 or year 3 dramatic literature courses. (est. 1972)

The A. Miller and N. Mabee prize

Value: \$75 is awarded to the student who achieves the highest standing in year 4 honors Dramatic Literature or Theatre or a combined Dram/Thea honors degree (established 1989).

The Sylvia Osterbind Prize in Art History

A book prize awarded annually to the student with the highest standing in Art History.

Established: 1989

The Sam and Sophie Yacowar Memorial Prize in Film Studies

To be awarded annually to the Film Studies major or combined major with the highest standing in two or more film courses in third- or fourth-year.

French, Italian and Spanish

Book Prize of the French Consul-General, Toronto

A book prize to be awarded to an

outstanding student in French.

Donor: Consul-General de France

Established: 1965

Andres Bello Prize (Latin-American Studies)

A book prize awarded to a student whose work in Latin-American studies has been of particular distinction.

Established: 1971

Brock Community Italian Prize

Approximately \$400. Awarded to the most outstanding student taking Italian as a major or combined major, in any year.

Donor: The division of Italian and the Italian Club of Brock University

Prize of the Ambassador of Switzerland to Canada

A book prize awarded to students who obtained the highest standing in French.

Donor: Ambassador of Switzerland to Canada

Established: 1966

Davies Prizes in Modern Languages

Awarded annually to a graduating student in recognition of high academic achievement in each of French, German, Italian, Russian and Spanish.

Geography

Canadian Association of Geographers Book Prize

This prize is awarded annually to the best graduating student in the fourth-year honors program of the department of Geography.

Donor: Canadian Association of Geographers

Established: 1967

Department of Geography Year 3 Book Prize

To be awarded to a year 3 student in Geography in recognition of both high academic achievement and contribution

to the University community.

Donor: Department of Geography

Established: 1986

Department of Geography Graduating Prize

A prize of geographical books or equipment. To the student in honors Geography who attained the highest average in third- and fourth-year Geography. This award may be given to the winner of the Canadian Association of Geographers book prize.

Geological Sciences

Canadian Society of Petroleum Geologists Student-Industry Field Trip

A prize of a one-week field trip to Calgary for the best third-year student in "soft-rock" geology.

The Edhorn Prize in Paleontology

Prize: \$100. Awarded to the full-time student gaining the highest grade in a first course in paleontology.

Established: 1985-86

Geology Award

Value: to be determined.

To be awarded by the Department of Geological Sciences to undergraduate students in Geology with financial need and honors standing.

Geological Association of Canada Thesis Prize, Structural Geology Division

A national competition for the best thesis based primarily on structural geology or tectonics. The department will submit theses to the Faculty.

The Getty Mines Prize in Economic Geology

Prize: \$100. Awarded to the full-time student gaining the highest grade in a first course in economic geology.

Established: 1985-86

Scholarships and Awards

Mineralogical Association of Canada Book Prize

Membership in the M.A.C. and a subscription to *Canadian Mineralogist* to be awarded annually to the student gaining the highest grade in a first course in mineralogy.

Germanic and Slavic Studies

Prize of the Embassy of Austria

A book prize to a student or students of outstanding academic achievement in German.

Donor: Austrian Embassy
Established: 1970

German Embassy Book Prize

Awarded to the top student in each course offered by the German division of the department of Germanic and Slavic Studies.

Donor: German Embassy
Established: 1967

Prize of the Ambassador of Switzerland to Canada

A book prize awarded to students who obtained the highest standing in German.

Donor: Ambassador of Switzerland to Canada
Established: 1966

The Joyce Lucey Prize

Value: to be determined.

Awarded to an outstanding student majoring in German or Russian in the Department of Germanic and Slavic Studies.

Donor: Friends of the late Mrs. Joyce Lucey
Established: 1989

History

The Donald G. Creighton Prize in History

Value: \$100. To be awarded to the student obtaining the highest mark in a first-year history course.
Established: 1966

The Donald Goodspeed Book Prize

To be awarded to the student achieving the highest academic standing in HIST 1F95.

Department of History Book Prizes

Four book prizes, to be awarded to outstanding students of history in each of year 1 through 4.

Mathematics

John and Rosslyn Reed Prizes

For students who show outstanding proficiency in mathematics.
Established: 1968

Music

Robert B. Pritchard Prize in Music

Book Prize to be awarded to a Music major in recognition of an outstanding contribution to the musical life of the University.

Ronald Tremain Prize in Music Composition

To be awarded to a Music major who shows outstanding achievement and potential as a composer.

Philosophy

Affleck Memorial Prize in Philosophy

Approximately \$50 awarded to an outstanding fourth-year honors student on the basis of his or her whole record with the department of Philosophy.
Donors: Relatives and friends of the late Mrs. Rheta Affleck
Established: 1972

The Paul Seligman Memorial Book Prize in Philosophy

To be awarded to the part-time student graduating with the highest overall average from a three- or four-year program.

Physics

Physics Department Book Prize

A book prize to one or more students.

Politics

Politics Book Prizes

Three book prizes to be awarded to the best students entering second-, third- and fourth-year Politics programs.

Established: 1966

Psychology

The Cara Chefurka Memorial Book Prizes:

Awarded to students with the highest graduating averages in pass and honors Psychology at Spring and Fall Convocations.

Established: 1990.

Psychology 3F40 Prize

Awarded to the PSYC 3F40 student with the most outstanding research project.

Sociology

P.A. Sorokin Book Prize in Sociology

A book prize valued at \$50 is normally awarded to a fourth-year graduating student in Sociology whose thesis or class project as well as general academic performance is judged by the faculty to be outstanding.

Other awards

Edward J. Freeland Award

Value: \$5000. To be awarded annually to each of two students of proven financial need who are entering Business Administration, or business-related disciplines, and whose admission average is 75 percent or higher. Eligible applicants from secondary schools in the Niagara Region will be

invited to apply. The award is renewable for years 2, 3 and 4 of undergraduate study, provided satisfactory academic standing is maintained.

Donor: Edward J. Freeland Foundation
Established: 1991

The Campus Recreation Jubilee Award

To be awarded annually to deserving participants (1 male and 1 female) of the campus recreation program.

Donors: 1989-90 Campus Recreation Staff.

Halia Jordan Memorial Book Prize

Value: \$150. To be awarded each April to a deserving international student.

Donors: friends of the late Mrs. D. L. Jordan
Established: 1986

Edythe and William Meeker Memorial Book Prize

To be awarded annually, at the spring convocation, to the continuing education student who has graduated that academic year with the highest average.

Donor: Professor J. P. Meeker
Established: 1971

Sheaffe Hall Award

To be awarded to an upper-year residence student of high academic standing who has made a worthy contribution to residence life.

Donors: residents of Sheaffe Hall, 1985/86

Silver Badger Alumni Award

Value to be determined.
This annual award was established in memory of Barrie-Ann Bergsma, a member of Brock's first graduating class, by her family. The award will be made to a student who has maintained high academic standing, while making a significant on-going contribution to the extra-curricular life of the University. This award is by application or nomination to the Senate Committee

on Awards. Forms are available from the Office of the Registrar.

Donors: The family and friends of Barrie-Ann Bergsma
Established: 1987

Badger Award

Value: to be determined. To be granted annually to one or two graduands who have contributed most to the extra-curricular life of the University and have maintained a satisfactory academic standing. To be awarded at the spring convocation only.
Established: 1980

Bursaries and other financial assistance

Bursaries are normally awarded late in the academic year to full-time students who can show proof of great financial need and who have satisfactory academic standing. Bursary application forms are available from the Registrar's Office in January. Acceptance of a bursary implies that the recipient will complete the current academic year. All students who can show financial need are expected to apply for assistance under the Ontario Student Assistance Program (OSAP).

Atkinson Charitable Foundation

The Atkinson Charitable Foundation has established a bursary program which gives assistance to students of merit and proven financial need. Awards are made only to students who are bona fide residents of the province of Ontario.

Barkley's of Avonmore Bursary

Value: \$500. To be awarded as entrance bursaries to deserving students with preference for students from the Third World. Applications for this bursary should be made through the Student Awards office. Recipients will be selected by the Senate Bursary Subcommittee.
Established: 1980

The Dr. John H. Belton Bursary

Value: \$500. To be awarded to a mature woman undergraduate who is a Canadian citizen now completing her interrupted education and who is in need of financial assistance. Further details available on the awarding of the bursary.

Donor: Dr. John H. Belton
Established: 1986

J.P. Bickell Foundation Bursary

Value: \$1500. For distribution to students in great need.
Donor: The J.P. Bickell Foundation
Established: 1969

Birks Family Foundation Bursary

The Birks Family Foundation has established a plan of annual contributions to the student aid fund of recognized Canadian universities for the creation of the Birks Family Foundation Bursaries. The bursaries are awarded by the Foundation on the recommendation of the University scholarship committee and are not restricted to faculty or year and may be renewed. The number and amount of such awards may vary annually, depending upon the funds available for the purpose from the Foundation.

Brock University Students' Union Bursary

To provide assistance to students in financial need who have satisfactory academic performance.

CUPE Local 1295 Bursary

Value: \$500 annually. To be awarded to a son or daughter of a member of CUPE who demonstrates financial need. First consideration will be given to children of members of CUPE local 1295. If there are no suitable candidates from this group, next consideration will be given to children of members of a Niagara CUPE local and finally, to children of members of a CUPE local in Ontario.

Scholarships and Awards

CUPE local in Ontario.

CUPE Local 2220 Book Award

Value: \$500 annually. To be awarded to a member or family member of CUPE who demonstrates financial need and is a full-time student in good standing. First consideration will be given to members of CUPE Local 2220. If there is no suitable candidate from this group, next consideration will be given to qualified students who are kin to a Niagara CUPE Local and finally, to students kin to any Ontario CUPE Library Local.

A secondary award of \$100 per credit will be given to part-time students who qualify as described above.

Value: \$100 to a maximum of \$300 annually.

William J. Edgar Bursary

Value: \$900. Awarded annually to needy students from the former county of Welland.

Donor: Jenny Bell Edgar Estate
Established: 1966

Jim Gayman Bursary

Value: \$100. To be awarded to a student living in residence who is in financial need.

Donor: Brock University Alumni Association
Established: 1981

Patrick Geddes Award in Urban Studies

Value: \$500. To each of two students of proven financial need who are accepted to full-time studies in year 2, 3, or 4 as combined majors in Urban Studies and one of: Biological Sciences, Economics, Geography, Geological Sciences, Politics, or Sociology. This award is by application only to: Director of the Institute of Urban and Environmental Studies, prior to July 1.
Established: 1972

Prof. Ernest E. Goldsmith Bursary Fund

Value: \$900. To be distributed among worthy students in financial need.

Donor: Brock University Alumni Association
Established: 1974

Club Heidelberg Bursary in German

Value: \$100. To be awarded to a student in second-, third- or fourth-year of German language and literature studies, or the German area studies program, on the basis of academic excellence and need.

Donor: St. Catharines Social Club Heidelberg Inc.
Established: 1973

Robert C. Hoover Bursary

Value: to be determined annually. May be awarded to one or more eligible applicants. Eligibility, full-time combined major in Urban and Environmental Studies at the second-, third- or fourth-year levels. For students who can demonstrate a financial need and who show academic promise. To be awarded by Senate on the advice of the Director of the Institute of Urban and Environmental Studies. Interested students should apply through the Institute.

IODE Bursary

To be given to needy students who may find it extremely difficult to continue their year without additional outside aid.

Inter-Provincial Pipe Line Bursary

Value: \$1000. Awarded annually to students holding Canadian citizenship or permanent resident status who can demonstrate great need. At least 50 percent of the awards to be made to students in the sciences.

Donor: The Inter-Provincial Pipe Line Company
Established: 1970

Harry Karowec Memorial Bursary

Value: to be determined. To be awarded to a student in great need majoring in English literature.

Donor: Mrs. Ellen Cote
Established: 1982

T. J. Kearney Bursary

Value: to be determined. To provide assistance to worthwhile students in financial need with preference to students of proven athletic ability.
Established: 1979

Evelyn Kita Bursary

Value: \$250. Awarded to students in great need.

Donor: Mrs. Evelyn Kita
Established: 1972

Ted Lancaster Bursary

Value: \$1000. To be awarded to a student in need.

Donor: St. Catharines Rotary Club
Established: 1976

Professor Bruce A. Liberty Memorial Bursary

Value: to be determined. To be distributed by the department of Geological Sciences to worthy undergraduate or graduate students who have a demonstrable need and a satisfactory record (normally a major average of 70 percent or better).

Donor: friends of the late Professor
Established: 1982

Stan Mikita Bursary

Value: to be determined. Provides funds to continuing students in financial need who have satisfactory academic performance and who have achieved a high level of accomplishment in extra-curricular activities.

Donor: Dr. S. Mikita
Established: 1972

Niagara Regional Development Council Bursary

Value: to be determined. To be awarded to a student or students

pursuing studies, investigation or research directed to the promotion of the economic growth of areas known as the regional municipality of Niagara, the counties of Brant, Haldimand and Wentworth, the city of Hamilton and the city of Brantford.

Donor: Niagara Regional Development Council
Established: 1974

Ontario Credit Union Charitable Foundation Bursary

Value: \$250. To be awarded to a Canadian citizen or permanent resident in the second-, third- or fourth-year of a business management course.

Donor: Ontario Credit Union Charitable Foundation.
Established: 1985

Order of Eastern Star Bursary

Value: \$150. Awarded to the son or daughter of an Eastern Star member of District Seven, which includes Niagara Falls, Fort Erie, Dunnville, Port Colborne, Welland, Thorold, Fonthill and St. Catharines. The recipient must have satisfactory academic standing.

Donor: Lincoln Chapter No. 142, Order of Eastern Star
Established: 1966

Margaret Paddon Bursary

Value: \$300. To be awarded to a student who is (a) a single parent supporting a family; (b) in financial need; and (c) aspiring to the teaching profession. Application may be made through the Financial Aid Office.

Donor: Members of the French department, Lincoln County Board of Education
Established: 1979

Royal Canadian Legion Bursary

Value: \$400. Awarded to a second-year student who is a veteran or the child of a veteran.

Donor: Royal Canadian Legion, H.T. Church (Ontario No. 24 Branch)
Established: 1967

St. Catharines Jr. Falcons Hockey Club Bursary

Value: \$200. To provide assistance to worthwhile students in financial need with preference to any student with proven athletic ability.

Established: 1978

St. Catharines Business or Professional Women's Club bursary

Value: \$200. To provide assistance to female student in financial need and who is a permanent resident of St. Catharines.

University Women's Club of St. Catharines Bursary

Value: to be determined. To provide assistance to female students in financial need.

Donor: University Women's Club of St. Catharines
Established: 1980

University Women's Club of St. Catharines Bursary

Value: To be determined. To provide assistance to a mature female student who is continuing her interrupted education on a part-time basis and is in need of financial assistance.

Donor: University Women's Club of St. Catharines
Established: 1987

Walker Brothers Bursary

Value \$500. To be awarded to a student in second-, third- or fourth-year majoring in Geological Sciences, on the basis of academic excellence and need.

Administration of awards

Awards which are administered by the University will be made by Senate to qualified candidates; Senate may withhold any award if no candidates qualify. The award of scholarships, bursaries, prizes, and medals shall be

final when formally announced by the University.

Awards administered by donors

American Can of Canada Limited

Competitive scholarships are awarded to children of employees giving full tuition for four years plus a grant-in-aid to the University. Prospective candidates should apply to:

The Administrator
Scholarship Program
American Can of Canada Limited
1 International Boulevard
Rexdale, Ontario, M9W 1A1

Asbestos Workers Union Local 95

Awards are made available to the children of both living and deceased members of the Asbestos Workers Union, Local 95, and further information should be obtained from:

The Administrator
Asbestos Workers Welfare Fund
c/o Benefit Plan Administrators Ltd.
Box 52, Toronto-Dominion Centre
Toronto, Ontario, M5K 1G2

Association of Universities and Colleges of Canada (AUCC)

AUCC administers a number of scholarships offered by private donors and by foreign countries to Canadian students. Complete information can be obtained from:

AUCC
151 Slater Street
Ottawa, Ontario, K1P 5N2

Bobby Bauer Memorial Award

For students of outstanding proficiency in hockey in need of financial assistance. Apply, prior to August 31, to: Bobby Bauer Memorial Foundation
60 Victoria Street North
Kitchener, Ontario, N2H 5B9

Scholarships and Awards

Morris Berkowitz Memorial Bursary
Value to be determined. Established in memory of the late Morris Berkowitz, professor of Sociology. To be awarded by the department of Sociology to a full-time student or students who have a demonstrable need and a major average of 75 percent or better in his or her most recent year of study. Available annually.

Donors: friends of the late Professor
Established: 1981

Rosalind (Hyman) Blauer Award

To be awarded annually to an outstanding member of the Brock community (students, staff or faculty) engaged in work directed at ameliorating the position of women in contemporary society. This award is by application or nomination to the Administrative Committee for the Rosalind Blauer Memorial Fund. Forms are available from the Student Awards office. The award is in honor of the memory of Professor Rosalind (Hyman) Blauer, founding member of the Brock department of Economics.

Brock Philosophical Society Scholarship

Value: \$500. To be awarded to the full-time undergraduate Philosophy major obtaining the highest standing in at least three philosophy courses.
Donor: Brock Philosophical Society
Established: 1985

Brock University Alumni Award

Value: \$500. Eligible candidates will be full-time or part-time students who have completed at least ten credits at Brock University with a minimum B average and who have made a meaningful contribution to the development of extra-curricular life within the Brock community. This award is by application or nomination to the Alumni Association. Forms are available from the Alumni Office, Thistle 263.
Donor: Brock University Alumni Association
Established: 1974

Canadian Armed Forces University Subsidization Plans

The University participates in the Regular Officer Training Plan (ROTP) of the Canadian Armed Forces, a completely subsidized university plan covering tuition, books, medical service and a living allowance for up to four years of undergraduate study. Successful applicants will be enrolled in the Canadian armed forces as officer cadets with promotion to commissioned rank upon graduation.

Canadian Auto Workers Union, Local 199, Bursaries

Amounts to be determined from time-to-time by the donor.
Donor: United Auto Workers Union, Local 199
Established: 1966

Canadian International Paper Company

Seven scholarships are offered annually to children of employees of the company or its subsidiaries in Canada who have a minimum of one year of service. To be eligible, a student must attain a grade average of 75 percent or higher in the last two years of secondary school in the subjects required for admission to an approved institution. Further information and application forms may be obtained from:
Awards officer
National Programs Division
Association of Universities and Colleges of Canada
151 Slater Street
Ottawa, Ontario, K1P 5N1

The Certified General Accountants Association of Ontario Award

An annual award for excellence to a student graduating from Brock University who has displayed outstanding achievement in accounting. The award is \$1000 composed of a cash award of \$150 plus a credit of \$850 to be drawn on when the candidate wishes, for the purpose of defraying any fees related to courses in the CGA study program.

Donor: The Certified General Accountants Association of Ontario
Established: 1981

Chemistry Alumni/Faculty Award

One or more scholarships shall be awarded each year to upper-year students in a single or combined major in Chemistry. Preference is normally given to second-year students. The value of each award shall not be less than \$100.

Department of Veterans Affairs

Assistance is available to children of those who have died as a result of military service. This includes service in forces other than those of Canada, if as a result of such service, a pension has been paid on behalf of the child under the Canadian Pension Act. Further information may be obtained through the Veterans Welfare Service of the Department of Veterans Affairs in the applicant's own district.

Sir James Dunn Scholarship

This award, which is renewable, provides for the payment of tuition and registration fees up to but not in excess of \$1,000 depending on the individual concerned. Children of residents of the communities of Sault Ste. Marie, Port Colborne and Wawa, Ontario, are eligible. Qualified candidates should write for further information to:
The Secretary
Scholarship Committee
Algoma Steel Corporation Ltd.
Sault Ste. Marie, Ontario

The Hamilton Foundation Bursaries

Applicants must be graduates of a Hamilton secondary school (public or separate), and be able to demonstrate financial need. The purpose of The Hamilton Foundation Bursaries (payable from its Chaney-Ensign Fund) is to provide assistance for the higher education of students who might otherwise be financially unable to attend an approved college/university in Canada or the United States.

Applications will be reviewed by a special bursary committee on the Hamilton Foundation. Enquiries should be addressed to the University's Financial Aid office.

Imperial Oil Higher Education Awards

Imperial Oil Limited annually offers free tuition and other compulsory fees to all children or wards of employees or annuitants who proceed to higher education courses. The courses may be taken at any Canadian university or other approved institution of higher learning. Each award is tenable for a maximum of four years. To be eligible, a student must attain an average mark of 70 percent or higher in the appropriate secondary school examinations of the subjects required for admittance to the approved institution. Further information and application forms may be obtained from:

The Secretary
Committee on Higher Education
Imperial Oil Limited
111 St. Clair Avenue West
Toronto, Ontario, M5W 1K3

International Nickel Company of Canada (INCO)

Awards are made, covering the cost of tuition and fees for a maximum of four years, to children of employees. Also, INCO participating scholarships for students in the physical sciences. Further information may be obtained by writing to:

The International Nickel Co. of Canada Limited
Box 44, Toronto-Dominion Centre
Toronto, Ontario, M5K 1E3

Masonic Foundation of Ontario Bursaries

The foundation provides assistance for students near graduation who otherwise could not complete their year owing to sudden personal emergencies.

Donor: Masonic Foundation of Ontario
Established: 1967

Leonard Foundation

Assistance is given in varying amounts to children of clergymen, school teachers, graduates of the Royal Military College of Canada, members of the Engineering Institute of Canada. Further information may be obtained by writing to:

Senior Trust Officer
Canada Permanent Trust Company
320 Bay Street
Toronto, Ontario, M5H 2P6

Petrofina Canada Higher Education Merit Awards

These awards are available to encourage the dependent children or wards of employees or annuitants of Petrofina Canada and its subsidiaries to attain a university education. Further information may be obtained from:

The Manager
Personnel Administration and Industrial Relations
Petrofina Canada Limited
1 Place Ville Marie
Montreal, Quebec

St. Catharines Softball Association Bursary

To be awarded to students of outstanding proficiency in softball. Candidates must also exhibit strong leadership and scholastic ability.

Apply to:
St. Catharines Softball Bursary
110 Collier Rd. S.
Thorold, Ontario. L2V 3T4

Thompson Products Limited Old Guard Association Sir Isaac Brock Music Scholarship

Awards are made available to the children of employees of Thompson Products Limited. Further information may be obtained by writing to:

The Treasurer
Old Guard Association of Thompson Products Limited
Box 3004, 230 Louth St.,
St. Catharines, Ontario
L2R 7B5

To prospective donors

The University welcomes offers of funds for scholarships, bursaries and prizes from individuals, companies and associations.

Enquiries should be addressed to:
Director of Development
Brock University
St. Catharines, Ontario
L2S 3A1
(416) 688-5550 ext. 3591

Ontario Student Assistance Program

These are the components of the Ontario Student Assistance Program (OSAP):

Ontario Study Grant Plan

The main purpose of the Ontario Study Grant Plan is to provide non-repayable grant assistance to students from less affluent families, normally for their first four years of post-secondary education.

Canada Student Loans Plan

This plan provides need-tested loan assistance up to and including the doctoral level of study. Students who have reached "independent status" can be assessed for loan assistance without reference to their families' income.

Ontario Student Loans Plan

The main purpose of the provincial loans plan is to make need-tested loan assistance available to students who are not covered by the Canada Student Loans Plan. This will include students taking less than 60 percent of a normal course load, and some full-time students whose needs are not fully met by the Canada Student Loans Plan.

Scholarships and Awards

Ontario Special Bursary Plan

The provincial bursary plan ensures that particularly needy part-time students receive grant assistance. There will continue to be an upper limit on the number of courses that a student can take (three credit courses or their equivalent); students will not be able to receive financial assistance from both this program and the Ontario Study Grant Plan at the same time.

All students who are attending Brock University may qualify for aid under one or more of these plans provided they satisfy the residency requirements outlined in the OSAP brochure, and demonstrate financial need. Students wishing to apply under the Ontario Study Grant Plan, the Ontario Student Loans Plan, or the Canada Student Loans Plan can do so on the same application form. Students intending to apply under the Ontario Special Bursary Plan should contact the Financial Aid office directly to arrange a personal interview.

Application forms and brochures for the 1991-92 program will be available in April, 1991, and may be obtained from:

Financial aid office
Thistle north, room 260
Brock University
St. Catharines, Ontario
L2S 3A1

Reporting awards

All full-time students receiving OSAP assistance are obliged to notify the Student Awards office, in writing and without delay, about awards, scholarships, bursaries, or prizes they may have received.

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Helgi Kernaghan, BA (Western Ontario), BLS (McGill)

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G.M.C. Sprung, BA (Manitoba), PhD (Berlin), *Philosophy*

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1981 A. Victoria Soady, *Classics*

1982 Wayne T. Jolly, *Geological Sciences*

1983 Donald J. Ursino, *Biological Sciences*

1984 Angus A. Somerville, *English Language and Literature*

1985 Martha Husain, *Philosophy*

1986 Norah Carlsen, *Psychology*

1987 Alan G. Arthur, *History*

1988 John G. Benjafield, *Psychology*

1989 Clarke W. Thomson, *Geography*

1990 Eric R. Muller, *Mathematics*

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Faculties
Business MC A207
Education FE 105
Humanities ST 401
Mathematics and Sciences MC D409
Physical Education and Recreation PH 215A
Social Sciences ST 401

Academic Departments
Business Administration MC A307
Accounting and Finance MC A207
Applied Language Studies MC C409
Applied Linguistics MC C409
Asian Studies ST 1233
Biological Sciences MC F234
Canadian Studies MC A310
Chemistry MC E206
Child Studies MC D332
Classics ST 1227
Communications Studies MC A310
Computer Science and Information Processing MC B305

Concordia Seminary
Economics ST 1137
Education FE 126
English Language and Literature MC A310
Environmental Science MC F234
Interdepartmental Studies ST 401
Film Studies, Dramatic & Visual Arts THw 135
French, Italian & Spanish MC C522
Geography MC D410
Geological Sciences MC D410
Germanic/Slavic Studies ST 1119
History MC C421
Health Studies MC D332
Labour Studies ST 1006
Literary Studies ST 1227
Management & Marketing MC A240
Mathematics ST 1112
Music THw 139
Philosophy ST 1233
Physical Education PE 213
Recreation and Leisure Studies PE 213
Physics MC B210
Politics MC A537
Psychology MC B325
Sociology ST 1006
Urban/Environmental Studies MC F202

Administrative Departments
Administrative Services ST 1016
Alumni Affairs THc 263B
Bank of Nova Scotia THc 219
Bar Services Alphonse's Trough
Book Store THc 219
Business Consulting MC A223
Book Centre for the Arts THw 131
Campus Ministries RES 202/201
Campus News THc 265
Campus Police THc 272
Canada Employment/Placement ST 411
Carpentry CUB
Central Purchasing ST 1016
Central Stores, Ship/Receive MC G207
Clerical Services MC G200
Computing Services MC F300
Communications Services THw 235
Conference Services RES 211
Counselling ST 411
Custodial Services MC G204
Day Care Centre PE 9
Development Officer THc 263B
External Relations THc 265
Electronics MC G301
Faculty Association ST 1209
Finance ST 1012
Financial Aid THc 260
Food Services RES 209
Glass Blowing Shop MC G201
Health Services THc 261
Housing Office RES 205
Imaging Research MC D435
Instructional Resource Centre FE 2nd Flr
International Student Advisor RES 212
Language Learning Centre THc 269
Library ST 215
Machine Shop MC D202
Mail Services THc 151A
Maintenance CUB
Map Library MC C306
Payroll ST 1013
Personnel Services ST 1001A
Physical Plant ST 1016
President's Office ST 1201
Printing Services THc150
Registrar's Office ST 301
Research Grants Office MC D407

Secretary to the University ST 1303
Sexual Harassment Officer RES 215
Student Services RES 214
Student Union THw 628
Swimming Pool Aquatic Centre

Meeting Rooms
Alumni Lounge ST 13th Flr
Board Room ST 13th Flr
Senate Chambers MC A300
Deans Meeting Room MC A302
Pond Inlet MC G213
Faculty Club ST 13th Flr

Cafeterias
Tower Cafeteria ST 1012
Residence Cafeteria RES
Pond Inlet MC G213

ST 1303
 RES 215
 RES 214
 THw 628
 Aquatic Centre

ST 13th Flr
 ST 13th Flr
 MC A300
 MC A302
 MC G213
 ST 13th Flr

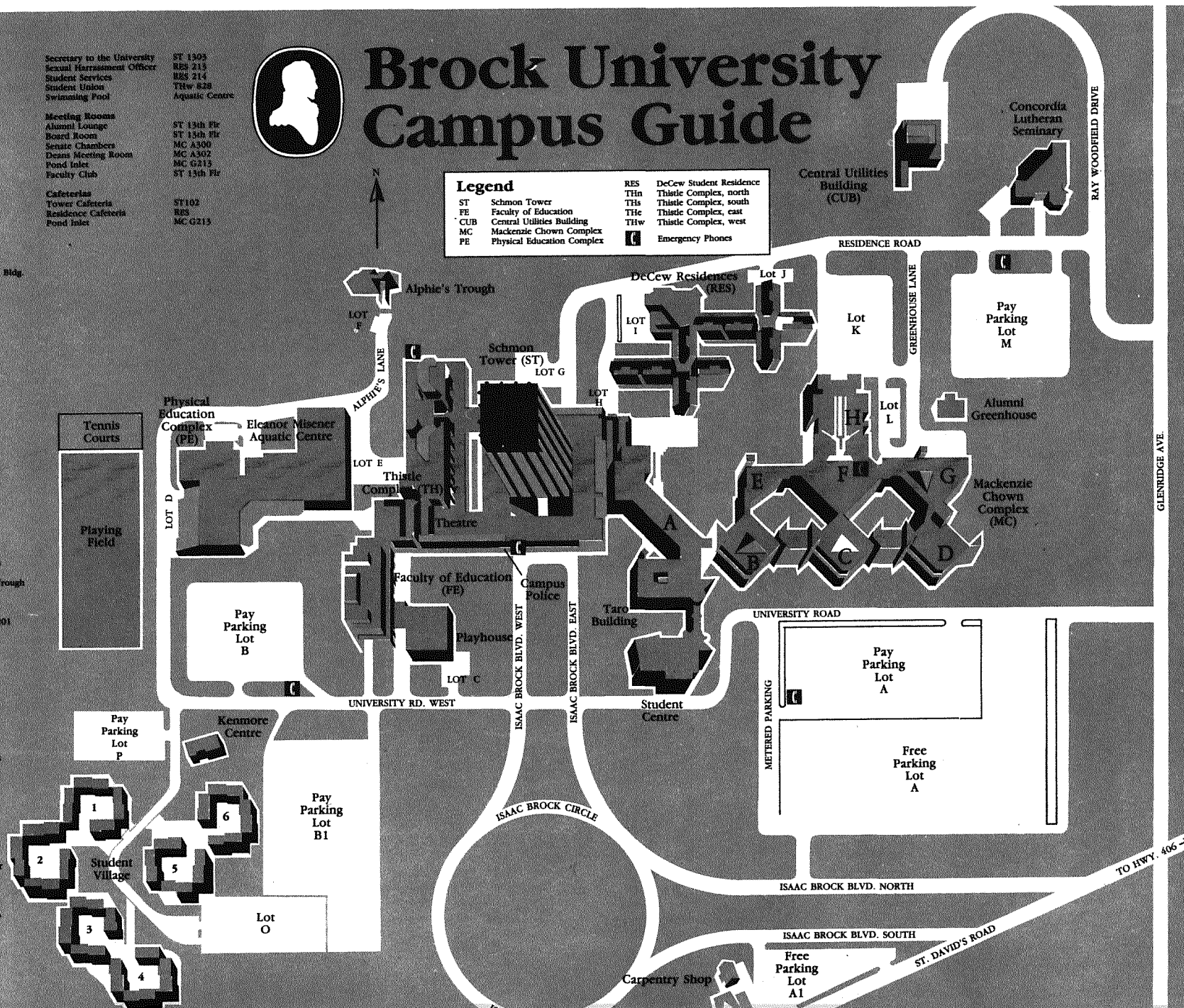
ST 1012
 RES
 MC G213



Brock University Campus Guide

Legend

ST	Schmon Tower	RES	DeCew Student Residence
FE	Faculty of Education	THn	Thistle Complex, north
CUB	Central Utilities Building	THc	Thistle Complex, east
MC	Mackenzie Chown Complex	THw	Thistle Complex, west
PE	Physical Education Complex	G	Emergency Phones



RAY WOODFIELD DRIVE

GLENRIDGE AVE.

TO HWY. 406

Notes

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